NOTIFIER®
by Honeywell

DATA SHEET

JTW-BD-FST-951G & JTY-GD-FSP-951G

DC-202204-N

Thermal Detector with ROR Temperature Alarm
&Photoelectric Smoke Detector

Intelligent Device

Description

The Notifier 951 Series intelligent plug -in smoke detectors with integral communication provide point location for alarm communication and selective maintenance. Model **JTY-GD-FSP-951G** is a 2-wire photoelectric smoke detector that uses a state-of-the-art optical sensing chamber. This detector is designed to provide open area protection and to be used with Notifier brand NFS-320E, NFS2-640E, NFS2-3030 and NX30 control panels only. Model **JTW-BD-FST-951G** is a rate-of-rise heat detector with 57.2°C(135°F) fixed temperature Intelligent detector that utilizes a state-of-the-art thermistor sensing circuit for fast response. This detector is designed to provide open area protection with 50 feet spacing capability and to be used with compatible control panels only.

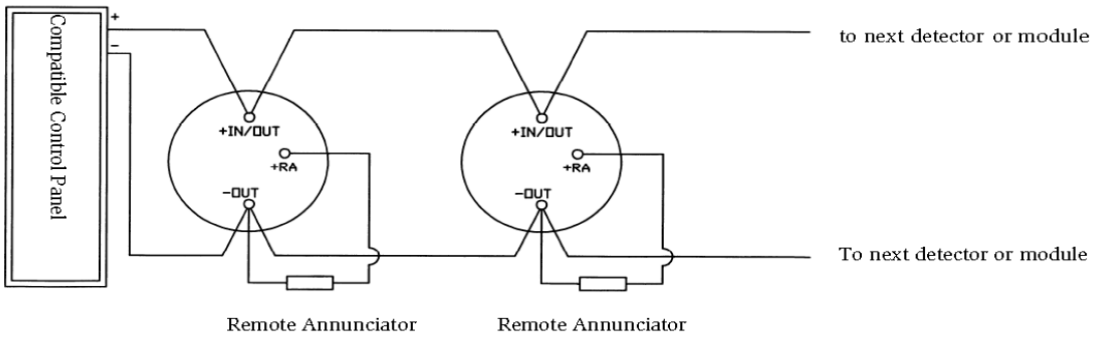
JTW-BD-FST-951G

JTY-GD-FSP-951G

Features

- Sleek, low-profile design
- Analog communications
- Low standby current
- Electrical address coding
- Remote control output
- Reed magnetic alarm simulation
  Superior EMI protection

System Diagram



	JTY-GD-FSP-951G	JTW-BD-FST-951G
Diameter:	**4" (102.5mm) installed in B901G**	**4” (102.5mm) installed in B901G**
Height:	**1.6 " (39.5mm) (without the base) 1.9 " (48.9mm) (with the base)**	**1.5" (38.0mm) (without the base) 1.9 " (47.4mm) (with the base)**
Weight	**2.8 ounces (80g) (without the base) 4.1 ounces (115g) (with the base)**	**2.5 ounces (70g) (without the base) 3.7 ounces (105g) (with the base)**
Operating Temperature Range:	**32°F to 120°F (0°C to 49°C)**	**14°F to 100°F (-10°C to 38°C)**
Alarm Temperature:	**NA**	**135°F (57.2°C) Fixed**
Rate of Rise Detection:	**NA**	**Responds to greater than 15°F/min (UL)**
Operating Humidity Range:	**10% to 93% Relative Humidity, no condensing**	
Operating voltage:	**15 to 32Volts DC Peak**	
Max. Avg. Standby Current:	**380µA @ 24VDC (one communication every 5 sec. with LED blink enabled)**	
Sensitivity	**0.98 to 3.50%/FT**	
Velocity Range	**10m/S**	
Max. Alarm Current (LED on):	**3mA @ 24VDC**	
Detector Base in Notifier Brand with UL approval	**B901G**	
Brand neutral Sounder Base without UL	**B900BH-3**	

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JSKM-CMM-9G & JSM-FMM-9G & KM-FZM-9G & JKM-FCM-9G Modules

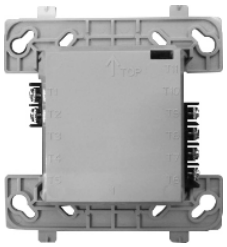
NOTIFIER® by Honeywell

Intelligent Devices

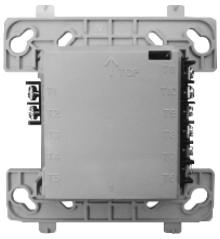
Description

Monitor and control modules can be used to supervise and activate sounders, strobes, door closers, manual call points, water flow switches, conventional smoke detectors, and more. Each module is rigorously designed and tested for electromagnetic compatibility and environmental reliability, in many cases exceeding industry standards. Modules are addressed with electronic address programmer. Full size modules mount in standard 4 in × 4 in × 21⁄8 in junction box. Wiring terminals are easily accessible for troubleshooting.

JKM-FCM-9G



JSKM-CMM-9G



KM-FZM-9G

JSM-FMM-9G

Features

- SEMS screws for easing wiring
- Panel controlled status LED
- Analog communications
- Electronic address programming
- Low standby current
- Mounts in standard 4″ junction box

General Specifications

Operating Voltage	15~32VDC
Communication Line Loop Impedance	40 Ω max
Temperature Range	32°F to 120°F (0° to 49°C)
Relative Humidity	10% to 93% non-condensing
Shipping Weight	5.8 oz (165g)
Dimensions	4.9″ H x 4.9″ W x 1.4″ D (Mounts to a 4.6″ square by 1.9″ deep box.)

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Ordering Information

JKM-FCM-9G	Control module
JSKM-CMM-9G	Control/Monitor module
KM-FZM-9G	Zone monitor module
JSM-FMM-9G	Monitor module
ISO-9G	Isolator module

Accessory

CP900MA	Address programmer

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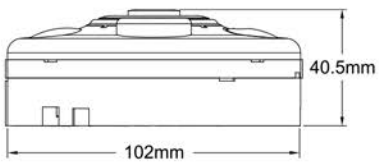
AH-0822

Gas Detector

Characteristics

- The AH-0822 features advanced technology, high accurate detection, low power-consumption and fast reaction time. It can detect natural gas and propane gas. Built-in buzzer and LED indicator alert by sounding and flashing.
- Sounding and flashing in alarm status; the green LED is lit during monitoring and the red LED flashes in alarm status.
- Dual power input: 12VDC and 24VDC operation in the same unit. No adjustment is required.
- Optional 110VAC or 220VAC adaptor is available.
- 1 set of relay output : COM. NO. NC. for CE version .



Specifications

Model	AH-0822			
Approval	UL		CE	
Power Source	24V DC	12V DC	24V DC	12V DC
Standby Current	25~30mA	40~45mA	35~40mA	65~70mA
Alarm Current	40~70mA	50~75mA	75~90mA	90~105mA
Warm-up Period	5~8 minutes		about 35 seconds	
Sensitivity	0.021 ~ 0.300% (Propane) 0.050 ~ 0.714% (Methane)		0.050 ~ 0.300%	
Alarm Sound	85dB/3M and above		90dB/M and above	
Relay Output			1 set of contact	
Detection Type	Natural Gas & Propane Gas			
Ambient Temperature	-10°C ~ +55°C			
Dimensions	102 mm (Dia.) x 40.5 mm(H)			
Weight	About 130g			

AMPS-24/E

Power Supply

for the NFS-3030, NFS2-3030 and NCA-2

NOTIFIER® by Honeywell

CatalogSection

General

NOTIFIER's AMPS-24/E is an addressable power supply and battery charger with up to three 24 VDC outputs. It operates in either FlashScan® or CLIP (Classic Loop Interface Protocol) mode with the NFS-3030/NFS2-3030 Fire Alarm Control Panel (FACP). It can also be used as the primary power supply for the NCA-2 Network Control Annunciator.

Features

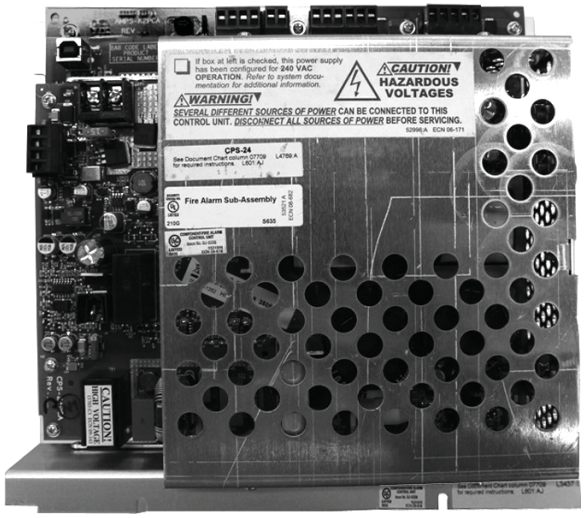
- Addressable by NFS-3030/NFS2-3030 FACP.
- Selectable charging current charges 7 AH to 200 AH batteries.
- Isolated Signaling Line Circuit (SLC) interface.
- Trouble bus input for use with normally-open dry contacts or open-collector circuit.
- USB Type B connector for programming installation parameters.
- Brownout detection.
- Battery/battery charger supervision.
- Secondary Power Auxiliary Outputs: 24V @ 0.5A and 5V @ 0.15A.
- AC loss detection and AC loss delay reporting.
- Mounts in a CAB-4 Series enclosure, EQ Cabinet Series enclosure, BB-25, BB-100, or BB-200 Battery Backbox.

Specifications

- Primary (AC) power:
  AMPS24: 110-120 VAC 50/60 Hz input, 5 A maximum;
  AMPS24E: 220-240 VAC 50/60 Hz input, 2.5 A maximum.
- MAIN 24V Output - filtered power-limited power. Refer to table for configuration/current information.

Charger Setting/ Battery Size	Main 24V (TB 1 on Main Control Unit) Max. Current	*Total AUX 24V (TB3 on Main Control Unit with TB2 on CPS-24) Max. Current
1A/7-26AH Batteries	5A	3A
2A/12-60AH Batteries	5A	3A
5A/55-200AH Configuration 1 Configuration 2	5A 3A	0A 1A
Disabled	5A	5A
* Maximum current for all AUX 24 volt outputs. Note that TB2 on CPS-24 is limited to 0.5A.		

- AUX 24V - provides filtered power-limited power for additional components. Refer to table above for configuration/current information.
- Secondary power (battery) charging circuit: Current-limited, sealed lead-acid battery charger which will charge 7 to 200 AH batteries.
  Selectable charging current: 1.0 A, 2.0 A or 5.0 A.
- Secondary power auxiliary outputs.
- Wire sizes: 10 AWG (5.26 mm²) to 22 AWG (0.326 mm²).
- Battery fuse (F2): 15 A, fast-acting.
- Shipping Weight: 4.25 lb



Agency Listings and Approvals

These listings and approvals apply to the AMPS-24/E power supply. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** CS118
- **City of Chicago**
- **City of Denver**
- **MEA:** 345-02-E
- **CSFM:** 7165-0028:224
- **FM:** Approved
- **FDNY:** #6026

Product Line Information

AMPS-24: Addressable power supply/battery charger

AMPS-24E: Same as AMPS-24: 220-240VAC operation

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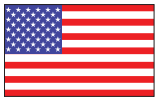


Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

BACNET-GW-3

BACnet Gateway

NOTIFIER® by Honeywell

Network Systems

General

The BACNET-GW-3 provides an interface between NOTIFIER's **NOTI•FIRE•NET** fire panel network (either the standard or the high-speed version) and a network using the BACnet/IP communication protocol. BACnet protocol is an American National Standard (ANSI/ASHRAE 135-1995). With the Gateway interface, devices on **NFN** fire alarm control panels are represented as BACnet objects to the BACnet client. The user subscribes to Event Notification objects per FACP, and the BACnet device receives events from objects on the FACP as a result of this subscription.

The BACNET-GW-3 can be connected to a stand-alone ONYX® panel (9th edition) with an available network port, or it can be connected to **NOTI•FIRE•NET** via the network port on any network control module. Connected to **NOTI•FIRE•NET**, each BACNET-GW-3 can support a maximum of 14 other nodes or 15,000 objects. Multiple BACNET-GW-3s can be used to interface with larger networks.

Features

- The BACNET-GW-3 can monitor up to 14 **NOTI•FIRE•NET** nodes with a maximum combined object count of 15,000 (object count includes all detectors, monitor modules, notification appliance circuits, etc.).
- Multiple BACNET-GW-3s can be used for large networks (more than 15 nodes total).
- Provides a built-in configuration tool for simple browser configuration.
- The NOTIFIER BACNET-GW-3 can behave as a foreign device when communicating with a third-party BBMD (BACnet Broadcast Management Devices).

Compatibility

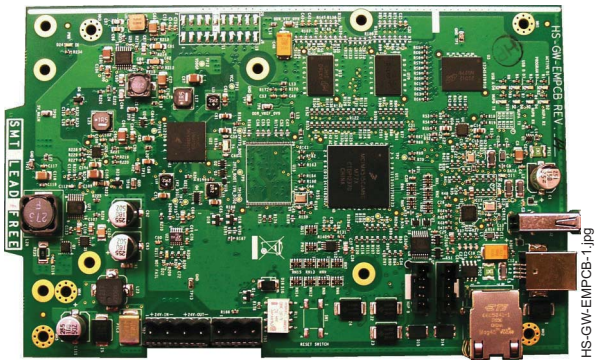
- **ONYX Series Fire Panels.** NFS-320, NFS2-640, NFS2-3030.
- **ONYXWorks™ Workstation.**
- **Other Devices.** Digital Voice Command, NCA-2, NWS-3, MODBUS-GW, NFN-GW-EM-3, PC NFN Gateways, VESDA-HLI-GW.
- **Standard and High-speed NOTI•FIRE•NET (NFN).**

Specifications

- **Power Input.** 24 VDC.
- **Input Current.** 125 mA @ 24 VDC.
- **Power Supply.** The BACNET-GW-3 must be powered by a UL Standard 1481 and/or UL Standard 864 listed, regulated, 24 VDC power supply.
- **Temperature.** 0°C to 49°C (32°F - 120°F).
- **Relative Humidity.** 93 ±2% non-condensing at 32°±2°C (90°±3° F).

Connections

- The BACNET-GW-3 is connected to **NOTI•FIRE•NET** via a network control module (NCM or HS-NCM).
- The BACNET-GW-3 is connected to the BACnet front end via a standard RJ45 Ethernet connector.



- The BACNET-GW-3 installs in a single slot of a CAB-4 Series cabinet using a CHS-4 or CHS-4L chassis. The PNET-1 surge suppressor is connected to the BACnet Ethernet via a RJ45 Ethernet connector.

Standards and Codes

The BACNET-GW-3 complies with the following standards and requirements:

- **BACnet Standard** Annex J for IP and Support Device Objects, Binary Output Objects, Life Safety Points/ Zones, and Multi-State Inputs.
- **NFPA 70** National Electrical Code.
- **NFPA 72** National Fire Alarm Code.
- **NFPA 101** Life Safety Code.
- **UL 864, 9th Edition** Control Units for Fire Alarm Systems.
- **UL 2017, 1st Edition** General Purpose Signaling Devices and Systems.
- **UL 2572, 1st Edition** Mass Notification Systems.
- **CAN/ULC-S559-04, 1st Edition** Standard for Equipment for Fire Signal Receiving Centres and Systems.

Agency Listings and Approvals

The listings and approvals below apply to the BACNET-GW-3. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed.** S635.
- **ULC Listed**. S635.
- **CSFM.** 7300-0028:0250.
- **New York Fire Dept.** COA#6158.

Ordering Information

EQUIPMENT ORDERED FROM NOTIFIER

- **BACNET-GW-3.** Includes circuit board, surge suppressor, and connection cables.
- **CAB-4 Series Enclosure.** Standard enclosure for NOTIFIER fire alarm control panels and peripherals (available in four sizes, "A" through "D"). Back box and door ordered sepa-

rately. A trim ring option is available for semi-flush mounting. *(See DN-6857.)*

- **CHS-4L.** Chassis for mounting N-WEBPORTAL in a CAB-4 Series cabinet.
- **NCM**. For connecting to a standard NOTI•FIRE•NET network. *(See DN-6861.)*
- **HS-NCM.** For connecting to a high-speed NOTI•FIRE•NET network *(See DN-60454.)*
- **Power Supply.** Select a regulated +24 VDC power supply that is listed to UL 1481 or UL 864.

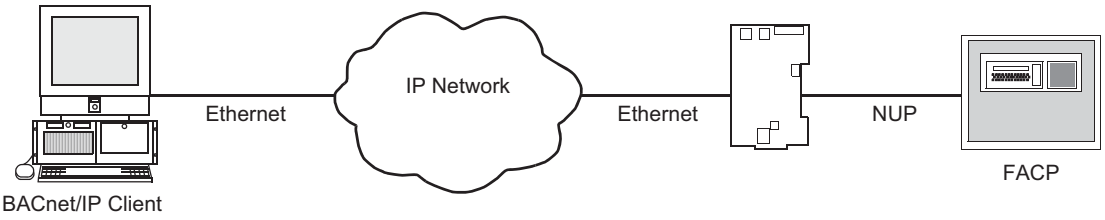
EQUIPMENT SUPPLIED BY CUSTOMER

- **Computer.** Capable of running a web browser to configure the BACNET-GW-3.
- **Web Browser.** Google Chrome (preferred), Firefox, or Microsoft Internet Explorer (version 10 or higher).
- **Ethernet Patch Cable (RJ45 connectors).** For connecting BACNET-GW-3 to Local Area Network (LAN) for configuration.

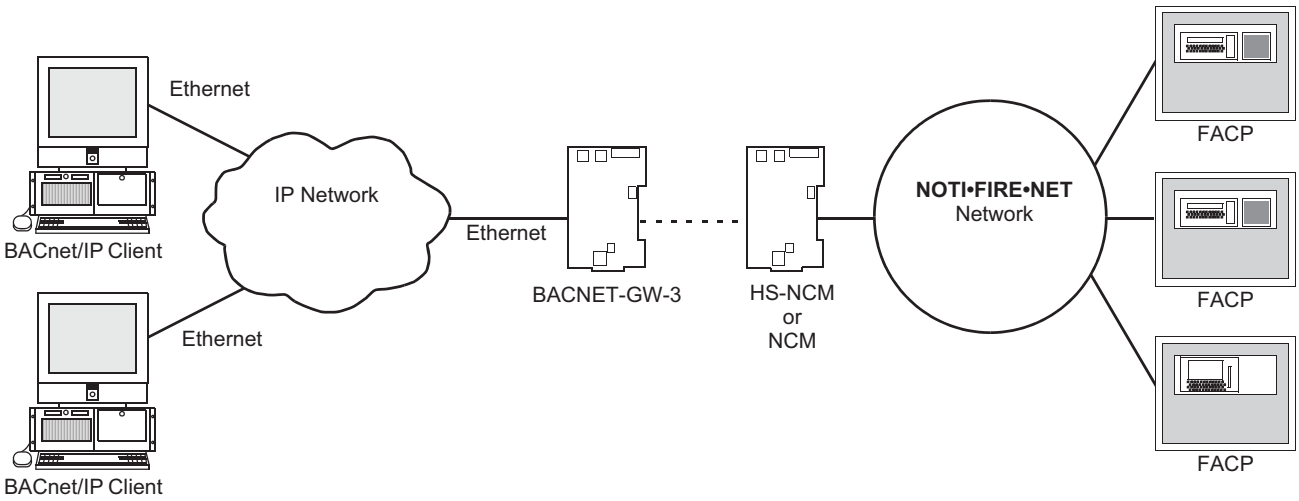
PIC STATEMENT/BACNET INFORMATION

The BACNET-GW-3 *PIC Statement* is available at **www.notifier.com**. Select products and then network systems. For information on the BACnet protocol, see **www.bacnet.org**.

System Architecture



Single Panel Architecture



NOTI•FIRE•NET Network Architecture

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Features

- The BACNET-GW-3 can monitor up to 14 **NOTI•FIRE•NET** nodes with a maximum combined object count of 15,000 (object count includes all detectors, monitor modules, notification appliance circuits, etc.).
- Multiple BACNET-GW-3s can be used for large networks (more than 15 nodes total).
- Provides a built-in configuration tool for simple browser configuration.
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Compatibility

- **ONYX Series Fire Panels.** NFS-320, NFS2-640, NFS2-3030.
- **ONYXWorks™ Workstation.**
- **Other Devices.** Digital Voice Command, NCA-2, NWS-3, MODBUS-GW, NFN-GW-EM-3, PC NFN Gateways, VESDA-HLI-GW.
- **Standard and High-speed NOTI•FIRE•NET (NFN).**

Specifications

- **Power Input.** 24 VDC.
- **Input Current.** 125 mA @ 24 VDC.
- **Power Supply.** The BACNET-GW-3 must be powered by a UL Standard 1481 and/or UL Standard 864 listed, regulated, 24 VDC power supply.
- **Temperature.** 0°C to 49°C (32°F - 120°F).
- **Relative Humidity.** 93 ±2% non-condensing at 32°±2°C (90°±3° F).

Connections

- The BACNET-GW-3 is connected to **NOTI•FIRE•NET** via a network control module (NCM or HS-NCM).
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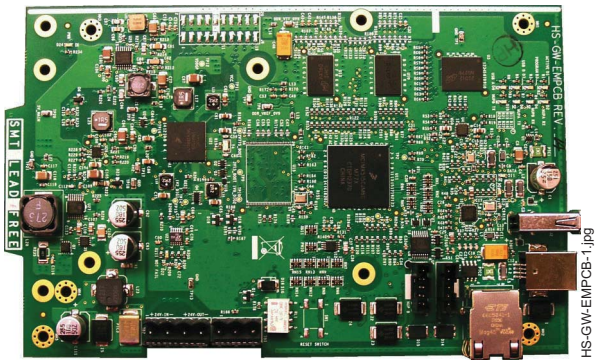

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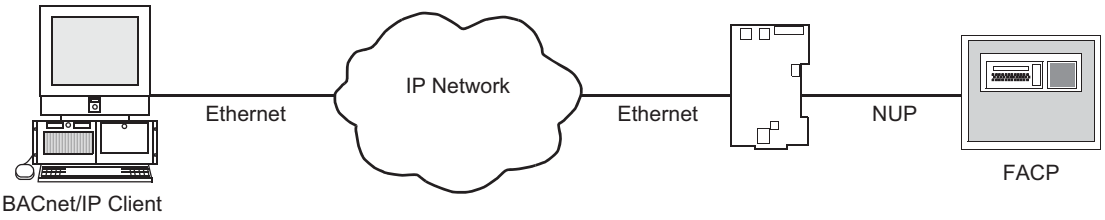

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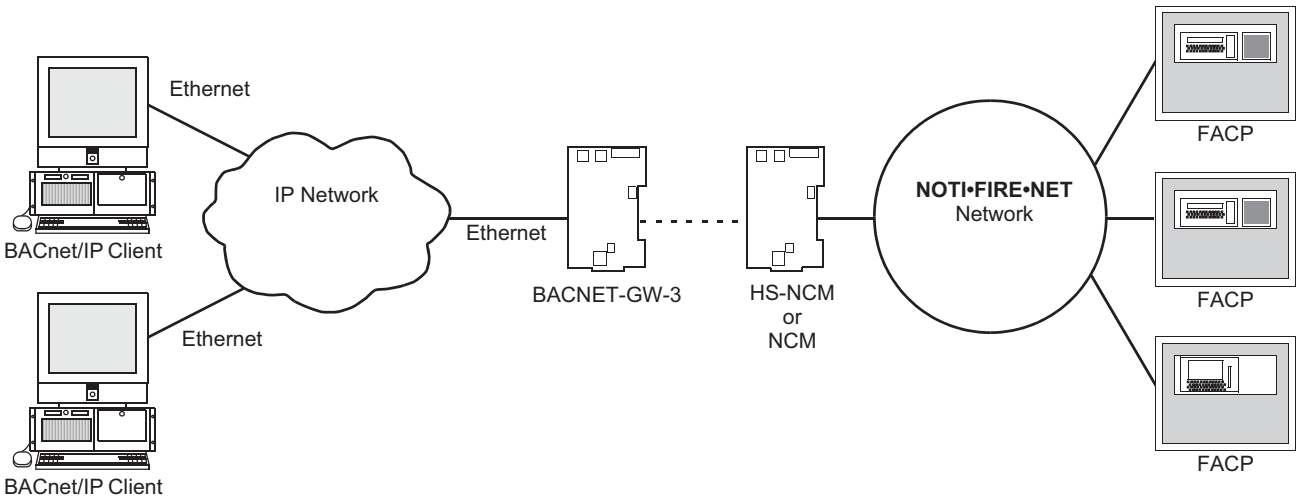

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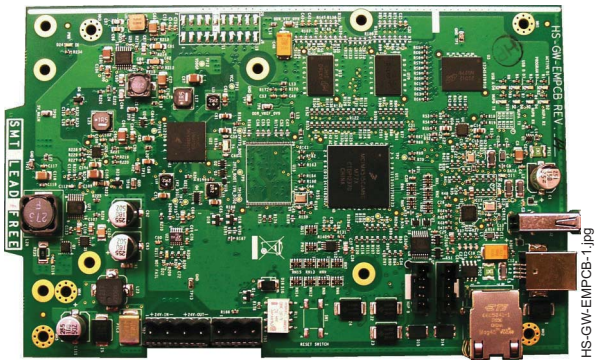
Specifications

- **Power Input.** 24 VDC.
- **Input Current.** 125 mA @ 24 VDC.
- **Power Supply.** The BACNET-GW-3 must be powered by a UL Standard 1481 and/or UL Standard 864 listed, regulated, 24 VDC power supply.
- **Temperature.** 0°C to 49°C (32°F - 120°F).
- **Relative Humidity.** 93 ±2% non-condensing at 32°±2°C (90°±3° F).

Connections

- The BACNET-GW-3 is connected to **NOTI•FIRE•NET** via a network control module (NCM or HS-NCM).
- The BACNET-GW-3 is connected to the BACnet front end via a standard RJ45 Ethernet connector.



- The BACNET-GW-3 installs in a single slot of a CAB-4 Series cabinet using a CHS-4 or CHS-4L chassis. The PNET-1 surge suppressor is connected to the BACnet Ethernet via a RJ45 Ethernet connector.

Standards and Codes

The BACNET-GW-3 complies with the following standards and requirements:

- **BACnet Standard** Annex J for IP and Support Device Objects, Binary Output Objects, Life Safety Points/ Zones, and Multi-State Inputs.
- **NFPA 70** National Electrical Code.
- **NFPA 72** National Fire Alarm Code.
- **NFPA 101** Life Safety Code.
- **UL 864, 9th Edition** Control Units for Fire Alarm Systems.
- **UL 2017, 1st Edition** General Purpose Signaling Devices and Systems.
- **UL 2572, 1st Edition** Mass Notification Systems.
- **CAN/ULC-S559-04, 1st Edition** Standard for Equipment for Fire Signal Receiving Centres and Systems.

Agency Listings and Approvals

The listings and approvals below apply to the BACNET-GW-3. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed.** S635.
- **ULC Listed**. S635.
- **CSFM.** 7300-0028:0250.
- **New York Fire Dept.** COA#6158.

Ordering Information

EQUIPMENT ORDERED FROM NOTIFIER

- **BACNET-GW-3.** Includes circuit board, surge suppressor, and connection cables.
- **CAB-4 Series Enclosure.** Standard enclosure for NOTIFIER fire alarm control panels and peripherals (available in four sizes, "A" through "D"). Back box and door ordered sepa-

rately. A trim ring option is available for semi-flush mounting. *(See DN-6857.)*

- **CHS-4L.** Chassis for mounting N-WEBPORTAL in a CAB-4 Series cabinet.
- **NCM**. For connecting to a standard NOTI•FIRE•NET network. *(See DN-6861.)*
- **HS-NCM.** For connecting to a high-speed NOTI•FIRE•NET network *(See DN-60454.)*
- **Power Supply.** Select a regulated +24 VDC power supply that is listed to UL 1481 or UL 864.

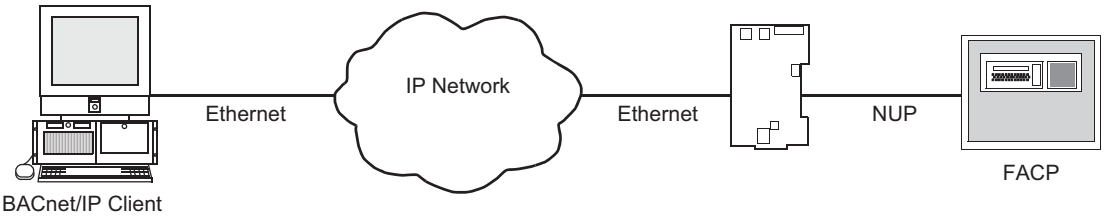
EQUIPMENT SUPPLIED BY CUSTOMER

- **Computer.** Capable of running a web browser to configure the BACNET-GW-3.
- **Web Browser.** Google Chrome (preferred), Firefox, or Microsoft Internet Explorer (version 10 or higher).
- **Ethernet Patch Cable (RJ45 connectors).** For connecting BACNET-GW-3 to Local Area Network (LAN) for configuration.

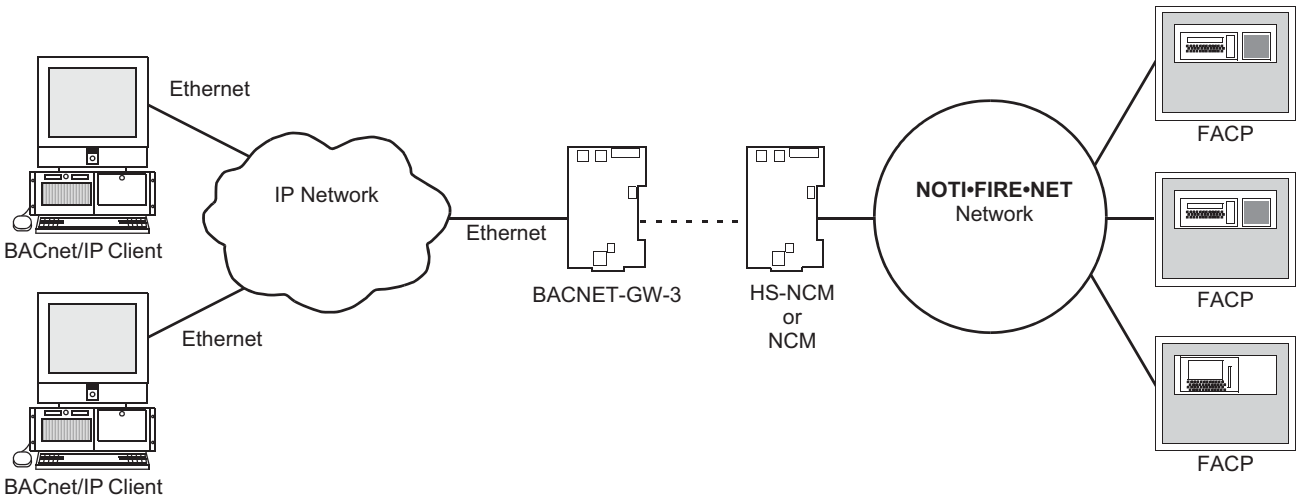
PIC STATEMENT/BACNET INFORMATION

The BACNET-GW-3 *PIC Statement* is available at **www.notifier.com**. Select products and then network systems. For information on the BACnet protocol, see **www.bacnet.org**.

System Architecture



Single Panel Architecture



NOTI•FIRE•NET Network Architecture

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

Honeywell
THE POWER OF CONNECTED

Professional Home Safety

X-Series Smoke and Heat Alarms

Battery Powered Smoke and Heat Alarms

XH100, XS100, XS100T

Fire Safety in Residential Accommodation

The dangers of fire

Every year there are an average of 2.5 million fires across Europe. These range in severity and causes, but each one incurs either financial or personal losses. On average, more than 25,000 people die from fires in Europe each year, and 500,000 people are injured.

In the UK alone, deaths from fires have fallen by more than 60% since the introduction of smoke and heat alarms in the mid 1990's. Homes with a working smoke or heat alarm have been found to have a death rate that is 50% lower than homes without one. The longer people spend inside a burning building, the less their chance of survival is as they begin to suffer from smoke inhalation and could become trapped. Smoke and heat alarms give that vital extra time before these dangers occur, and give you the advised three minutes to get out of a burning building.[1]

Smoke and heat alarms offer an early warning system that works. Research has found that for every £1 spent on an alarm, more than £50 is saved in fire related costs.[2]

1. Source: California State Fire Department

2. Source: European Child Safety Alliance

Who is at risk?

Without proper and adequate warning, everyone is at risk of injury or death from a fire, especially at night when your sense of smell can be diminished. Children are particularly at risk as they often don't react quickly enough to the dangers of fire.

The Dangers of Fire

Data and facts

EVERY YEAR there are an average of **2.5 MILLION FIRES ACROSS EUROPE**

Every **3rd** **VICTIM** is a **CHILD!**

70% of **ASSET DAMAGES** are caused by **smoke**

Almost half of all **FIRES start**

IN PRIVATE LIVING AREAS

95% of fire victims **DIE** from **smoke poisoning**

EACH YEAR IN EUROPE **25,000** **PEOPLE DIE FROM FIRES**

Detection principles

A fire can be detected using various different technologies; however, the priority is always to maximise the detection speed, whilst avoiding false alarms. Using a range of alarm types, ensures accuracy and speed in detection rates to a broader range of fires giving crucial escape time.

Power Fault Alarm

Regulations

In England and Wales, a house built after 1992 must have a mains operated smoke or heat alarm on every level of the building. Landlords and their agents have a duty of care to their tenants to ensure the property is safe. In older houses it is advisable to install smoke or heat alarms.[3]

In Scotland, a house must have at least one smoke or heat alarm, preferably optical, installed in the principal habitable room (normally the lounge / living room) and in circulation spaces such as hallways and landings, and at least one heat alarm in the kitchen, all must be interconnected.

In Northern Ireland, there must be a smoke or heat alarm in the principal habitable room (normally the lounge/living room) and a heat alarm in each kitchen.

[3] Source: UK government

Honeywell's expertise

Honeywell is one of the biggest manufacturers of commercial fire protection systems. Worldwide, more than 20 million commercial fire alarms are sold under Honeywell's brands Esser, Gent, Notifier and others. These commercial systems are typically being used in larger public and private buildings, for example hotels and offices. Honeywell has more than 50 years experience in this area. This experience has been used to develop highly reliable smoke and heat alarms for the residential area.

X-Series Smoke & Heat Alarms Range

The Honeywell X-Series range of smoke and heat alarms has been engineered for ultimate performance and reliability. Featuring a ten year lifespan and warranty; tamper proof, discrete low profile design; and easy installation, along with optional wireless interconnectivity they are ideal for professionals dealing with residential fire detection.

XH100 Heat Alarm

Thermal Sensor

Kitchens

10 YR

10 year life & warranty

XS100 Optical Smoke Alarm

Optical Sensor

Bedrooms
Lounges

10 YR

10 year life & warranty

XS100T Optical Thermal Smoke Alarm

MULTI

Optical and Thermal Sensor

- Escape routes
- Bedrooms
- Lounges

10 YR

10 year life & warranty

X-Series Smoke and Heat Alarm Advantages

Honeywell smoke and heat alarms have been optimised for use by professionals dealing with residential fire protection. Offering simple installation and maintenance they have been designed to meet the needs of housing associations and larger private households.

GENERAL DESCRIPTION

High reliability

- **Multi-criteria detection:** Intelligent algorithm combines optical and heat detection for increased detection speed across a broad range of fires, producing less false alarms (XS100T)
- Third party certified by BSi to EN14604:2005/AC:2008 (XS100T, XS100) respectively BS5446 Part 2 (XH100)
- **Optical detection:** Accurate and rapid detection of fires using responsive optical sensors (XS100)
- **Heat detection:** Combines fast response time and minimum false alarms in areas with dust or fumes like kitchens (XH100)
- **Sealed housing:** to protect from adverse environmental conditions
- **Automatic self-checks:** built in functional tests every 10 seconds for peace of mind
- **Dirt compensation:** false alarm immunity as device self adjusts to most contamination

Tamper-proof

- Sealed in battery lasts for ten years
- Self-locking mounting plate. X-Series alarm can only be removed with a tool

Appealing design

- Low profile discrete design
- Integrates well into residential environment

Easy to install

- One or two hole installation / flexible hole positions
- Device switches on when slid onto mounting plate
- Optional tamper proof feature locks device on mounting plate

Low total cost of ownership

- Ten year life and warranty
- Maintenance free – no parts to change

Easy to use

- Clearly visible status indication LEDs: Power, Alarm, Fault
- Easy sleep feature – ability to deactivate LED flash in bedrooms
- Loud 85dB audible alarm
- Large button – can be easily pressed with a broom stick from floor level
- Alarm hush
- Fault hush – no repetitive bleeps
- Clean, intuitive user interface

Applications

X-series delivers enhanced safety in the home, apartments, leisure accommodation, guest houses and vehicles.

Homes

Apartments

Leisure accommodation and guest houses

Complete solution

All X-Series alarms can be interconnected wirelessly for increased safety by using the wireless plug-in module XW100. Honeywell's X-Series alarms are available as a complete range of fire and Carbon Monoxide solutions for customers looking for advanced safety systems.

User interface

Low profile shape

Loud sounder output

Big, easy to press button

- Fault hush
- Alarm hush
- Reduced sound level test

Separate indicators for each unit status

- 360° visual alarm
- Power (optional LED deactivation for less disturbance at night)
- Fault
- Wireless (if separately sold XW100 module is installed)

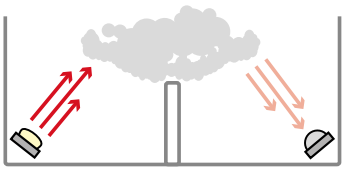
Multi criteria, heat and optical detection

- Increased response speed
- Broader range of fire types detected quickly
- Reduced false alarms

Sensing technologies

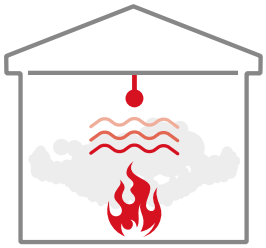
XS100 Optical Smoke Alarm

Our Smoke Alarm uses an optical chamber, which “looks” for smoke as an indicator for a fire.



XH100 Heat Alarm

Our Heat Alarm uses a thermal sensor, which measures the change of temperature as an indicator for a fire. It is triggered at a temperature of 58°C. This makes the alarm best suited for areas with high levels of dust or fumes, such as kitchens and garages.



XS100T Optical Thermal Smoke Alarm

Our multi-criteria smoke alarm combines and optical with a thermal sensor. Signals from these sensors are combined using an intelligent algorithm to improve reaction speed, whilst reducing the number of false alarms.

Using two sensor types in one device makes it capable to detect all fire types like slow burning and fast flaming.

TECHNICAL SPECIFICATION	
RELIABILITY	
Detection principle	XS100T - Multi-criteria: Optical and Thermal
	XS100 - Optical
	XH100 - Thermal
Third party approvals	XH100 - BSi to BS5446-2, CE
	XS100 and XS100T - BSi to EN14604:2005/AC:2008, CE
Other compliances	RoHS, REACH, R&TTE, EMC
Self-test function	Yes
Lifetime/Warranty	10y/10y
OPERATING ENVIRONMENT	
Temperature	-10°C to +55°C
Humidity	Up to 95% non condensing at 40°C
IP rating	IPX2D
ELECTRICAL AND INTERCONNECTION	
Power supply	Long-life Lithium Battery, 3V, Sealed-in

Wireless Interconnection	A separately sold wireless plug-in module XW100 is available
Alarm Scan	Compatible with X-Series Alarm Scan App available on Google Play and Apple iTunes store
USER INTERFACE	
Visual indicator	**Power:** Green LED - optional deactivation **Alarm:** Red LED - large surface **Fault:** Yellow LED
Audible	>85dB @ 3m, Distinct “Fire” alarm sound
Button	Test with reduced sound level Alarm hush, Fault hush (24h)
PRODUCT	
Size	Ø 116 x 42 mm
Weight	185 g
PACKAGING	
Type	Carton box with euro hole
Dimensions	119 x 119 x 55 mm
Scope of supply	Unit Mounting kit: Screws + plugs User/Installer manual

Smoke and Heat Alarms – Where to Install?

Where to install?*

Positioning a smoke or heat alarm in the right place is important to increase detection rates and reduce false alarms. Smoke is hotter than air, so is forced upwards towards the ceiling. Choosing the correct unit for the correct room reduces false alarms.

The X-Series offers a flexible range for different rooms – protecting multiple areas and offering enhanced safety protection via a wireless interconnection module. *See page 4*

XH100 Heat Alarm

The XH100 detects fast increases in temperature and is not affected by fumes or smoke particles. It's therefore ideal for kitchens.

XS100 Optical Smoke Alarm

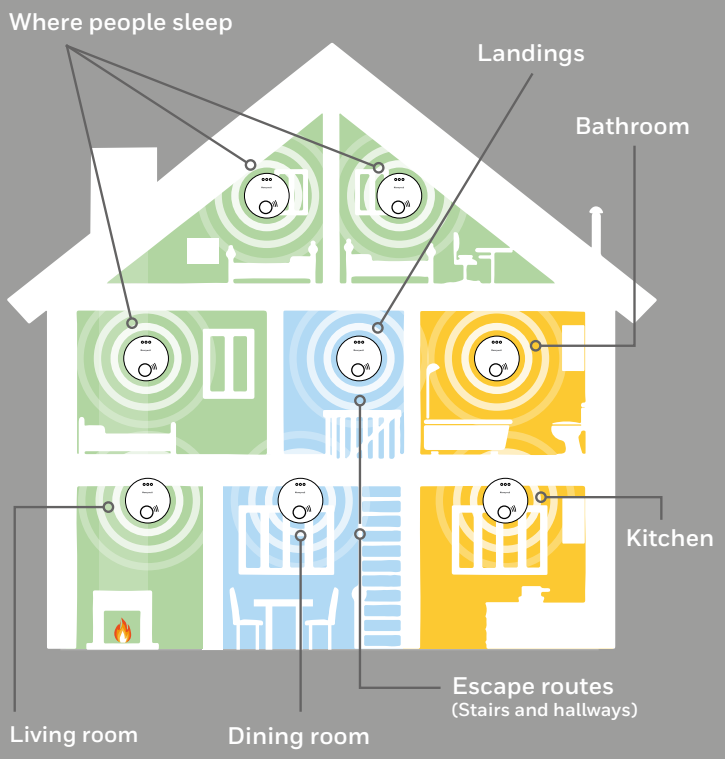
The XS100 provides accurate detection of smoke particles and is therefore ideal for most living areas e.g. lounge or bedroom.

XS100T Optical Thermal Smoke Alarm

Combined thermal and optical sensors provide faster response times to a broader range of fires, whilst reducing false alarms. Ideal protection for hallways and stairs.

Consult your local building regulations to find out how many and which variant of smoke or heat alarm is required. It is strongly recommended that you place an alarm in rooms where you spend a lot of time, for example bedrooms or living rooms.

Installation Guidance*



XH100	XS100	XS100T	XW100
Heat Alarm	Optical Smoke Alarm	Optical Thermal Smoke Alarm	Wireless module

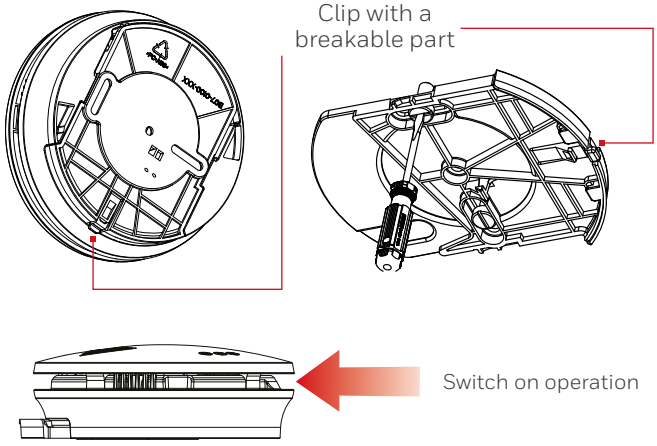
Fast installation

X-Series smoke alarms don't need wiring when installing them; simply install the mounting plate first using supplied plugs and screws, then slide the alarm onto it which automatically activates the alarm.

X-Series smoke alarms are preferably mounted on ceilings but can also be fixed to walls if required.

Mounting options:
Screw, two holes, or
Screw, one centre hole.

Tamper proof:
For additional tamper resistance the locking/replace tab can be removed. The alarm can then only be removed using a suitable tool.



PLEASE NOTE

* *It is the responsibility of the installer to ensure the product is installed in line with the current regulations. If in doubt please consult a competent professional installer.*

How we add value

Smoke and Heat Alarms

Multi-criteria detection (XS100T)

Optical smoke alarms use an optical chamber to “see” the smoke. Certain fire types are recognized with some delays only. Multi-criteria detection therefore adds a thermal sensor and uses an intelligent algorithm to improve reaction speed, and reduce the number of false alarms. Using two sensor types in one device makes it capable to detect all fire types like slow burning and fast flaming.

Low profile design

Honeywell’s low profile design utilising rounded corners, sleek round design and low profile height make the unit seem a lot smaller than it really is. Honeywell have employed design agencies and end user market research to select the best suitable concept.

Full ten year lifespan and warranty

Honeywell’s full product lifespan warranty is one of the most comprehensive in the industry. This is backed up with more than 50 years of fire alarm experience producing some of the most reliable alarms in the market. Honeywell is one of the few companies in the market to offer a full ten year lifespan and ten year warranty on its smoke and heat alarms.

Independent 3rd party certification and Q-Label

All residential smoke alarms being sold in the EU must be certified by a 3rd party, for example VdS, against EN14604 which is the standard for residential smoke alarms. This sets the minimum requirements for smoke alarms to be sold, whether it is for DIY or professional use. The Q-Label is a voluntary additional 3rd party certification, which is granted to high quality smoke alarms. Smoke alarms with the Q-Label are tested for long-life, minimised false alarms, increased protection against adverse environmental conditions and have a sealed battery with at least 10 years lifetime.

CE mark

The CE mark affixed to this product confirms its compliance with the European Directives which apply to the product and, in particular, its compliance with the harmonised specifications of standard EN 14604 relating to Construction Products Directive 89/106/EEC.

BSI Kitemark

The BSI Kitemark is a product or service certification mark that shows it has been tested independently and audited to ensure it meets the appropriate standards of quality and safety.

NF mark

The NF – Smoke Alarm Devices mark provides assurance as to safety and consistent quality inspected by experts. Through its rigorous and exhaustive inspections (holder’s quality management system, product inspections, audits and monitoring tests, etc.), the NF mark represents a comprehensive guarantee for consumers that the certified products are compliant. The NF - Smoke Alarm Devices mark confirms the product’s compliance with certification rules NF 292.

Automatic self-adjustment / self checks

Honeywell’s smoke and heat alarms have been fitted with an automatic self test function which ensures the unit is functioning properly. Every ten seconds, the unit tests critical systems to ensure accurate alerts are delivered rapidly once a fire is detected.

Clearly visible alarms

Honeywell have integrated a set of clearly visible LED lights into the perimeter of the unit, ensuring the alarm can be seen from all angles. This feature greatly helps people who have hearing troubles so may not hear the alarm.

Dirt compensation

Honeywell’s unique dirt compensation ensures that nuisance alarms are kept to a minimum. By not confusing dust with smoke, the X-Series smoke and heat alarms only sound when a hazard is detected.

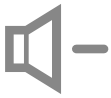
X-Series Alarms

Sealed housing

Honeywell’s X-Series alarms all have sealed housings. It protects the electronics from adverse environmental conditions like humidity, and improves reliability and lifetime. We have been successfully using this technology for many years in our commercial smoke alarms, which are being used in harsh conditions like warehouses.

Alarm hush

There might be situations where the unit is in full alarm, and you want to mute the 85dB loud alarm sounder, e.g. when the situation is under control. Pressing the button on the unit will mute the sounder for a couple of minutes, whilst the alarm light will keep on flashing as long as the alarm detects a threat.



Fault hush

A typical fault occurs when the alarm warns of an almost depleted battery. The alarm will start to bleep once per minute accompanied by a flashing fault light. The Fault Hush allows you to mute the sounder for 12 hours, giving you time to address the fault. This period can be extended several times.

Reduced sound level test

Alarms should be tested regularly to ensure they are working properly. After pressing the Test button, the alarm will start the self-test procedure, flashing all lights and sounding the alarm. We have reduced the sound level for this test function considerably from the full alarm level of 85 dB to protect your hearing. By keeping the button pressed, the full alarm level will sound.

Tamper-proof

Professional landlords want to ensure that installed alarms cannot be deactivated by their tenants. Our X-Series alarms all have sealed batteries which cannot be removed by the end user. Also, once installed, a tool (screwdriver) is required to switch the unit off.

Maintenance free operation

All Honeywell X-Series alarms have lifetime batteries – there is no additional cost for replacement parts or labour to fit them. The only maintenance required is occasional cleaning of the product.

Interlink

Interlink provides the ability to connect several alarms to an alarm system. If one of the units goes into alarm, all other units will sound as well. This considerably improves safety, especially in larger properties. All X-Series alarms can be upgraded to connect wirelessly.

X-Series Alarm Scan app

The Honeywell X-Series Alarm Scan App allows wireless instant transfer of logged Alarm and Fault events, as well as the general device status from all enabled X-Series Alarms to iOS or Android smart devices. The app works with all X-Series devices marked with the Alarm Scan logo, including optionally installed wireless modules.

Our Home Safety Product Range

HF500 Hard-wired flammable gas alarm

The HF500 alarms are designed to deliver a complete solution for the detection of LPG (Liquefied Petroleum Gas) and Natural Gas/Methane.

Optimised for use by professionals dealing with flammable leak detection, HF500 is ideally suited for use in private or social housing as well as other forms of residential care.

e^{z}sense Battery flammable gas alarm

e^{z}sense is the most convenient way to detect Natural Gas, Propane, Butane, LPG and LNG. It is compact and light on the pocket in more ways than one.

SF340 Series hard-wired carbon monoxide alarm

The SF340 Series is a range of reliable, hard-wired Carbon Monoxide alarms with battery back-up. They are designed for use in all domestic and light commercial environments.

X-Series Alarm Scan app

The X-Series Alarm Scan App is designed for professional landlords, gas engineers, plumbers and other service providers responsible for ensuring the safety of tenants or carrying out initial installations of X-Series alarms. It helps with annual maintenance checks or boiler servicing and provides an easy way to confirm incident reports. Installers or landlords can demonstrate compliance or offer an added-value service that can help build their reputation as a professional and reliable service provider.

The app allows anyone who owns an X-Series device* in their home to see more in-depth information about the state of the alarm and keep safety concerns under control.

Available on Google Play ® and iTunes ®.

GET IT ON Google Play

Download on the App Store

Alarm Scan

*Compatible with X-Series devices marked with the Alarm Scan App logo.

X-Series battery powered carbon monoxide alarms

Our X-Series battery powered CO alarm range offers a seven or ten year maintenance-free lifetime.

Three models provide different display options designed to enhance safety in critical situations, including a patent pending alarm evacuate visual indication.

X-Series wireless module

All Honeywell X-Series alarms can be wirelessly interconnected using the XW100 plug-in module. This means that if one X-Series Carbon Monoxide, smoke or heat alarm triggers an alarm, all interconnected units will give an audible alarm as well.

This is especially useful, when living in a large or multi-story dwelling where the alarm may be triggered in another part of the building.

Dedicated local support

Honeywell provides a UK based Customer Support Centre, which is available Monday to Thursday from 08:30 to 17:00 and Friday from 08:30 to 15:30. Our team is happy to answer any queries on our products and can be contacted on

Tel: (01202) 645 577

Please Note:
While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards, and guidelines. This publication is not intended to form the basis of a contract.

ORDER INFORMATION

Part no	Barcode	Batch Size	Minimum Order Quantity	Detection	Available Languages	Product Description
XH100-EN-A	5 027526 402274	50	100	Thermal	English	Battery Heat Alarm
XS100-EN-A	5 027526 402250	50	100	Optical	English	Battery Optical Smoke Alarm
XS100T-EN-A	5 027526 402267	50	100	Optical +Thermal	English	Battery Optical Thermal Smoke Alarm

Professional Home Safety
www.homesafety.honeywell.com
www.honeywellanalytics.com.

13474_X-Series Smoke-Heat Alarms_DS01154_V2_06-17_EMEA

Honeywell

302 Series

Rate-Anticipation Heat Detectors

NOTIFIER® by Honeywell

Conventional Initiating Devices

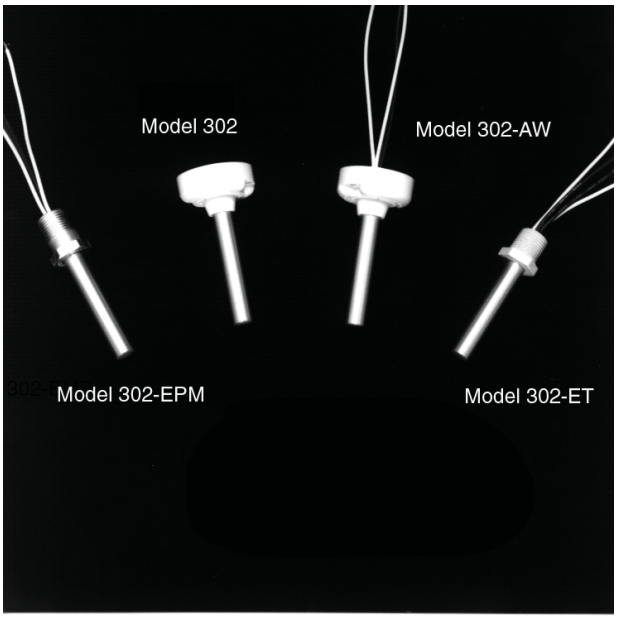
General

The **Thermotech 302 Series** rate-anticipation heat detectors operate within a controlled range of two to three degrees of their set points, regardless of the speed or rate of temperature rise. These detectors are available in either 135°F (57.2°C) or 194°F (90°C) ratings.

The 302 Series are normally-open devices designed especially for fire detection and alarm systems.

Features

- **Immediate response.** The 302 Series activate whenever ambient air temperature reaches a detector's setting, eliminating the thermal time lag inherent in conventional heat detectors.
- **Eliminates false alarms.** The 302 Series do not respond to momentary temperature fluctuations below the selected temperature.
- **Universal application.** The 302 Series can be used in all areas for any type of occupancy.
- **Self-restoring.**
- **Hermetically sealed.** Shock resistant, corrosion resistant, and tamper-proof.



1271pho1.jpg

Principles Of Operation

The 302 Series rate-anticipation heat detectors respond and activate the fire alarm immediately whenever the ambient temperature reaches the preset temperature setting. Under rapid heat rise conditions, the rate-anticipation feature enables the detector to respond one to three degrees ahead of the setting. At the same time, however, it does not respond to momentary temperature fluctuations below the selected protection level, thus eliminating false alarms. When temperature drops back down below the protection level, the detector automatically resets itself.

Dimensions (Model 302)

Total overall length: 4-1/8" (10.48 cm).

Base diameter: 2" (5.08 cm).

Electrical Ratings

Voltage	***Current***
6 - 125 VDC	5 amps
6 - 25 VDC	1 amp
125 VDC	0.5 amp

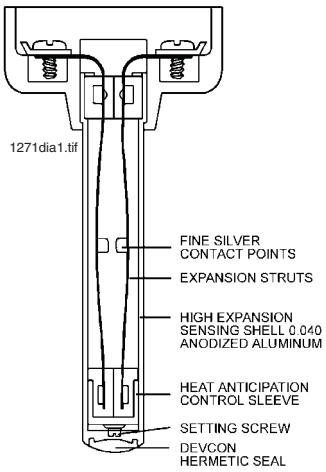
Application Information

302 Series detector have a smooth ceiling UL rating of 50' x 50' (15.24 x 15.24 meters) and are the only type of heat detectors having such a rating on both fixed temperature and rate anticipation.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed**: S539 (302-AW-135/-194; 302-ET-135/-194; 302-135-194)
- **FM Approved**: (302-AW-135/-194; 302-ET-135/-194; 302-135/-194)
- **CSFM**: 7270-0021:001



Cut-Away View

Thermotech Model 302 Series Rate-Anticipation Heat Detectors		
Model Number	**Description**	**Refer To**
302-135	135°F Interior Vertical Mounting	Note 1 below
302-194	194°F Interior Vertical Mounting	
302-AW-135	135°F All-Weather Vertical Mounting	Note 2 below
302-AW-194	194°F All-Weather Vertical Mounting	
302-ET-135	135°F All-Weather Vertical Mounting	Note 3 below
302-ET-194	194°F All-Weather Vertical Mounting	
302-EPM-135	135°F Explosion Proof Mounting	Note 4 below
302-EPM-194	194°F Explosion Proof Mounting	
AP-P	Decorative white plastic adaptor plate for mounting 302 and 302-AW to 4” outlet box.	

NOTE 1: *For interior mounting in any atmosphere that is compatible with terminal-screw-type connections. UL rating 50' x 50' (15.24 x 15.24 meters).*

NOTE 2: *Hermetically sealed for moisture-proof or dust-proof installations. Requires no special backbox when the all-weather leads are properly spliced to “THW” or equivalent type wire.*

NOTE 3: *Hermetically sealed for moisture-proof or dust-proof installations. Requires no special backbox. Has plastic hexagonal wrench grip bushing with 1/2” (1.27 cm) conduit threads for attachment to threaded hub cover, or any outlet box.*

NOTE 4: *Explosion-proof for installation in hazardous locations. Has hexagonal wrench-grip bushing with 1/2” (1.27 cm) conduit threads for attachment to threaded hub cover of Series JL fixture fitting as manufactured by Killark Electric Co., or equal.*

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

DVC Series

Digital Voice Command
DVC-EM

NOTIFIER® by Honeywell

Voice Control Systems

General

The DVC is the heart of an integrated, full-featured Audio Command Center. The DVC Digital Voice Command combines the capabilities of a powerful digital audio processor, an event-driven audio message generator, and a router. Designed for use with Digital Audio Loop (DAL) devices such as DAA2, DAX and DAA series digital amplifiers as well as the DS-DB, each DVC supports a dedicated audio network with up to eight channels of audio, five channels of firefighter telephone communications, and control and supervision for up to 32 DAL devices. The DVC has two wire digital audio ports to connect to wire DAL segments. Either or both ports may be converted to multi-mode fiber or single-mode fiber using fiber option modules. Larger audio systems incorporating hundreds of amplifiers can be created by networking additional DVC units via **NOTI•FIRE•NET™**.

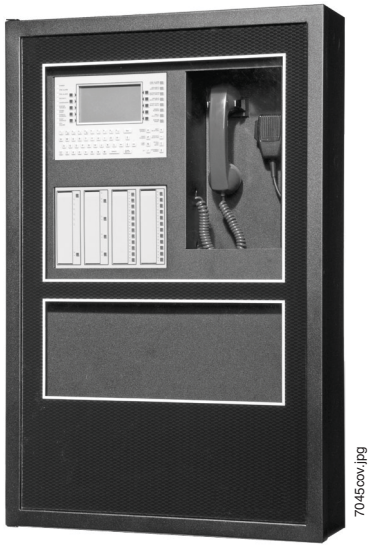
The DVC may be networked with ONYX® Series panels via **NOTI•FIRE•NET** with an NCA-2, or with an NFS2-3030 (running in network monitor mode). A DVC can be connected directly with a single NFS2-640 or NFS2-3030 Fire Alarm Control Panel (FACP) to create a standalone integrated audio solution as well. Refer to the DVC manual for details.

When used as an Audio Command Center with Emergency Paging capability, the optional DVC-KD Keypad Display is required.

NOTE: *Unless otherwise noted, the term "DVC" refers to the DVC-EM.*

Features

- Programmable from NUP port using *VeriFire® Tools*.
- Up to 32 minutes of standard quality or 4 minutes of high quality digital audio storage of user-selected/created messages and tones. Supports twisted-pair wire media. Supports single- and multi-mode fiber-optic media when used with fiber option modules.
- 4-channel analog audio supported with optional DVC-AO
- Up to 1000 audio sequences.
- Message prioritization.
- Equations support flexible programming for distribution of messages.
- Electrically isolated digital audio ports for direct connection with up to 32 Digital Audio Loop (DAL) devices. Style 4 or 7 configurations supported.
- Optional DS-RFM, DS-FM, and DS-SFM fiber modules may be used to convert one or both Digital Audio Ports for operation with single-mode or multi-mode fiber.
- DCC (Display and Control Center) capabilities when used with optional DVC-KD.
- Firefighters' Telephone Communications to local FFT riser on DVC, 32 local DAL device FFT risers, and FFT communication to additional command stations via **NOTI•FIRE•NET**.
- Local paging microphone option.
- Remote microphone options.
- Optional Digital Voice Command Remote Paging Unit (DVC-RPU), or DVC-RPU mode.



DVC
Shown using CA-2 mounting option, SBB-C4, and ADDR-C4 door.

- Broad All-Call functionality when used with DVC-KD (DVC-Keyboard Display): All Call, Page Active Evac Areas, Page Active Alert Areas, Page Inactive Areas.
- Auxiliary input for 12 V_{p-p} analog low-level audio sources. Includes user audio level adjustment feature.
- Auxiliary input accepts external audio sources such as telephone paging or background music. High impedance input accepts 600 ohm, line level, 1.0 VRMS, or 1.41 V_{p-p} low level audio. Selectable AGC, user control of audio level, and audio supervision are supported.
- Associated NCA-2, or NFS2-3030 (programmed for network monitor mode) supports **NOTI•FIRE•NET** applications.
- Multiple audio command centers supported via **NOTI•FIRE•NET**.
- Distribution of one channel of standard-level paging audio on **NOTI•FIRE•NET**.
- Three standalone, non-network mode options:
  - NFS2-3030 (NUP to NUP) digital and analog.
  - NFS2-640 (NUP to NUP) analog audio only.
  - NFS2-640 with NCA-2 (NUP to NUP to NUP) digital and analog.
- Push-to-talk relay, or logic argument.
- Isolated alarm bus input, to be used for backup activation of alarm messages in the event network communication is lost.

Installation Options

The DVC provides flexible configurations based on one-row or two-row chassis options that mount into size "B", "C", or "D" CAB-4 Series cabinets.

The CA-2 supports a DVC, paging microphone, optional FFT telephone, and mounting location for an NCA-2 or NFS2-3030D CPU. The ADDR audio door series can be used when a CA-2 is mounted in the top two rows. The CA-1 supports a DVC and an optional microphone in a single row. For firefighters' telephone applications with a CA-1, the CFFT-1 can be mounted in the row below the CA-1.

NOTE: *For NFS2-640/DVC applications using DAL devices, an NCA-2 is required to annunciate DAL device events.*
Refer to the DVC System Audio Product Application Guide (part number M-AG-DVC) for more details on DVC applications).

Specifications

- **24 VDC power (TB1)**: 24 VDC, 1.0 A, non-resettable, power-limited by the source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Digital audio ports, wire media, A and B (TB2, TB3)**: Maximum distance per segment is 1900 feet (579.12 m) on Belden 5320UJ (18 AWG, TP) FPL cable: 18 AWG (0.821 mm²) twisted-pair, foil-shielded, power-limited. Consult wiring documentation provided in document P/N 52916ADD:C *Addendum to DVC and DAA Manuals*.
- **Digital audio ports, single- and multi-mode fiber-optic media:** (See notes below)
  - **– DS-FM and DS-SFM fiber option module (no direct DAA connection)**:
    - *6.5dB maximum attenuation* for multi-mode with 50/125 micrometer cable @ 1310 nm.
    - *10dB maximum attenuation* for multi-mode with 62.5/125 micrometer cable @ 1310 nm.
    - *30dB maximum attenuation* for single-mode with 9/125 micrometer cable @ 1310 nm.
  - **– DS-SFM (single-mode fiber DAA connection):**
    - *17dB maximum attenuation* for single-mode with 9/125 micrometer cable at 1310 nm going **from** the DS-SFM **to** the fiber DAA.
    - *4dB maximum attenuation* for single-mode with 9/125 micrometer cable going **from** the fiber DAA **to** the DS-SFM.
    - *12dB minimum attenuation* going **from** the DS-SFM **to** the fiber DAA.
  - – DS-RFM (multi-mode fiber DAA connection):
    - Attenuation going **from** the fiber DAA **to** the DS-RFM:
    - 2dB *maximum attenuation* for multi-mode with 50/125 micrometer cable @ 850 nm for the DS-RFM.
    - 4dB *maximum attenuation* for multi-mode with 62/5/125 micrometer cable @ 850 nm for the DS-RFM.
    - Attenuation going **from** the fiber DS-RFM **to** the fiber DAA:
    - 12dB *minimum* attenuation*, 16dB for both cable types.

    Notes:
    1. If the length of the fiber run results in an attenuation of less than 12dB, a suitable attenuator must be used.
    2. ST® Style connection required at DAA end of any fiber connection. LC style connectors are required for the DS-FM, DS-RFM, and DS-SFM.
- **Auxiliary input A (AUX A, TB4)**: Signal strength from low-level analog audio input: maximum 1.0 VRMS, or 1.41 V_{p-p}. Optional supervision is selectable through programming. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Auxiliary input must be in the same room as the DVC.
- **Auxiliary input B (AUX B, TB14)**: Signal strength from low-level analog audio input: 12 V_{p-p} nominal, 15 V_{p-p} maximum. Optional supervision is selected through programming. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Remote microphone interface (TB9)**: Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair. Power-limited. Maximum distance between remote microphone and DVC: 1000 feet (300 m).
- **Push-to-talk interface (TB10)**: Dry contact. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **Alarm bus (TB12)**: Power-limited by source. Recommended wiring: 14 to 18 AWG (2.08 to 0.821 mm²) twisted-pair.
- **FFT riser (TB13)**: Power-limited output. Class A (Style Z) or Class B (Style Y) operation. Style Y two-wire connections require a 3.9K ohm, 1/2 watt resistor (P/N K-3.9K). Maximum wiring resistance (including individual telephone zone to last handset) permitted is 50 ohms, 10,000 feet (3048 m) maximum wiring distance at 12 AWG (3.31 mm²) to last handset.
- **Optional DVC-AO analog audio output circuits (TB5, TB6, TB7, and TB8)**: Supervised, power-limited outputs. Signal strength: +12 V_{p-p} nominal, +15 V_{p-p} maximum. Recommended wiring: 18 AWG (0.821 mm²) twisted-pair; max. 14 AWG (2.08 mm²). Maximum impedance: 66 ohms.

Standards and Codes

The Digital Voice Command DVC and DVC-EM comply with the following standards:

- NFPA 72 2002 National Fire Alarm Code.
- Underwriters Laboratories Standards UL 864, 9th edition, and UL 2572.
- Underwriters Laboratories of Canada (ULC) ULC-S527-99 Standard of Control Units for Fire Alarm Systems.

Listings and Approvals

The listings and approvals below apply to the DVC and DVC-EM Digital Voice Command. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed**: S635.
- **ULC Listed**: S635.
- **FM Approved.**
- **CSFM**: 7165-0028:0224 (NFS2-3030); 7165-0028:0243 (NFS2-640).
- **FDNY:** COA#6114 (NFS2-3030): COA#6085, COA#6121 (NFS2-640).
- **City of Chicago** approved: High Rise, Class 1, Class 2 (NFS2-3030, NFS2-640, NCA-2).
- **City of Denver** approved (NFS2-3030).
- **PSB Corporation** approved *(Singapore) (NFS2-3030)*.

Product Line Information

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. *Supports twisted-pair wire media. Options: DS Fiber modules, DVC-RPU.*

DVC-RPU: Digital Voice Command Remote Paging Unit. Includes the keypad/display. Supports twisted-pair wire media; use DS fiber modules for fiber media. *See DN-60726.*

DVC-KD: Keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons.

DVC-AO: Optional DVC Analog Output board provides four analog output circuits for use with AA or XPIQ Series amplifiers. Four-channel operation supported.

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC and a DVC-KD *(optional)*; and the right side houses a CMIC-1 microphone and its well *(optional)*.

CMIC-1: Optional microphone and microphone well assembly used with the CA-1 chassis.

CFFT-1: The CFFT-1 Chassis for Firefighters' Telephone mounts in the row directly under a DVC that is mounted in a CA-1 single row chassis. The CFFT-1 includes one FFT handset. The DP-CFFT Dress Plate (separately ordered, required) has one open position for mounting an ACS annunciator or a BMP-1 Blank Module Plate.

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC mounted on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes a microphone. DPA-2B dress plate is required *(below)*; the VP-2B Vent Plate is also required for top row configurations. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 *(below)*.

DPA-2B: Dress plate required for CA-2 chassis assembly.

VP-2B: Vent plate required for cabinet configurations where the DPA-2B is used for the top two row position.

TELH-1: Firefighters' Telephone Handset for use with the DVC when mounted in the CA-2 chassis. Order separately.

ADDR-B4: Two-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-6857.*

ADDR-C4: Three-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-6857.*

ADDR-D4: Four-tier-sized door designed for use with a CA-2 chassis mounted in the top rows. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-6857.*

DPA-1: Dress panel, can be used with the CA-1 chassis when configured with a DVC, DVC-KD, and CMIC-1.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates.

ACT-4: Audio-coupling transformer. Used to electronically isolate DVC-AO analog risers.

ACT-25, ACT-70: Audio-coupling transformers for 25V and 70V high-level audio. Used to isolate and convert high-level audio to low-level, supporting applications with large numbers of analog amplifiers.

DAX-3525(E)/DAX-3570(E): 35W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAX-5025(E)/DAX-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with power supply and 2 Class B or 1 Class A output, shipped mounted on chassis. Options: BDA-25/70 backup amplifier, DS Fiber modules.

DAA2-5025(E)/DAA2-5070(E): 50W, 25 or 70.7VRMS. Digital audio amplifiers with charging power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

DAA2-7525(E): 75W, 25VRMS. Digital audio amplifiers with power supply and 4 Class B or 2 Class A outputs, shipped mounted on chassis. RM-1 port, FFT port, Aux audio port. Supports optional BDA for backup amplifier or 2-channel operation, and DS Fiber modules.

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-BDA: Digital Series Backup Digital Amplifier, 25 or 70VRMS, can be configured to act as a one-to-one backup for DS-AMP/E amplifiers. Can also be programmed to provide a second audio channel for a DS-AMP. *See DN-60663.*

BDA-25, BDA-70: Backup Digital Amplifier, 25 or 70.7VRMS, can be configured to act as a one-to-one backup for DAX and DAA2 series amplifiers. For DAA2 Series only, supports alternative second channel operation.

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for *DVC*, DS-DB distribution board, and DAX and DAA2 Series amplifiers. *See DN-60633.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For DAA-50 series amplifiers, see DN-7046. For DAA-7525 Series, see DN-60257.

- **DAA-5025:** 50W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-5025F. For single-mode fiber-optic media order **DAA-5025SF**.)*
- **DAA-5070:** 50W, 70.7Vrms Digital Audio Amplifier assembly with DAA-PS power supply board, shipped mounted to its chassis. Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-5070F. For single-mode fiber-optic media order DAA-5070SF.)*
- **DAA-7525:** 75W, 25Vrms Digital Audio Amplifier assembly with DAA-PS power supply board. Shipped mounted to its chassis (no battery charger on DAA-7525 power supply board). Supports twisted-pair wire media. *(For multi-mode fiber-optic media order DAA-7525F. For single-mode fiber-optic media order **DAA-7525SF**.)*

SEISKIT-CAB: Seismic kit for CAB-4 series cabinets. Includes battery bracket for two 26AH Power Sonic batteries and TELH-1 telephone handset strap. See document 53829.

SEISKIT-DAA: Seismic kit for DAA, DAA2 and DAX series amplifiers, required when using CHS-BH1 chassis. Includes battery bracket for two 12AH Power Sonic batteries. See document 53851.

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
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www.notifier.com

RP-2001(E)

Deluge - Preaction Control Panel

NOTIFIER® by Honeywell

Conventional Releasing Panels

General

The RP-2001 is a six-zone FACP for single and dual hazard deluge and preaction applications. The RP-2001 provides reliable fire detection, signaling and protection for commercial, industrial and institutional buildings requiring water-based releasing. The RP-2001 is compatible with System Sensor's i^3 detectors which are conventional smoke detectors that can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory 'freeze' signal when the ambient temperature falls below the detector rating of approximately 45°F (7.22°C). In addition, the control panel is compatible with conventional input devices such as two-wire smoke detectors, four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. Refer to the Notifier Device Compatibility Document for a complete listing of compatible devices.

Four outputs are programmable as NACs (Notification Appliance Circuits) or releasing circuits. Three programmable Form-C relays (factory programmed for Alarm, Trouble and Supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board. The RP-2001 supervises all wiring, AC voltage, battery charger and battery level.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The RP-2001E offers the same features as the RP-2001 but allows connection to 240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 120 VAC and 240 VAC versions of the panels.

Features

- Listed to UL Standard 864, 9th edition.
- FM Approved.
- Designed for sprinkler standards NFPA 13, 15 and 16.
- Dual hazard operation.
- Adjustable waterflow discharge timer and two soak timers.
- Cross-zone (double-interlock) capability.
- Six programmable Style B (Class B) IDCs (Initiating Device Circuit).
- System Sensor i^3 series detectors compatible.
- Four programmable Style Y (Class B) output circuits - (special application power).
- Strobe Synchronization:
  - System Sensor
  - Wheelock
  - Gentex
  - Faraday
  - Amseco
- Three programmable Form-C relays.
- 7.0 amps total 24 VDC output current.
- Resettable and non-resettable output power.

- Built-in Programmer.
- ANN-BUS for connection to optional devices (up to 8 total of any of the following):
  - N-ANN-80 Remote LCD Annunciator
  - N-ANN-I/O LED Driver
  - N-ANN-S/PG Printer Module
  - N-ANN-RLY Relay Module
  - N-ANN-LED Annunciator Module
- 80-character LCD display (backlit).
- Real-time clock/calendar with daylight savings time control.
- History log with 256 event storage.
- Piezo sounder for alarm, trouble and supervisory.
- 24 volt DC operation.
- Low AC voltage sense.
- Outputs Programmable for:
  - Releasing circuits or NACS
- NACs programmable for:
  - Silence Inhibit
  - Auto-Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
  - Temporal or Steady Signal
  - Silenceable or Non-silenceable
  - Release Stage Sounder
- Disable/Enable control per input zone and output zone.
- Extensive transient protection.
- Automatic battery charger with charger supervision.
- Optional Dress Panel DP-51050 (red).
- Optional Trim Ring TR-CE (red) for semi-flush mounting the cabinet.
- Optional N-CAC-5X Class A Converter Module for Outputs and IDCs.
- Optional 4XTM Municipal Box Transmitter Module.

- Optional Digital Alarm Communicators (411, 411UD, 411UDAC).
- Optional ANN-SEC card for a secondary ANN-BUS.

PROGRAMMING AND SOFTWARE:

- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Three programmable Form-C relay outputs.
- Pre-programmed and custom application templates.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.

USER INTERFACE:

- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-Bus for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)
- DISCHARGE (red)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

AC Power – TB1

- **RP-2001:** 120 VAC, 60 Hz, 3.66 amps.
- **RP-2001E:** 240 VAC, 50/60 Hz, 2.085 amps.
- Wire size: minimum #14 AWG (2.0 mm^2) with 600V insulation.
- Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- **Maximum Charging Circuit - Normal Flat Charge:** 27.6 VDC @ 1.4 amp. Supervised, nonpower-limited.
- **Maximum Charger Capacity:** 26 Amp Hour battery (two 18 Amp Hour batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBBR).
- **Minimum Battery Size:** 7 Amp Hour.

Initiating Device Circuits - TB4 and TB6

- Alarm Zones 1 - 5 on TB4.
- Alarm Zone 6 on TB6.
- Supervised and power-limited circuitry.
- Style B (Class B) wiring with Style D (Class A) option.
- **Normal Operating Voltage:** Nominal 20 VDC.
- **Alarm Current:** 15 mA minimum.
- **Short Circuit Current:** 40 mA max.
- **Maximum Loop Resistance:** 100 Ohms.
- **End-of-Line Resistor:** 4.7K Ohms, 1/2 watt (PN 71252).
- **Standby Current:** 4 mA.

Refer to the Notifier Device Compatibility Document for listed compatible devices.

Notification Appliance and Releasing Circuit(s) - TB5 and TB7

- Four Output Circuits.
- Style Y (Class B) or Style Z (Class A) with optional converter module.
- Special Application power.
- Supervised and power-limited circuitry.
- **Normal Operating Voltage:** Nominal 24 VDC.
- **Maximum Signaling Current:** 7.0 amps (3.0 amps special application, 300 mA regulated maximum per NAC).
- **End-of-Line Resistor:** 4.7K Ohms, 1/2 watt (PN 71252).
- **Max. Wiring Voltage Drop:** 2 VDC.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Form-C Relays - Programmable - TB8

- Relay 1 (factory default programmed as Alarm Relay).
- Relay 2 (factory default programmed as fail-safe Trouble Relay).
- Relay 3 (factory default programmed as Supervisory Relay).
- Relay Contact Ratings:
  - 2 amps @ 30 VDC (resistive)
  - 0.5 amps @ 30 VAC (resistive)

Auxiliary Trouble Input – J6

The Auxiliary Trouble Input is an open collector circuit which can be used to monitor external devices for trouble conditions. It can be connected to the trouble bus of a peripheral, such as a power supply, which is compatible with open collector circuits.

Special Application Resettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA - appropriate for powering 4-wire smoke detectors (see note 1).
- Power-limited Circuitry.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

NOTE: *Total current for resettable power, nonresettable power and Output Circuits must not exceed 7.0 amps.*

Special Application Resettable or Nonresettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA (see note 1).
- Power-limited Circuitry.
- Jumper selectable by JP31 for resettable or nonresettable power.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Product Line Information

RP-2001: Six-zone, 24 volt Deluge-Preaction Control Panel (includes backbox, power supply, technical manual, and a frame & post operating instruction sheet) for single and dual hazard deluge and preaction applications.

RP-2001E: Same as above but allows connection to 240 VAC.

NOTE: *For ULC-listed model, see DN-60442.*

N-CAC-5X: Class A Converter Module can be used to convert the Style B (Class B) Initiating Device Circuits to Style D (Class A) and Style Y (Class B) Output Circuits to Style Z (Class A).

NOTE: *Two Class A Converter modules are required to convert all four Output Circuits and six Initiating Device Circuits.*

4XTM: Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.

N-ANN-80(-W): LCD Annunciator is a remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is unshielded. (Basic model is black; order -W version for white; s*ee DN-7114.)*

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervisory. Ships with red or black enclosure (see DN-60242).

N-ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242).

N-ANN-RLY: Relay Module, which can be mounted inside or outside the cabinet, provides 10 programmable Form-C relays. *(See DN-7107.)*

N-ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. *(See DN-7103.)*

N-ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. *(See DN-7105.)*

ANN-SEC: The ANN-SEC module provides a secondary ANN-BUS port for more wiring flexibility. *(See #53944.)*

DP-51050: Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.

TR-CE: Trim-ring (red) is available as an option. The trim-ring allows semi-flushing mounting of the cabinet.

BB-26: Battery box, holds up to two 26 Amp Hour batteries and CHG-75.

NFS-LBBR: Battery box, houses two 55 Amp Hour batteries, red.

BAT Series Batteries: Refer to DN-6933.

PRN-6: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRN-7: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRT-PK CABLE: Programming cable. Used to update the FACPs Flash firmware. (Also requires an RS485 to RS232 converter).

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **RP-2001 (FLPS-7 Power Supply):** 120 VAC, 60 Hz, 3.66 amps.
- **RP-2001E (FLPS-7 Power Supply):** 240 VAC, 50/60 Hz, 2.085 amps.
- **Wire size:** minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited.

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR- CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 20.7 lbs. (9.4 kg)

Dimensions:

- Height 20.00" (50.80cm)
- Width 22.50" (57.15cm)
- Depth 8.50" (21.59cm)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

The RP-2001(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

- **NFPA 13** Installation of Sprinkler Systems
- **NFPA 15** Water Spray Fixed Systems
- **NFPA 16** Deluge Foam-Water Sprinkler and Foam-Water Spray Systems
- **NFPA 72** National Fire Alarm Code for Local Fire Alarm Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)

Agency Listings and Approvals

The listings and approvals below apply to the basic RP-2001(E) and RP-2001(E)E fire alarm control panels. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7165-0028:0245
- **MEA:** 333-07-E

NOTE: *For ULC-listed model, see DN-60442.*

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Assembled in the USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFN-GW-EM-3 OnyxWorks NFN Embedded Gateway-3

General

The NFN (NOTI•FIRE•NET™) Gateway is an intelligent gateway interface for the ONYXWorks® fire monitoring workstation. This gateway facilitates complete monitoring and control of a NFN network. In addition, it supports full panel programming and network diagnostics.

The embedded gateway is a standalone version and is equipped with IP capability thus enabling ONYX® Series users to monitor multiple sites over an Ethernet network without the need for remote workstations.

Compatibility

The NFN-GW-EM-3 Embedded Gateway is compatible with, and interfaces to, NFN version 5.0 and higher, as well as a high-speed NFN network for the following panels and devices:

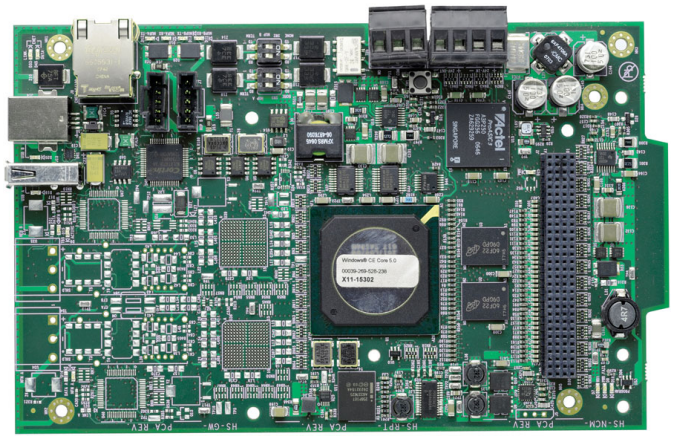
- ONYXWorks Workstation
- ONYX FirstVision®
- ONYX Series FACPs
- DVC-EM Digital Voice Command
- BACnet Gateway
- NCA-2 Network Control Annunciator

Features

- Enables the ONYX Series workstation to monitor alarm, pre-alarm, trouble, disabled events, etc. for ONYX fire alarm control panels
- ONYXWorks supports up to 200 intelligent gateways
- Compatible with standard and high-speed NFN networks
- Adds acknowledge, silence, reset, enable/disable, and activate/deactivate control capability to the workstation
- Supports fire alarm control panel programming upload/downloads and modifications
- Allows remote IP connections and increases scalability of network
- Supervised IP connections for remote workstations and gateways
- Multiple workstations can access the gateway at the same time
- Gateway redundancy for network survivability

Specifications

- Power input: 24 VDC
- Input current: 450 mA @ 24 VDC (without NCM).
- Operating temperature: 0°C to 49°C (32°F to 120°F).
- Direct connection to NFS2-640, NFS-320, and NFS2-3030 fire alarm control panels. NCM required for connection to NFN, and HS-NCM for connection to high-speed network. (See data sheets DN-6861 and DN-60454.)



Standards and Codes

The NOTI•FIRE•NET Gateway complies with the following UL/ULC Standards:

- UL 864
- UL 2017
- UL 2610
- ULC S559-04
- ULC S527-99

Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult NOTIFIER for latest listing status.

- **UL / ULC:** S5697
- **FM Approved**
- **CSFM:** 7300-1525:0103
- **FDNY:** COA # 6306, 6287

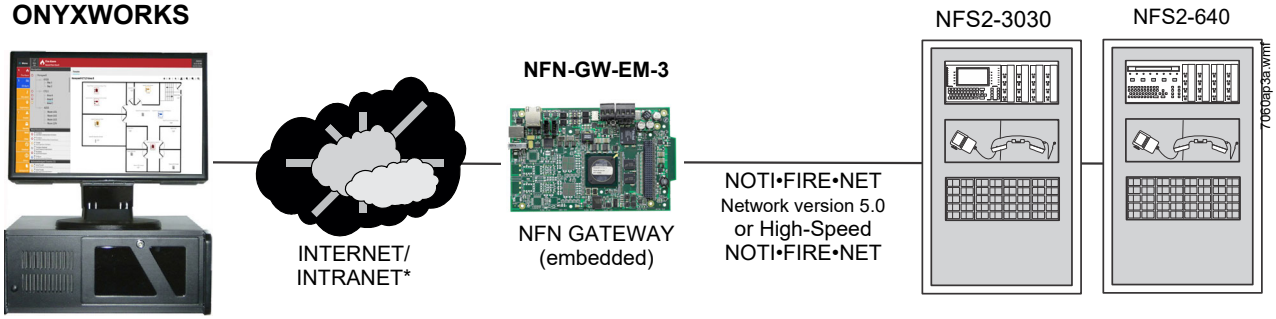
Ordering Information

NFN-GW-EM-3: NOTI•FIRE•NET Gateway, embedded. Includes PC board, NUP-to-NUP cable (75577), USB Cable (75665) and NFN Configuration.

Additional Embedded Gateway required components:

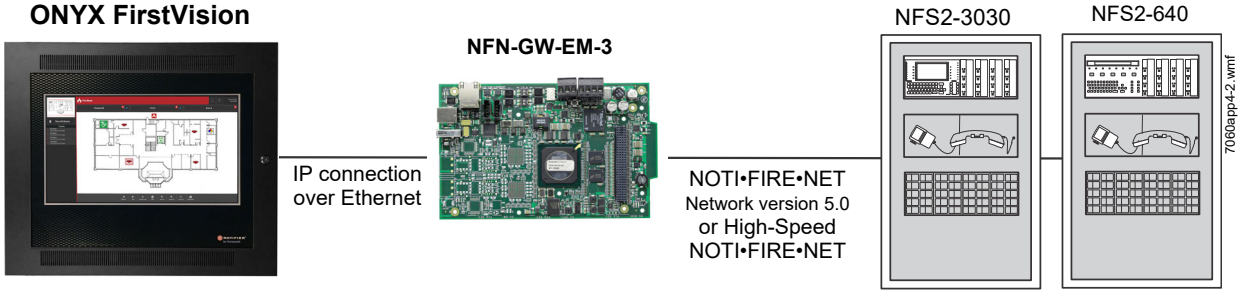
- NCM (Network Control Module) for connection to NFN
- HS-NCM (High-Speed Network Control Module) for connection to high-speed NFN
- IBM®-compatible PC with Microsoft® Windows® 10
- Standard Ethernet network cable with RJ45 to RJ45 connectors
- ONYXWorks Workstation or FirstVision
- NFN Network v5.0 or later
- VeriFire® Tools

ONYXWORKS



* A UL Listed Ethernet (TCP/IP) switch is required between a shared-IP network and the ONYXWORKS equipment. Contemporary Control Systems, Inc. (www.ctrlink.com) has several UL864 recognized switching hubs.

ONYX FirstVision



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Country of Origin: USA

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

ONYXWorks® NFN

Embedded Gateway-3

NOTIFIER® by Honeywell

Network Systems

General

The NOTI•FIRE•NET™ Gateway is an intelligent gateway interface for the ONYXWorks® fire monitoring workstation. This gateway facilitates complete monitoring and control of a NOTI•FIRE•NET™ network. In addition, it supports full panel programming and network diagnostics.

The embedded gateway is a standalone version and is equipped with IP capability thus enabling ONYX® Series users to monitor multiple sites over an Ethernet network without the need for remote workstations.

Features

- Enables ONYX® Series workstation to monitor alarm, pre-alarm, trouble, disabled events, etc. for NFN fire alarm control panels.
- ONYXWorks® supports up to 200 intelligent gateways.
- Compatible with standard and high speed NOTI•FIRE•NET™ network.
- Adds acknowledge, silence, reset, enable/disable, and activate/deactivate control capability to the workstation.
- Supports fire alarm control panel programming upload/downloads and modifications.
- Embedded gateway allows remote IP connections and increases scalability of network.
- Supervised IP connections for remote workstations and gateways.
- Multiple workstations can access the gateway at the same time.
- Gateway redundancy for network survivability.

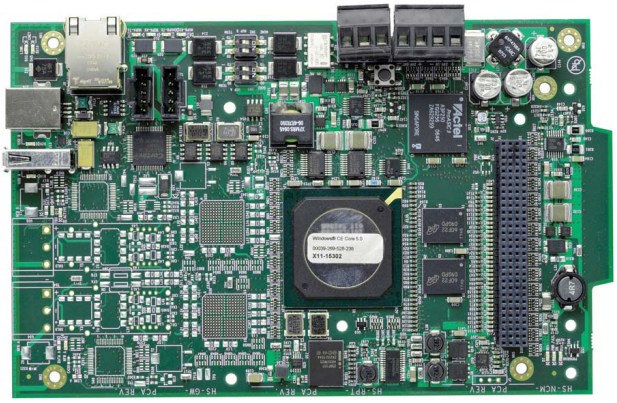
Compatibility

The NOTI•FIRE•NET™ Gateway is compatible with ONYXWorks® and ONYX FirstVision and interfaces to NOTI•FIRE•NET™ version 5.0 and higher, as well as a high speed NOTI•FIRE•NET™ network for the following panels and devices:

- ONYX Series
- AM2020/AFP1010 (version 5.0 SIB-NET)
- AFP-200 (version 5.0 NAM)
- AFP-300/AFP-400 (version 5.0 NAM)
- BACnet Gateway
- NCA-2/NCA Network Control Annunciator
- NOTI•FIRE•NET™Web Server

Specifications

- Power input: 24 VDC
- Input current: 450 mA @ 24 VDC (without NCM).
- Operating temperature: 0°C to 49°C (32°F to 120°F).
- Direct connection to NFS2-640, NFS-640, NFS-320, NFS2-3030, and NFS-3030 fire alarm control panels. NCM required for connection to NOTI•FIRE•NET™, and HS-NCM for connection to high-speed network. (See data sheets DN-6861 and DN-60454.)



NFN-GW-EM-3

Standards and Codes

The NOTI•FIRE•NET™ Gateway complies with the following UL/ULC Standards and NFPA 72 Fire Alarm Systems requirements:

- UL 864
- UL 1076
- UL 2017
- ULC S559-04
- ULC S527-99

Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL / ULC:** S5697
- **FM Approved**
- **CSFM:** 7300-1525:103
- **MEA:** 286-07-E
- **FDNY:** COA #6041

Ordering Information

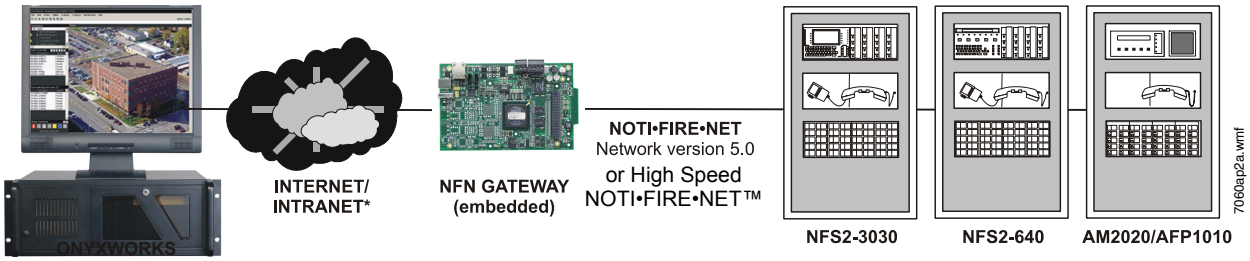
NFN-GW-EM-3: NOTI•FIRE•NET™ Gateway, embedded. Includes PC board, NUP to NUP cable (75577), USB Cable (75665) and NFN Configuration.

Additional EMBEDDED VERSION Gateway required components:

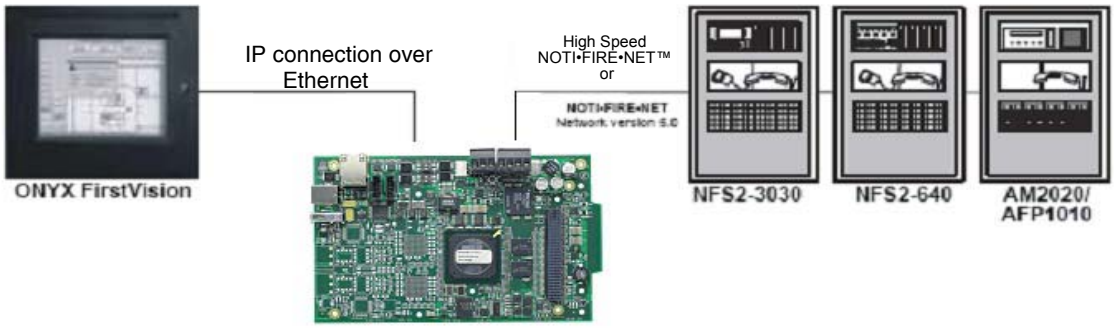
- NCM for connection to NOTI•FIRE•NET™.
- HS-NCM for connection to high speed NOTI•FIRE•NET™.
- IBM®-compatible PC with Windows® XP or above.
- Standard Ethernet network cable with RJ45 to RJ45 connectors.
- ONYXWorks Workstation V3.12 or above .
- NFN Network Version 5.0 or above.
- Verifire Tools Version 5.71 or above.

ONYXWORKS®

NFN-GW-EM-3



* A UL Listed ethernet (TCP/IP) switch is required between a shared-IP network and the ONYXWORKS equipment. Contemporary Control Systems, Inc. (www.ctrlink.com) has several UL864 recognized switching hubs.



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Country of Origin U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

ONYXWorks® NFN

Embedded Gateway-3

NOTIFIER® by Honeywell

Network Systems

General

The NOTI•FIRE•NET™ Gateway is an intelligent gateway interface for the ONYXWorks® fire monitoring workstation. This gateway facilitates complete monitoring and control of a NOTI•FIRE•NET™ network. In addition, it supports full panel programming and network diagnostics.

The embedded gateway is a standalone version and is equipped with IP capability thus enabling ONYX® Series users to monitor multiple sites over an Ethernet network without the need for remote workstations.

Features

- Enables ONYX® Series workstation to monitor alarm, pre-alarm, trouble, disabled events, etc. for NFN fire alarm control panels.
- ONYXWorks® supports up to 200 intelligent gateways.
- Compatible with standard and high speed NOTI•FIRE•NET™ network.
- Adds acknowledge, silence, reset, enable/disable, and activate/deactivate control capability to the workstation.
- Supports fire alarm control panel programming upload/downloads and modifications.
- Embedded gateway allows remote IP connections and increases scalability of network.
- Supervised IP connections for remote workstations and gateways.
- Multiple workstations can access the gateway at the same time.
- Gateway redundancy for network survivability.

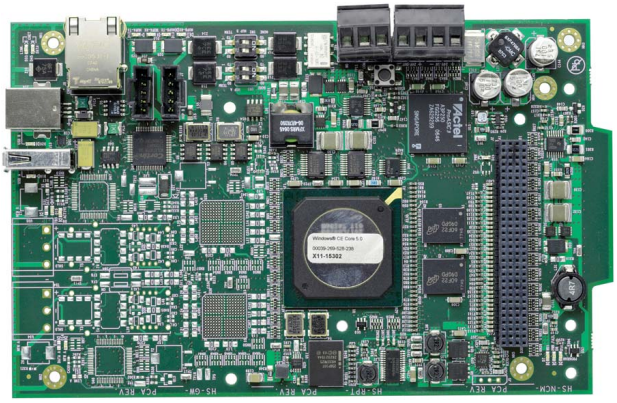
Compatibility

The NOTI•FIRE•NET™ Gateway is compatible with ONYXWorks® and ONYX FirstVision and interfaces to NOTI•FIRE•NET™ version 5.0 and higher, as well as a high speed NOTI•FIRE•NET™ network for the following panels and devices:

- ONYX Series
- AM2020/AFP1010 (version 5.0 SIB-NET)
- AFP-200 (version 5.0 NAM)
- AFP-300/AFP-400 (version 5.0 NAM)
- BACnet Gateway
- NCA-2/NCA Network Control Annunciator
- NOTI•FIRE•NET™Web Server

Specifications

- Power input: 24 VDC
- Input current: 450 mA @ 24 VDC (without NCM).
- Operating temperature: 0°C to 49°C (32°F to 120°F).
- Direct connection to NFS2-640, NFS-640, NFS-320, NFS2-3030, and NFS-3030 fire alarm control panels. NCM required for connection to NOTI•FIRE•NET™, and HS-NCM for connection to high-speed network. (See data sheets DN-6861 and DN-60454.)



NFN-GW-EM-3

Standards and Codes

The NOTI•FIRE•NET™ Gateway complies with the following UL/ULC Standards and NFPA 72 Fire Alarm Systems requirements:

- UL 864
- UL 1076
- UL 2017
- ULC S559-04
- ULC S527-99

Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL / ULC:** S5697
- **FM Approved**
- **CSFM:** 7300-1525:103
- **MEA:** 286-07-E
- **FDNY:** COA #6041

Ordering Information

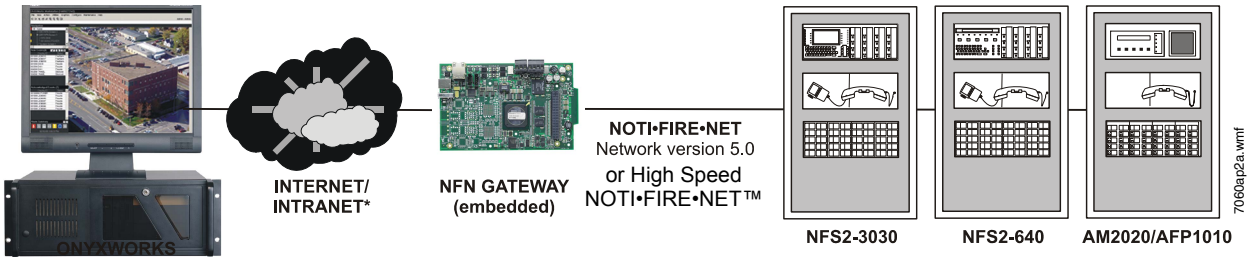
NFN-GW-EM-3: NOTI•FIRE•NET™ Gateway, embedded. Includes PC board, NUP to NUP cable (75577), USB Cable (75665) and NFN Configuration.

Additional EMBEDDED VERSION Gateway required components:

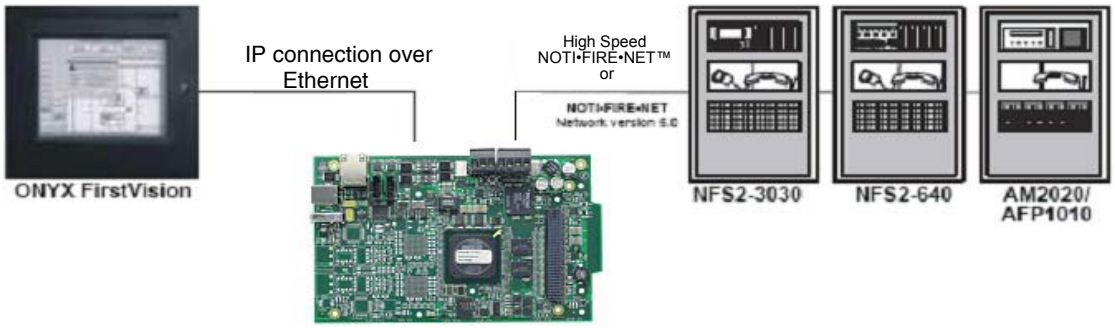
- NCM for connection to NOTI•FIRE•NET™.
- HS-NCM for connection to high speed NOTI•FIRE•NET™.
- IBM®-compatible PC with Windows® XP or above.
- Standard Ethernet network cable with RJ45 to RJ45 connectors.
- ONYXWorks Workstation V3.12 or above .
- NFN Network Version 5.0 or above.
- Verifire Tools Version 5.71 or above.

ONYXWORKS®

NFN-GW-EM-3



* A UL Listed ethernet (TCP/IP) switch is required between a shared-IP network and the ONYXWORKS equipment. Contemporary Control Systems, Inc. (www.ctrlink.com) has several UL864 recognized switching hubs.



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Country of Origin U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NOTIFIER® by Honeywell

FST-951 Series Intelligent Addressable Heat Detectors

The NOTIFIER® FST-951 Series intelligent thermal detectors are designed for both performance and aesthetics, and are direct replacements for the FST-851 Series. A new modern, sleek, contemporary design and advanced thermal technologies make the FST-951 Series ideal for both system operation and building design. The point ID address, set using rotary decimal switches, provide specific detector locations.

The series includes a 135°F/57°C fixed-temperature, rate-of-rise, and a 190°F/88°C fixed high-temperature detectors. These thermal detectors provide effective, intelligent property protection in a variety of applications. Detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:

- Two-wire SLC loop connection
- Unit uses base for wiring

ADDRESSING:

- Addressable by device
- Rotary, decimal addressing
  (Refer to the *NOTIFIER panel manuals* for device capacity.)

ARCHITECTURE:

- Designed to meet UL 268 7th Edition
- Sleek, low-profile, stylish design
- State-of-the-art thermistor technology for fast response
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Built-in functional test switch activated by external magnet

OPERATION:

- Fixed temperature model (FST-951) factory preset to 135°F (57°C)
- Rate-of-rise model (FST-951R),15°F (8.3°C) per minute
- High-temperature model FST-951H) factory preset to 190°F (88°C)
- 360°-field viewing angle of the two visual alarm indicators, LEDs blink red in Normal condition and turn on steady red in Alarm
- LEDs blink every time the unit is polled

MECHANICALS:

- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

OTHER SYSTEM FEATURES:

- Remote test feature from the panel
- Walk test with address display
- Low standby current

OPTIONS:

- Remote LED output connection to optional RA100Z remote LED annunciator

Installation

FST-951 Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Applications

Use thermal detectors for protection of property. For further information, refer to I56-6522, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Construction

These detectors are constructed of fire-resistant plastic. The FST-951 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each FST-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FST-951 Series offers features and performance that represent the latest in thermal detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScandevice.*

FST-951: White, low-profile intelligent 135°F fixed thermal sensor, FlashScan only

FST-951A: Same as FST-951 but with ULC listing

FST-951-IV: Ivory, low-profile intelligent 135°F fixed thermal sensor, FlashScan and CLIP

FST-951A-IV: Same as FST-951-IV but with ULC listing

FST-951R: White, low-profile intelligent rate-of-rise thermal sensor, FlashScan only

FST-951RA: Same as FST-951 but with ULC listing

FST-951R-IV: Ivory, low-profile intelligent rate-of-rise fixed thermal sensor, FlashScan and CLIP

FST-951RA-IV: Same as FST-951R-IV but with ULC listing

FST-951H: White, low-profile intelligent 190°F fixed thermal sensor, FlashScan only

FST-951HA: Same as FST-951H but with ULC listing

FST-951H-IV: Ivory, low-profile intelligent 190°F thermal sensor, FlashScan and CLIP

FST-951HA-IV Same as FST-951 but with ULC listing

INTELLIGENT BASES

NOTE: *For details on intelligent bases, see DN-60981.*

B300-6: White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300A-6: Same as B300-6, ULC listed

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10

B224RB-WH: White, relay base (*CSFM: 7300-1653:0216)*

B224RB-IV: Ivory, relay base (*CSFM: 7300-1653:0216)*

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

B224BI-WH: White, isolator detector base (CSFM: 7300-1653:0216)

B224BI-IV: Ivory isolator detector base (CSFM: 7300-1653:0216)

B224BIA-WH: White, isolator detector base, ULC listing

B224BIA-IV: Ivory isolator detector base, ULC listing

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200SA-WH: Same as B200S-WH, ULC listing

B200SA-IV: Same as B200S-IV, ULC listing

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SRA-WH: Same as B200SR-WH with, ULC listing

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listing

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base

TR300-IV: Ivory, replacement flange for B210LP(A) base

RA100Z(A): Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: Color Kit (includes cover and trim ring), white, 10-pack

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack

Sensitivity: UL Applications: 0.5% to 4.0% per foot obscuration. ULC is 0.5% to 3.5%

Size: 2.0" (5.3 cm) high; base determines diameter

- **– B300-6:** 6.1" (15.6 cm) diameter
- **– B501:** 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

- FST-951, FST-951R Series: –4°F to 100°F (–20°C to 38°C)
- FST-951H Series: –4°F to 150°F (–20°C to 66°C)

Detector spacing: UL approved for 50 ft. (15.24 m) center-to-center, FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

Mounting: B300-6(A) flanged base, included

See **"Product Line Information: Intelligent Bases,"** if using a different base.

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200µA @ 24 VDC (one communication every 5 seconds with LED enabled)

Max current: 4.5 mA @ 24 VDC ("ON")

Listings and Approvals

Listings and approvals below apply to the FST-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S747
- FM Approved
- CSFM: 7270-0028:0502

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

FS-OSI-RI(A) Intelligent Single-ended Reflective Imaging Beam Smoke Detector

General

NOTIFIER's FS-OSI-RI(A) intelligent addressable reflector-type linear optical beam smoke detector is uniquely suited for protecting large open areas with high ceilings, where spot-type smoke detectors are difficult to install and maintain. Ideal applications are warehouses, atriums, aircraft hangers, sporting arenas and concert halls. The beam operates primarily on the principle of light obscuration using infrared. The FS-OSI-RI(A) detector is a combined transmitter/receiver. It is compatible with AFP-3030, N16 series, NFS-320, NFS2-640, NFS2-3030, and NFW-50X, NFW-100X fire alarm control panels in FlashScan® or CLIP mode.

FAST AND EASY ALIGNMENT

Aligning the imager to the reflector is extremely intuitive, fast, and accurate. Both the infrared transmitter and the CMOS imager are contained in a movable "eyeball" – an adjustable lens assembly that can move +/- 20° in the vertical direction and 50° in the horizontal direction.

Four LED directional arrows indicate the direction to move the lens, guiding the user to find the imager's perfect alignment with the reflector.

Once the optimum alignment is found, indicated by all green arrows, the lens is locked with a slide lever. A paintable cover is then placed over the front to secure the lever in locked position.

RESISTANT TO BUILDING MOVEMENT

The infrared transmitter and receiver imager generates a beam of light towards a high-efficiency reflector. The reflector returns the beam to the receiver where the received signal is analyzed. The change in the strength of the received signal when smoke enters the area between the unit and the reflector is used to determine the alarm condition. The receiver imager has a wide 12° field of view that automatically tracks the reflector in case of building movement or support structure movement. This allows the FS-OSI-RI(A) to be highly resistant to movement, eliminating the number one cause of false alarms and/or faults with traditional beam detectors.

RESISTANT TO SUNLIGHT

Optical filtering, high-speed image acquisition and intelligent software algorithms provide the FS-OSI-RI(A) system with higher levels of stability and greater resistance to high level lighting variability. This provides better resistance to sunlight in its field of view, helping to prevent false alarms when saturated by sunlight, reflected sunlight or any other very bright light sources.

RESISTANT TO FOREIGN OBJECT INTRUSION

Advanced smoke imaging techniques allow the detector to avoid false alarms from partial and sudden blockage from foreign object intrusion.

TIME-SAVING AUTOMATIC SENSITIVITY SETTING

Unique in the market, the sensitivity of the detector is selected and set automatically at the optimum sensitivity based on the size of the reflector measured in the field of view.

The FS-OSI-RI(A) single-ended beam smoke detector is easy to install and adjust. Only the head unit needs to be wired, and the "eyeball" can be aimed without adjusting the detector mounting.

DRIFT COMPENSATION

The detector incorporates automatic drift compensation, whereby the detector will adjust its detection thresholds in line with any long-term signal reduction of the beam caused by dust or other contamination of the optical surfaces.

EQUIPPED WITH BUILT-IN IMAGER HEATER

The imager ships standard with an internal heating option to prevent condensation on the optical surface. (External power supply required.)

Features

- Combined transmitter/receiver unit
- Wide 12° field of view
- Fast, easy, and intuitive beam alignment indicated by directional LED arrows
- Long range coverage of 16-328 ft (5-100 m) is standard; no separate long-range kit required
- Highly resistant to building movement; tolerates +/- 1° movement
- Resistant to strong light sources; does not alarm when saturated by sunlight
- Resistant to solid object intrusion
- Automatic sensitivity threshold level settings and drift compensation
- 50° horizontal and 20° vertical beam adjustment
- Built-in imager heater
- Remote test station capable for electronic simulated smoke test from ground level
- Status LED indicators visible from the front and bottom
- Paintable housing/cover
- Removable plug-in terminal blocks
- Optional heater kit available for the reflector

PHYSICAL/OPERATING SPECIFICATIONS

- **Dimensions (Detector):** Height 6" (152.4 mm); Width 10" (254 mm); Depth 4.5" (114.3 mm)
- **Dimensions (Reflector):** Height 9.06" (230 mm); Width 7.87" (200 mm)
- **Weight (Installed):** 2.48 lbs (1.12 kg)
- **Weight (Shipping):** 3.91 lbs (1.77 kg)
- **Wire Gauge for Terminals:** 14 AWG (2.08 mm²)

ELECTRICAL SPECIFICATIONS: FS-OSI-RI(A)

- **Operating Voltage Range:** Nominal: 24 VDC
- **Minimum:** 15 VDC
- **Maximum:** 32.0 VDC
- **Maximum Standby Current:**
  13 mA @ 32 VDC
  14 mA @ 24 VDC
  20 mA @ 15 VDC
- **Maximum Alarm Current (LED on):**
  22 mA @ 32 VDC
  15 mA @ 24 VDC
  22 mA @ 15 VDC
- **Maximum Devices per SLC Loop:**
  The number of OSID-R devices are limited due to SLC current draw restrictions. Current draws listed above must be considered in coordination with any other devices on a circuit. In general, this limits the number of OSID-R detectors to up to 4 detectors per loop on a dedicated circuit on NOTIFIER panels. Any non-beam devices, increased distances or higher gauge wiring on the circuit will decrease available current and total capacity of OSID-R detectors.
  Available SLC loop current:
  – **AFP-3030, N16, NFS-320, NFS2-640, NFS2-3030:** 150ma normal operating; 400 ma maximum
  – **FireWarden-50X:** 100 ma normal operating; 200 ma maximum
  – **FireWarden-100X:** 100 ma normal operating; 400 ma maximum

ELECTRICAL SPECIFICATIONS: BEAMHKR

- **Voltage Range:** 15 to 32 V
- **Maximum Current:** 450 mA Max at 32 V
- **Power Consumption:**
  7.7 W @ 24 V
  15 W @ 32 V

ELECTRICAL SPECIFICATIONS: RTS151KEY(-A)

- **Voltage Range:** 10.2 to 32 VDC
- **Current Range:** 9 mA Min to 11 mA Max

ENVIRONMENTAL SPECIFICATIONS

- **Operating Temperature:** UL-Listed for use from 32°F to 100°F (0°C to 37.8°C)
- **Application Temperature Range:** -4°F to 131°F (-20°C to +55°C)
- **Humidity Range:** 0 to 95% relative humidity, non-condensing

OPERATIONAL SPECIFICATIONS

- **Protection Range:** 16 ft to 328 ft (5 m to 100 m)
- **Adjustment Angle:** 20 degrees vertical, 50 degrees horizontal
- **Sensitivity Levels:** Level 1 25%, Level 2 30%, Level 3 40%, Level 4 50% (L1=1.25 dB, L2=1.55 dB, L3=2.22 dB, L4=3.01 dB)
- **Test/Reset Features:** Local alarm test switch, local alarm reset switch, Remote test and reset switch (compatible with RTS151(A) and RTS151KEY(-A) test stations), OSID-R test filter.
- **Smoke Detector Spacing:** On smooth ceilings, 30-60 feet between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on the ceiling height, airflow characteristics, and response requirements. See NFPA 72 (S524 in Canadian applications, AS 1670.1 in Australian applications).

Agency Listings

- UL, ULC: S911
- FM: PR449231
- CSFM: 7260-0028:0509
- Approved to Australian AS 7240.12:2018
- SAI Global Listing # SMK40640-2
- Fire Protection New Zealand - Notifier Register

Product Line Information

- **FS-OSI-RI:** Intelligent imaging beam smoke detector including reflector, UL listed
- **FS-OSI-RIA:** Intelligent imaging beam smoke detector including reflector, ULC listed
- **OSP-002:** Laser alignment tool
- **OSP-004:** Test filter, 10 pack
- **RTS151:** Remote test station, UL listed
- **RTS151KEY:** Test and reset station with key lock, flush mount, UL listed
- **RTS151KEY-A:** Test and reset station with key lock, flush mount, ULC listed
- **BEAMHKR:** Heater kit for the reflector
- **6500-MMK:** Multi-mount accessory for ceiling or wall mounting with additional mounting adjustment

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Country of Origin: Mexico

NOTIFIER® by Honeywell

DNR(A) and DNRW Intelligent Photoelectric Duct Detectors

The Notifier DNR(A) intelligent non-relay photoelectric duct smoke detector and DNRW watertight non-relay photoelectric duct smoke detector feature a pivoting housing that fits both square and rectangular footprints capable of mounting to a round or rectangular duct.

The DNRW duct smoke detector, with its NEMA-4 rating, is listed as a watertight, UV resistant enclosure providing protection against falling dirt, rain, and windblown dust, splashing and hose directed water, allowing operators to use the detector in the most extreme environments.

These units sense smoke in the most challenging conditions, operating in airflow speeds of 100 to 4,000 feet per minute (0.5 – 20.32 m/s), temperatures of -4°F – 158°F (-20°C – 70°C), and a humidity range of 0 – 95 percent (non-condensing.)

An improved cover design isolates the sensor head, which allows for ease of maintenance. A cover tamper feature indicates a trouble signal for a removed or improperly installed sensor cover. The housing provides a 3/4-inch conduit knockout and ample space to facilitate easy wiring and mounting of a relay module.

The Notifier DNR(A) duct smoke detectors can be customized to meet local codes and specifications without additional wiring and are compatible with all previous models, including remote test accessories.

Features

- Photoelectric, integrated low-flow technology
- Air velocity rating from 100 ft/min – 4,000 ft/min (0.5 m/s – 20.32 m/s)
- Versatile mounting options: square or rectangular configuration
- Broad ranges for operating temperature (-4°F – 158°F, -20°C – 70°C) and humidity (0% – 95% non-condensing)
- Patented sampling tube installs from front or back of the detector with no tools required
- Cover tamper signal
- Increased wiring space with a newly added 3/4” conduit knockout
- Available space within housing to accommodate mounting of a relay module
- Easily accessible code wheels on sensor head (sold separately)
- Clear cover for convenient visual inspection
- Remote testing capability
- Requires com line power only
- Accommodates an addressable relay module, sold separately, (FRM-1) for applications requiring a Form-C relay

Specifications

Size: (Rectangle) 14.38 in (37 cm) Length; 5 in (12.7 cm) Width, 2.5 in (6.6 cm) Depth

Size: (Square) 7.75 in (19.7 cm) Length; 9 in (22.9 cm) Width; 2.5 in (6.35 cm) Depth

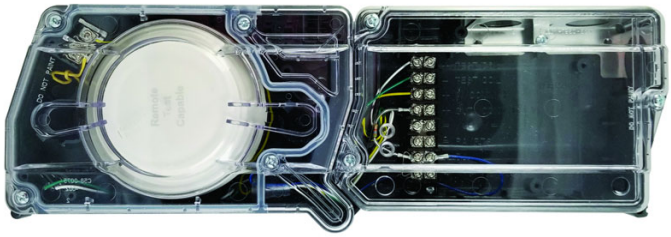
Weight: 1.6 lb (0.73 kg)

Operating Temperature Range: -4°F – 158°F (-20°C – 70°C)

Storage Temperature Range: -22°F – 158°F (-30°C – 70°C)

Operating Humidity Range: 0% – 95% relative humidity (non-condensing)

Air Duct Velocity: 100 – 4,000 ft/min (0.5 – 20.32 m/s)



Accessories

Notifier provides system flexibility with a variety of accessories, including two remote test stations and different means of visible and audible system annunciation. As with our duct smoke detectors, all duct smoke detectors accessories are UL listed.

DNR(W) housings with a date code of 0013 or higher do not require external 24VDC for remote test applications when used with a remote-test-capable detector.

ACCESSORY CURRENT LOADS AT 24 VDC

Device	Standby	Alarm
RA100Z	0mA	12mA Max
RTS151/RTS151KEY	0mA	12mA Max

Agency Listings and Approvals

Consult product manual for lists of compatible UL-Listed devices. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635, S3705
- **ULC:** S635
- **CSFM:** 3240-1653:0209
- **FM approved**

Product Line Information

NOTE: *“A suffix indicates ULC listed model.*

DNR(A): Intelligent non-relay photoelectric low flow smoke detector housing. Requires photoelectric smoke detector (sold separately).

DNRW: Watertight intelligent non-relay photoelectric low flow duct smoke detector housing. Requires photoelectric smoke detector (sold separately). NEMA-4 rated.

FSP-951R(A)-IV: Remote test capable addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan® protocols

FSP-951R(A): Remote test capable addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

FSP-951(A)-IV: Addressable low-profile photoelectric smoke detector; ivory; supports CLIP and FlashScan protocols

FSP-951R(A): Addressable low-profile photoelectric smoke detector; white; supports FlashScan protocol only

DCOIL: Remote test coil. Required for older DNR(W) duct detector housing

DUCTCOV: Retrofit DNR cover for manufactured prior to April 2014

DUCTCOVW: Retrofit DNRW cover for manufactured prior to April 2014

DST1(A): Metal sampling tube duct width up to 1 ft (0.3m)

DST1.5(A): Metal sampling tube duct widths up to 1 ft – 2 ft (0.3 – 0.6 m)

DST3(A): Metal sampling tube duct widths up to 2 ft – 4 ft (0.6 – 1.2 m)

DST5(A): Metal sampling tube duct widths up to 4 ft – 8 ft (1.2 – 2.4 m)

DST10(A): Metal sampling tube duct widths up to 8 ft – 12 ft (2.4 – 3.7 m)

DH400OE-1: Weatherproof enclosure

ETX: Metal exhaust tube duct, width 1 ft (0.3 m)

M02-04-00: Test magnet

P48-21-00: End cap for metal sampling tubes

RA100Z(A): Remote annunciator alarm LED

RTS151(A): Remote test station

RTS151KEY(A): Remote test station with key lock

Important Notes

- DNR(W) duct detector housings with a date code of 0013 or higher do not require a DCOIL or auxiliary 24 VDC for remote test applications when used with a remote test capable detector.
- DNR(W) duct detector housings with a date code of 0012 or earlier require a DCOIL and auxiliary 24 VDC power for remote test applications.

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Country of Origin: Mexico

NOTIFIER
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NOTIFIER® by Honeywell

FAPT-851(A)

Acclimate® Plus™ Multi-Sensor
Low-Profile Intelligent Detector

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier FAPT-851(A) Acclimate® Plus™ detector is an intelligent, addressable, multi-sensing, low-profile detector designed for use with Notifier Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

The Acclimate Plus detector uses a combination of photoelectric and thermal sensing technologies to increase immunity to false alarms. Unlike traditional intelligent detectors, the Acclimate Plus detector has a microprocessor in the detector head that processes alarm data. As a result, the Acclimate Plus detector adjusts its sensitivity automatically, without operator intervention or control panel programming.

Areas where the Acclimate Plus detector is especially useful include office complexes, schools, college campuses, manufacturing and industrial facilities, and anywhere else the use of a particular area may change. The Acclimate Plus detector automatically adjusts its sensitivity to the environment.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed to greatly enhance the speed of communication between analog intelligent devices and compatible systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based, combination photo and thermal technology.
- Compatible with all Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).
- Addressable-analog communication.
- Sleek, low-profile design.
- Two-wire SLC connection.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Addresses can be viewed and changed without electronic programmers.
- Dual bi-color LED design provides 360° viewing angle.
- LEDs lock red when in alarm. In FlashScan, LEDs flash green in standby for normal condition.
- Built-in tamper-resistant feature.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- SEMS screws for wiring of the separate base.
- Several base options, including relay, isolator, and sounder.
- Built-in functional test switch activated by external magnet.
- Listed to UL 268.
- Capable of heat-only alarm mode, enabled by a special command from the panel. Smoke alarms are ignored.
- Low-temperature signal at 45°F +/– 10°F (7.22°C +/– 5.54°C).

FAPT-851 with B210.png

FAPT-851(A) in B210LP(A) Base

Specifications

Sensitivity: *auto-adjusting levels*: 1 to 2%/ft. and 2 to 4%/ft. with classic CLIP systems; 1 to 2, 2 to 3, and 3 to 4%/ft. with systems; *fixed-sensitivity levels:* 1, 2, and 4%/ft. with classic CLIP systems; 0.5, 1, 2, 3, and 4%/ft. with FlashScan systems.

Size: 2.0" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.

Shipping weight: 5.2 oz. (147 g).

Operating temperature: 0°C to 38°C (32°F to 100°F).

UL-Listed velocity range: 0 – 4000 ft./min. (1219.2 m/min.), suitable for installation in ducts.

Relative humidity: 10% – 93% noncondensing.

Thermal sensing rating: fixed-temperature setpoint 135°F (57°C).

ELECTRICAL SPECIFICATIONS

Voltage range: 15 – 32 volts DC peak.

Standby current (max. avg.): 300 µA.

Loop resistance: 50 ohms maximum; varies according to control panel used. Refer to panel installation manuals.

LED current (max.): 6.5 mA @ 24 VDC ("ON").

Installation

The FAPT-851(A) plug-in detector uses a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug-in and remove detectors without using a ladder. Suitable mounting base boxes include:

- 4.0" (10.16 cm) square box.
- 3.5" (8.89 cm) or 4.0" (10.16 cm) octagonal box.
- Single-gang box (except relay or isolator base).

NOTE: *The FAPT-851(A) detector has the unique ability to adjust sensitivity according to the environment, based on heat and smoke levels. Avoid installing these detectors in locations that are susceptible to rapid and high temperature changes. An example of an incorrect application would be near or in line with the output of a self-contained heater.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S1115.
- **ULC Listed:** S1115.
- **MEA Listed:** 225-02-E.
- **FM Approved.**
- **CSFM:** 7272-0028:0206.
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640, NFS-320/NFS-320C, excluding B210LP(A)).
- **Maryland State Fire Marshal:** Permit # 2122.

Ordering Information

NOTE: *"A" suffix indicates ULC Listed model.*

FAPT-851: Low-profile intelligent multi-sensor detector.

FAPT-851A: Same as FAPT-851 but with ULC Listing.

INTELLIGENT BASES

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *For details about intelligent bases and their mounting, see DN-60054.*

B210LP(A): Plug-in detector base; standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Relay base Screw terminals: up to 14 AWG (2.0 mm^2). Relay type Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Isolator base. Maximum: 25 devices between isolator bases.

ACCESSORIES

F110: Retrofit flange to convert B210LP to match the B710LP profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B210LP(A) and B501(A) bases only.

SMB600: Surface mounting kit for use with B210LP(A).

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of FlashScan® Series detector heads from base in high ceiling installations.

T55-127-010: Detector removal tool without pole.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

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This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NOTIFIER® by Honeywell

FCO-951 Series Advanced Multi-Criteria Fire/CO Detector

General Description

The IntelliQuad® PLUS FCO-951/-IV and FCO-951A/-IV advanced multi-criteria fire/CO detector is a plug-in, addressable device that provides both fire and carbon monoxide (CO) detection. The detector combines four separate sensing elements in one unit to sense multiple components of a fire: smoke, CO, light/flame, and heat. This approach enables enhanced sensitivity to real fire with heightened immunity to nuisance particulates. For CO, the detector's electrochemical sensing cell creates a separate signal for life safety CO detection.

Multiple sensors and communication can greatly reduce nuisance alarms compared to single sensing methods. Sophisticated algorithms maximize the advantages of the sensor types creating our best detection strategy offering heightened immunity to nuisance particulate and enhanced sensitivity to real fire.

- Photoelectric sensors detect airborne particles associated with smoke.
- Thermal sensors detect heat and rate-of-rise (135°F fixed temperature threshold).
- Carbon Monoxide sensors detect this by-product of fire for accurate fire detection.
- Infrared sensors discern light patterns in the environment as an additional data point for alarm determination.

This ability to reject certain nuisance alarm triggers, such as theater smoke, supports the use of the IntelliQuad PLUS Series detector in applications where moderate to heavy nuisance conditions exist that might cause single sensing detectors to false alarm.

The IntelliQuad PLUS Series detector meets both UL 268 7th edition and UL 521 listing requirements for fire detection as well as the UL 2075 standard for system-connected life safety carbon monoxide detection. Canadian models meet listing requirements of CAN/ULC S529, CAN/ULC S530 and CSA 6.19-01.

Released through the incomplete burning of various fuels, CO is a colorless, odorless and deadly gas that is virtually impossible to detect with the human senses. Because the potential exists for dangerous levels of CO to accumulate in almost any building, legislation mandating the use of CO detection in commercial spaces continues to grow.

B200S series intelligent sounder bases (B200SCOA series in Canada) are recommended for use with FCO-951 Series IntelliQuad PLUS. These bases can generate either a Temp 3 pattern for fire or a Temp 4 pattern for CO alarm indication. The B200S/B200SCOA series bases recognize the System Sensor synchronization protocol, for use as a component of the general evacuation signal — along with other System Sensor horns, horn strobes, and chimes — when connected to a power supply or Fire Alarm Control Panel (FACP) output capable of generating the System Sensor synchronization pulses.

Features

- Unique ability to detect all four major elements of a fire
- Separate CO detection signal
- Highest nuisance alarm immunity
- Automatic drift compensation for smoke and CO sensors
- Uses only one address on the SLC
- RealTest® CO testing capability
- UL 268 7th edition, UL 521, and UL 2075 listed; CAN/ULC S529, CAN/ULC S530 and CSA 6.19-01 listed

FCO-951 Multi-Criteria Fire/CO Detector installed in B200S-WH sounder base

- Separate audible signal for fire or CO alarm when used with a B200S series base (B200SCOA series in Canada)
- 10-year CO cell with end-of-life warning
- New modern profile
- Expanded color options

Specifications

PHYSICAL

- Height: 2.7" (69 mm) installed in B200S series sounder base
- Diameter: 6.875" (175 mm) installed in B200S series sounder base
- Weight: 3.4 oz. (95 g)
- Color: White (-IV models are ivory)
- Operating Humidity Range: 15% to 90% Relative Humidity, Non-condensing
- Operating Temperature Range: 32°F to 100°F (0°C to 38°C)
- Air Velocity: 0 to 4000 ft./min. (0 to 1219.2 m/min.)

ELECTRICAL SPECIFICATIONS

- Operating Voltage Range: 15 to 32 VDC
- Operating Current @ 24 VDC: 200 uA (one communication every 5 seconds with green LED blink on communication)
- Maximum Alarm Current: 2 mA @ 24 VDC (one communication every 5 seconds with red LED solid on)
- Maximum Current: 4.5 mA @ 24 VDC (one communication every 5 seconds with amber LED solid on)
- Isolator Load Rating: 0.0063

CO MONITORING UL STANDARD REFERENCE

Alarm thresholds are as follows:

Parts Per Million	Detector Response Time
70 ± 5ppm	60 – 240 min.
150 ± 5ppm	10 – 50 min.
400 ± 10ppm	4 – 15 min.

Standards

Per UL standard 2075, the FCO-951 Series has been tested to the sensitivity limits defined in UL Standard 2034.

UL Standard: UL 268 7th Edition

ULC Standard: CAN/ULC S529

Agency Listings and Approvals

The listings and approvals below apply to the FCO-951 Series. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for the latest listing status.

UL/ULC: S1111

CSFM: 7272-0028:0510

Ordering Information

FCO-951: Advanced multi-criteria fire/CO detector, FlashScan, white, UL listed. For ivory, order FCO-951-IV.

FCO-951A: Advanced multi-criteria fire/CO detector, FlashScan, white, ULC listed. For ivory, order FCO-951A-IV.

BASES

Note: Canadian CO applications require base B200SCOA-W/-IV.

B501-WHITE: 4" Mounting base, white

B501-WHITE-BP: 4" mounting base, white, 10-pack

B501-IV: 4" Mounting base, ivory

B501-BL: 4" Mounting base, black

B300-6: 6" Flanged mounting base, white

B300-6-BP: 6" Flanged mounting base, white, 10-pack

B300-6-IV: 6" Flanged mounting base, ivory

B200S-WH: Intelligent addressable sounder base, white

B200S-IV: Intelligent addressable sounder base, ivory

B200SCOA-WH: Intelligent addressable sounder base for Canadian CO applications, white, ULC-listed

B200SCOA-IV: Intelligent addressable sounder base for Canadian CO applications, ivory, ULC-listed

B200S-LF-WH: Intelligent addressable sounder base, low-frequency, white, UL-listed

B200S-LF-IV: Intelligent addressable sounder base, low-frequency, ivory, UL-listed

B224BI-WH: Isolator base, white

B224BI-IV: Isolator base, ivory

B224RB-WH: Relay base, white

B224RB-IV: Relay base, ivory

ACCESSORIES

SMB600: Surface mounting kit (flanged)

TR300: Trim ring, white

TR300-IV: Trim ring, ivory

CK300-IR: IR color kit (includes cover and trim ring), white, 10-pack

CK300-IR-IV: IR color kit (includes cover and trim ring), ivory, 10-pack

CK300-IR-BL: IR color kit (includes cover and trim ring), black, 10-pack. *Note: Not for use in Canadian CO applications*

RA100Z(A): Remote LED annunciator

M02-04-00: Detector test magnet

M02-09-00: Telescoping test magnet

ACCESSORIES

RA100Z(A)
Remote LED Annunciator

CK300-IR-BL
Color Kit

TR300
Trim Ring

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

FS-OSI-RI(A) Intelligent Single-ended Reflective Imaging Beam Smoke Detector

General

NOTIFIER's FS-OSI-RI(A) intelligent addressable reflector-type linear optical beam smoke detector is uniquely suited for protecting large open areas with high ceilings, where spot-type smoke detectors are difficult to install and maintain. Ideal applications are warehouses, atriums, aircraft hangers, sporting arenas and concert halls. The beam operates primarily on the principle of light obscuration using infrared. The FS-OSI-RI(A) detector is a combined transmitter/receiver. It is compatible with AFP-3030, N16 series, NFS-320, NFS2-640, NFS2-3030, and NFW-50X, NFW-100X fire alarm control panels in FlashScan® or CLIP mode.

FAST AND EASY ALIGNMENT

Aligning the imager to the reflector is extremely intuitive, fast, and accurate. Both the infrared transmitter and the CMOS imager are contained in a movable "eyeball" – an adjustable lens assembly that can move +/- 20° in the vertical direction and 50° in the horizontal direction.

Four LED directional arrows indicate the direction to move the lens, guiding the user to find the imager's perfect alignment with the reflector.

Once the optimum alignment is found, indicated by all green arrows, the lens is locked with a slide lever. A paintable cover is then placed over the front to secure the lever in locked position.

RESISTANT TO BUILDING MOVEMENT

The infrared transmitter and receiver imager generates a beam of light towards a high-efficiency reflector. The reflector returns the beam to the receiver where the received signal is analyzed. The change in the strength of the received signal when smoke enters the area between the unit and the reflector is used to determine the alarm condition. The receiver imager has a wide 12° field of view that automatically tracks the reflector in case of building movement or support structure movement. This allows the FS-OSI-RI(A) to be highly resistant to movement, eliminating the number one cause of false alarms and/or faults with traditional beam detectors.

RESISTANT TO SUNLIGHT

Optical filtering, high-speed image acquisition and intelligent software algorithms provide the FS-OSI-RI(A) system with higher levels of stability and greater resistance to high level lighting variability. This provides better resistance to sunlight in its field of view, helping to prevent false alarms when saturated by sunlight, reflected sunlight or any other very bright light sources.

RESISTANT TO FOREIGN OBJECT INTRUSION

Advanced smoke imaging techniques allow the detector to avoid false alarms from partial and sudden blockage from foreign object intrusion.

TIME-SAVING AUTOMATIC SENSITIVITY SETTING

Unique in the market, the sensitivity of the detector is selected and set automatically at the optimum sensitivity based on the size of the reflector measured in the field of view.

The FS-OSI-RI(A) single-ended beam smoke detector is easy to install and adjust. Only the head unit needs to be wired, and the "eyeball" can be aimed without adjusting the detector mounting.

DRIFT COMPENSATION

The detector incorporates automatic drift compensation, whereby the detector will adjust its detection thresholds in line with any long-term signal reduction of the beam caused by dust or other contamination of the optical surfaces.

EQUIPPED WITH BUILT-IN IMAGER HEATER

The imager ships standard with an internal heating option to prevent condensation on the optical surface. (External power supply required.)

Features

- Combined transmitter/receiver unit
- Wide 12° field of view
- Fast, easy, and intuitive beam alignment indicated by directional LED arrows
- Long range coverage of 16-328 ft (5-100 m) is standard; no separate long-range kit required
- Highly resistant to building movement; tolerates +/- 1° movement
- Resistant to strong light sources; does not alarm when saturated by sunlight
- Resistant to solid object intrusion
- Automatic sensitivity threshold level settings and drift compensation
- 50° horizontal and 20° vertical beam adjustment
- Built-in imager heater
- Remote test station capable for electronic simulated smoke test from ground level
- Status LED indicators visible from the front and bottom
- Paintable housing/cover
- Removable plug-in terminal blocks
- Optional heater kit available for the reflector

PHYSICAL/OPERATING SPECIFICATIONS

- **Dimensions (Detector):** Height 6" (152.4 mm); Width 10" (254 mm); Depth 4.5" (114.3 mm)
- **Dimensions (Reflector):** Height 9.06" (230 mm); Width 7.87" (200 mm)
- **Weight (Installed):** 2.48 lbs (1.12 kg)
- **Weight (Shipping):** 3.91 lbs (1.77 kg)
- **Wire Gauge for Terminals:** 14 AWG (2.08 mm²)

ELECTRICAL SPECIFICATIONS: FS-OSI-RI(A)

- **Operating Voltage Range:** Nominal: 24 VDC
- **Minimum:** 15 VDC
- **Maximum:** 32.0 VDC
- **Maximum Standby Current:**
  13 mA @ 32 VDC
  14 mA @ 24 VDC
  20 mA @ 15 VDC
- **Maximum Alarm Current (LED on):**
  22 mA @ 32 VDC
  15 mA @ 24 VDC
  22 mA @ 15 VDC
- **Maximum Devices per SLC Loop:**
  The number of OSID-R devices are limited due to SLC current draw restrictions. Current draws listed above must be considered in coordination with any other devices on a circuit. In general, this limits the number of OSID-R detectors to up to 4 detectors per loop on a dedicated circuit on NOTIFIER panels. Any non-beam devices, increased distances or higher gauge wiring on the circuit will decrease available current and total capacity of OSID-R detectors.
  Available SLC loop current:
  – **AFP-3030, N16, NFS-320, NFS2-640, NFS2-3030:** 150ma normal operating; 400 ma maximum
  – **FireWarden-50X:** 100 ma normal operating; 200 ma maximum
  – **FireWarden-100X:** 100 ma normal operating; 400 ma maximum

ELECTRICAL SPECIFICATIONS: BEAMHKR

- **Voltage Range:** 15 to 32 V
- **Maximum Current:** 450 mA Max at 32 V
- **Power Consumption:**
  7.7 W @ 24 V
  15 W @ 32 V

ELECTRICAL SPECIFICATIONS: RTS151KEY(-A)

- **Voltage Range:** 10.2 to 32 VDC
- **Current Range:** 9 mA Min to 11 mA Max

ENVIRONMENTAL SPECIFICATIONS

- **Operating Temperature:** UL-Listed for use from 32°F to 100°F (0°C to 37.8°C)
- **Application Temperature Range:** -4°F to 131°F (-20°C to +55°C)
- **Humidity Range:** 0 to 95% relative humidity, non-condensing

OPERATIONAL SPECIFICATIONS

- **Protection Range:** 16 ft to 328 ft (5 m to 100 m)
- **Adjustment Angle:** 20 degrees vertical, 50 degrees horizontal
- **Sensitivity Levels:** Level 1 25%, Level 2 30%, Level 3 40%, Level 4 50% (L1=1.25 dB, L2=1.55 dB, L3=2.22 dB, L4=3.01 dB)
- **Test/Reset Features:** Local alarm test switch, local alarm reset switch, Remote test and reset switch (compatible with RTS151(A) and RTS151KEY(-A) test stations), OSID-R test filter.
- **Smoke Detector Spacing:** On smooth ceilings, 30-60 feet between projected beams and not more than one-half that spacing between a projected beam and a sidewall. Other spacing may be used depending on the ceiling height, airflow characteristics, and response requirements. See NFPA 72 (S524 in Canadian applications, AS 1670.1 in Australian applications).

Agency Listings

- UL, ULC: S911
- FM: PR449231
- CSFM: 7260-0028:0509
- Approved to Australian AS 7240.12:2018
- SAI Global Listing # SMK40640-2
- Fire Protection New Zealand - Notifier Register

Product Line Information

- **FS-OSI-RI:** Intelligent imaging beam smoke detector including reflector, UL listed
- **FS-OSI-RIA:** Intelligent imaging beam smoke detector including reflector, ULC listed
- **OSP-002:** Laser alignment tool
- **OSP-004:** Test filter, 10 pack
- **RTS151:** Remote test station, UL listed
- **RTS151KEY:** Test and reset station with key lock, flush mount, UL listed
- **RTS151KEY-A:** Test and reset station with key lock, flush mount, ULC listed
- **BEAMHKR:** Heater kit for the reflector
- **6500-MMK:** Multi-mount accessory for ceiling or wall mounting with additional mounting adjustment

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING QUALITY SYSTEMS

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

Country of Origin: Mexico

NOTIFIER® by Honeywell

FSP-851(A) Series

Intelligent Plug-In Photoelectric Smoke Detectors with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Notifier FSP-851(A) Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. The FSP-851(A) photoelectric detector's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the FSP-851T(A). The FSP-851R(A) is a remote test capable detector for use with DNR(A)/DNRW duct detector housings. FSP-851(A) series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices in the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm *(FlashScan systems only)*.
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(FlashScan systems only)*.
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

B210-2951.jpg

FSP-851(A) in B210LP(A) Base

Specifications

Sensitivity: 0.5% to 2.35% per foot obscuration

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

Shipping Weight: 5.2oz. (147g).

Operating Temperature range: FSP-851(A), 0°C to 49°C (32°F to 120°F). FSP-851T(A), 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T(A) at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R(A) installed in a DNR(A)/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10%-93% noncondensing.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

Detector Spacing and Applications

Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.144m) for ceiling heights 10 feet (3.148m) and higher. For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. *System Smoke Detector Application Guide*, document A05-1003, is available at **systemsensor.com**

Electrical Specifications

Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 300µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 6.5mA @ 24 VDC ("ON").

Installation

FSP-851(A) plug-in detectors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054.*

NOTE: *1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S1115.
- **ULC Listed:** S1115 (FSP-851A, FSP-851RA, FSP-851TA).
- **MEA Listed:** 225-02-E .
- **FM Approved.**
- **CSFM:** 7272-0028:0206 .
- **Maryland State Fire Marshal:** Permit # 2122 **.**
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000017 (FSP-851T) Certif. # 2004081801000016 (FSP-851).
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FSP-851: Low-profile intelligent photoelectric sensor. Must be mounted to one of the bases listed below.

FSP-851A: Same as FSP-851 but with ULC listing.

FSP-851T: Same as FSP-851 but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with ULC listing.

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNRA/DNRW.

FSP-851RA: Same as FSP-851R but with ULC listing. For use with DNRA.

Intelligent Bases

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *For details on intelligent bases, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm^2). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases.

Accessories

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B210LP(A) bases only.

SMB600: Surface mounting kit

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

T55-127-010: Detector removal tool without pole.

BCK-200B: Black detector covers for use with FSP-851(A) only; box of 10.

WCK-200B: White detector covers for use with FSP-851(A) only; box of 10.

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FSP-851(A) Series

Intelligent Plug-In Photoelectric Smoke Detectors with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Notifier FSP-851(A) Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. The FSP-851(A) photoelectric detector's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the FSP-851T(A). The FSP-851R(A) is a remote test capable detector for use with DNR(A)/DNRW duct detector housings. FSP-851(A) series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices in the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm *(FlashScan systems only)*.
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(FlashScan systems only)*.
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

B210-2951.jpg

FSP-851(A) in B210LP(A) Base

Specifications

Sensitivity: 0.5% to 2.35% per foot obscuration

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

Shipping Weight: 5.2oz. (147g).

Operating Temperature range: FSP-851(A), 0°C to 49°C (32°F to 120°F). FSP-851T(A), 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T(A) at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R(A) installed in a DNR(A)/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10%-93% noncondensing.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

Detector Spacing and Applications

Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.144m) for ceiling heights 10 feet (3.148m) and higher. For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. *System Smoke Detector Application Guide*, document A05-1003, is available at **systemsensor.com**

Electrical Specifications

Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 300µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 6.5mA @ 24 VDC ("ON").

Installation

FSP-851(A) plug-in detectors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054.*

NOTE: *1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S1115.
- **ULC Listed:** S1115 (FSP-851A, FSP-851RA, FSP-851TA).
- **MEA Listed:** 225-02-E .
- **FM Approved.**
- **CSFM:** 7272-0028:0206 .
- **Maryland State Fire Marshal:** Permit # 2122 **.**
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000017 (FSP-851T) Certif. # 2004081801000016 (FSP-851).
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FSP-851: Low-profile intelligent photoelectric sensor. Must be mounted to one of the bases listed below.

FSP-851A: Same as FSP-851 but with ULC listing.

FSP-851T: Same as FSP-851 but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with ULC listing.

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNRA/DNRW.

FSP-851RA: Same as FSP-851R but with ULC listing. For use with DNRA.

Intelligent Bases

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *For details on intelligent bases, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm^2). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases.

Accessories

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B210LP(A) bases only.

SMB600: Surface mounting kit

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

T55-127-010: Detector removal tool without pole.

BCK-200B: Black detector covers for use with FSP-851(A) only; box of 10.

WCK-200B: White detector covers for use with FSP-851(A) only; box of 10.

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Intelligent/Addressable Devices

General

Notifier FSP-851(A) Series intelligent plug-in smoke detectors with integral communication provide features that surpass conventional detectors. Detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. The FSP-851(A) photoelectric detector's unique optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources. Dual electronic thermistors add 135°F (57°C) fixed-temperature thermal sensing on the FSP-851T(A). The FSP-851R(A) is a remote test capable detector for use with DNR(A)/DNRW duct detector housings. FSP-851(A) series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices in the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile design.
- Addressable-analog communication.
- Stable communication technique with noise immunity.
- Low standby current.
- Two-wire SLC connection.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Optional remote, single-gang LED accessory.
- Dual LED design provides 360° viewing angle.
- Visible bi-color LEDs blink green every time the detector is addressed, and illuminate steady red on alarm *(FlashScan systems only)*.
- Remote test feature from the panel.
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(FlashScan systems only)*.
- Built-in functional test switch activated by external magnet.
- Built-in tamper-resistant feature.
- Sealed against back pressure.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.
- 94-5V plastic flammability rating.
- SEMS screws for wiring of the separate base.
- Optional relay, isolator, and sounder bases.

B210-2951.jpg

FSP-851(A) in B210LP(A) Base

Specifications

Sensitivity: 0.5% to 2.35% per foot obscuration

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

Shipping Weight: 5.2oz. (147g).

Operating Temperature range: FSP-851(A), 0°C to 49°C (32°F to 120°F). FSP-851T(A), 0°C to 38°C (32°F to 100°F). Low temperature signal for FSP-851T(A) at 45°F +/- 10°F (7.22°C +/- 5.54°C). FSP-851R(A) installed in a DNR(A)/DNRW, -20°C to 70°C (-4°F to 158°F).

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts.

Relative Humidity: 10%-93% noncondensing.

Thermal Ratings: Fixed-temperature setpoint 135°F (57°C).

Detector Spacing and Applications

Notifier recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.144m) for ceiling heights 10 feet (3.148m) and higher. For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. *System Smoke Detector Application Guide*, document A05-1003, is available at **systemsensor.com**

Electrical Specifications

Voltage Range: 15-32 volts DC peak.

Standby Current (max. avg.): 300µA @ 24VDC (one communication every five seconds with LED enabled).

LED Current (max.): 6.5mA @ 24 VDC ("ON").

Installation

FSP-851(A) plug-in detectors use a separate base to simplify installation, service, and maintenance. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder.

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054.*

NOTE: *1) Because of inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring. 2) When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S1115.
- **ULC Listed:** S1115 (FSP-851A, FSP-851RA, FSP-851TA).
- **MEA Listed:** 225-02-E .
- **FM Approved.**
- **CSFM:** 7272-0028:0206 .
- **Maryland State Fire Marshal:** Permit # 2122 **.**
- **BSMI:** CI313066760036.
- **CCCF:** Certif. # 2004081801000017 (FSP-851T) Certif. # 2004081801000016 (FSP-851).
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FSP-851: Low-profile intelligent photoelectric sensor. Must be mounted to one of the bases listed below.

FSP-851A: Same as FSP-851 but with ULC listing.

FSP-851T: Same as FSP-851 but includes a built-in 135°F (57°C) fixed-temperature thermal device.

FSP-851TA: Same as FSP-851T but with ULC listing.

FSP-851R: Low-profile intelligent photoelectric sensor, remote test capable. For use with DNRA/DNRW.

FSP-851RA: Same as FSP-851R but with ULC listing. For use with DNRA.

Intelligent Bases

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *For details on intelligent bases, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Plug-in System Sensor **relay** base. Screw terminals: up to 14 AWG (2.0 mm^2). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Plug-in System Sensor ***isolator*** detector base. Maximum 25 devices between isolator bases.

Accessories

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B210LP(A) bases only.

SMB600: Surface mounting kit

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of detector heads from bases in high ceiling applications.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

T55-127-010: Detector removal tool without pole.

BCK-200B: Black detector covers for use with FSP-851(A) only; box of 10.

WCK-200B: White detector covers for use with FSP-851(A) only; box of 10.

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QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FSP-951 Series Addressable Photoelectric Smoke Detectors

The NOTIFIER® FSP-951 Series intelligent plug-in smoke detectors are designed for both performance and aesthetics, and are direct replacements for the FSP-851 Series. A new modern, sleek, contemporary design and enhanced optical sensing chamber is engineered to sense smoke produced by a wide range of combustion sources in accordance with more stringent code standards.

The FSP-951 Series detector sensitivity can be programmed in the control panel software. Sensitivity is continuously monitored and reported to the panel. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector location for selective maintenance when chamber contamination reaches an unacceptable level. Dual electronic thermistors add 135°F (57°C) fixed temperature thermal sensing on the FSP-951T. The FSP-951R is a remote test capable detector for use with DNR Series duct detector housings. FSP-951 series detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:

- Two-wire SLC loop connection
- Unit uses base for wiring
- Compatible with FlashScan® and CLIP protocol systems
- Stable communication technique with noise immunity

ADDRESSING:

- Addressable by device
- Rotary, decimal addressing
  (Refer to the *NOTIFIER panel manuals* for device capacity.)

ARCHITECTURE:

- Sleek, low-profile, stylish design
- Unique single-source design to respond quickly and dependably to a broad range of fires
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Remote test feature from the panel
- Walk test with address display (an address on 121 will blink the detector LED: 12-[pause]-1*(FlashScan systems only)*
- Built-in functional test switch activated by external magnet
- Removable cover and insect-resistant screen for simple field cleaning
- Expanded color options

OPERATION:

- Designed to meet UL 268 7th Edition
- Factory preset at 1.5% nominal sensitivity for panel alarm threshold level
- LED "blinks" when the unit is polled (communicating with the fire panel) and latches in alarm.
- Low standby current

MECHANICALS:

- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

OPTIONS:

- Optional relay, isolator, and sounder bases

Installation

FSP-951 Series plug-in intelligent smoke detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054.*

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Class "B" wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Construction

These detectors are constructed of fire-resistant plastic. The FSP-951 Series plug-in intelligent smoke detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each FSP-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FSP-951 Series offers features and performance that represent the latest in smoke detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScan device.*

FSP-951: White, low-profile intelligent photoelectric sensor, FlashScan only

FSP-951A: Same as FSP-951 but with ULC listing

FSP-951-IV: Ivory, low-profile intelligent photoelectric sensor

FSP-951A-IV: Same as FSP-951-IV but with ULC listing

FSP-951T: White, same as FSP-951 but includes a built-in 135°F (57°C) fixed-temperature thermal device, FlashScan only

FSP-951TA: Same as FSP-951T but with ULC listing

FSP-951T-IV: Ivory, same as FSP-951T but includes a built-in 135°F (57°C) fixed-temperature thermal device

FSP-951TA-IV: Same as FSP-951T-IV but with ULC listing

FSP-951R: White, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW, FlashScan only

FSP-951RA: Same as FSP-951R but with ULC listing, for use with DNRA

FSP-951R-IV: Ivory, low-profile intelligent photoelectric sensor, remote test capable, for use with DNR/DNRW

FSP-951RA-IV: Same as FSP-951R-IV but with ULC listing, for use with DNRA

INTELLIGENT BASES

NOTE: *For details on intelligent bases, see DN-60981.*

B300-6: White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300A-6: Same as B300-6, ULC listed

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10

B224RB-WH: White, relay base (*CSFM: 7300-1653:0216)*

B224RB-IV: Ivory, relay base (*CSFM: 7300-1653:0216)*

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

B224BI-WH: White, isolator detector base (CSFM: 7300-1653:0216)

B224BI-IV: Ivory isolator detector base (CSFM: 7300-1653:0216)

B224BIA-WH: White, isolator detector base, ULC listing

B224BIA-IV: Ivory isolator detector base, ULC listing

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200SA-WH: Same as B200S-WH, ULC listing

B200SA-IV: Same as B200S-IV, ULC listing

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SRA-WH: Same as B200SR-WH with, ULC listing

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listing

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base

TR300-IV: Ivory, replacement flange for B210LP(A) base

RA100Z(A): Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: Color Kit (includes cover and trim ring), white, 10-pack

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack

Sensitivity:

- UL Applications: 0.5% to 4.0% per foot obscuration.
- ULC Applications: 0.5% to 3.5% per foot obscuration

Size: 2.0" (51mm) high; base determines diameter

  – **B300-6 series:** 6.1" (15.6 cm) diameter

  – **B501 series:** 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

- FSP-951 Series: 32°F to 122°F (0°C to 50°C)
- FSP-951T Series: 32°F to 100°F(0°C to 38°C)
- FSP-951R Series installed in DNR/DNRA/DNRW, -4°F to 158°F (-20°C to 70°C)

UL/ULC Listed Velocity Range: 0-4000 ft/min. (1219.2 m/min.), suitable for installation in ducts

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200µA @ 24 VDC (one communication every 5 seconds with LED enabled)

Max current: 4.5 mA @ 24 VDC (“ON”)

DETECTOR SPACING AND APPLICATIONS

NOTIFIER recommends spacing detectors in compliance with NFPA 72. In low airflow applications with smooth ceiling, space detectors 30 feet (9.1m). For specific information regarding detector spacing, placement, and special applications refer to NFPA 72. A *System Smoke Detector Application Guide*, document SPAG91, is available at **www.systemsensor.com.**

Listings and Approvals

Listings and approvals below apply to the FSP-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S1115
- FM Approved
- CSFM: 7272-0028:0503

NOTIFIER
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Northford, CT 06472
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www.notifier.com

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER® by Honeywell

General

FSS is a new developed product series by NOTIFIER® for N6000 Fire Alarm Control Panel (FACP), which includes emergency telephone and voice command.

FSS Product Line Information

FSS-AFAWS: Fireman's telephone extension set, compatible with FSS-TCC. Able to communicate with FACP. Includes front door, backbox and telephone assembly. These Emergency Telephone Stations provide a reliable means of communication for firefighters and other personnel.

N-6000 with FSS-TCC and FSS-VCC

Features

- Either recessed or surface mounting
- Heavy-duty construction.
- Door fit either recessed or surface enclosure.
- Keylock
- Red baked-enamel finish.
- Operation LED indicator
- Armored cable or standard telephone coiled cord.

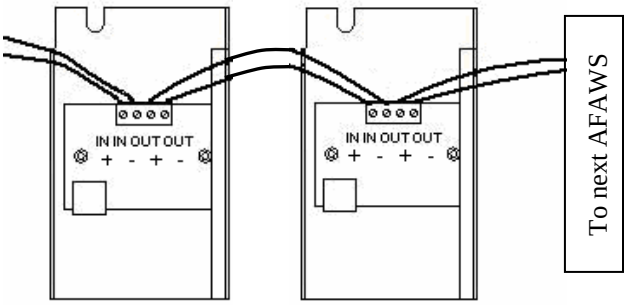
Specification

- Operating Voltage : 15 ~ 27VDC
- Operating Temperature : 0 ~ 50 ºC
- Relative Humidity : 10% ~ 95% RH, non-condensing
- Standby Current: 5mA
- Max. Operate Current : 35mA
- Dimensions: 390mm (H) × 220mm (W) × 90mm (D)

Wiring

Use shielded twisted-pair cable:

- RVSP-2 × 1.5mm2
- Maximum wiring distance 1,200m
- Connect "Out" Terminal with "In" Terminal



FSS-TCC: Telephone command center. Need FSS-BM-1, FSS-CHS-4L and DPDW-1 for mounting.

FSS-VCC: Voice command center with solid state recorder/ player, including main unit, microphone and dress plate, can be used with AMP-150W and AMP-300W amplifier.

FSS-FHS: Fireman's telephone hand set. Handset comes with a coiled cord. The attached plug fits Fireman's Phone Jack, model FPJ, allowing firefighters to make direct communication with a central control area.

FPJ: Fireman's phone jack. Receptacle is semi-flush mounted with a single-gang box (box is not furnished with receptacle). The receptacle has a single phone jack mounted on an attractive, single-gang, stainless steel plate. Colorcoded wires, 6 inches long, are prewired to the jack to enable fast and accurate wiring to the system.

NOTIFIER by Honeywell

FST-851, FST-851R, and FST-851H Intelligent Plug-In Temperature Sensors

12 Clintonville Road
Northford, CT 06472-1653
Phone: 203.484.7161

SPECIFICATIONS

Diameter:	6.1″ (155 mm) installed in B210LP; 4.1″ (104 mm) installed in B501
Height:	2.0″ (51 mm)
Weight:	4.8 ounces (137 gm)
Installation Temperature:	–4°F to 100°F (–20°C to 38°C), FST-851 and FST-851R; –4°F to 150°F (–20°C to 66°C), FST-851H
Operating Humidity Range:	10% to 93% Relative Humidity, Non-condensing
Mounting:	B210LP flanged base; B501 flange less base
Voltage Range:	15 to 32 Volts DC Peak
Standby Current:	300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current:	6.5 mA @ 24 VDC
Fixed Temperature Rating:	135°F (57°C), FST-851 and FST-851R; 190°F (88°C), FST-851H
Rate-of Rise Detection:	Responds to greater than 15°F/minute; FST-851R

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

Before installing sensors, please read the system wiring and installation manual thoroughly. This manual provides detailed information on sensor spacing, placement, zoning, and special applications. Copies of these manuals are available from Notifier.

GENERAL DESCRIPTION

Models FST-851, FST-851R and FST-851H are intelligent sensors that utilize a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open area protection with 50 foot spacing capability as approved by UL 521. Model FST-851 is a fixed temperature sensor with 135°F fixed temperature alarm. Model FST-851R is a rate-of-rise temperature sensor with 135° F fixed temperature alarm. Model FST-851H is a high temperature sensor with 190° F fixed temperature alarm.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (Part No. RA400Z/RA100Z).

Notifier panels offer different feature sets across different models. As a result, certain features of the FST-851, FST-851R and FST-851H may be available on some control panels, but not on others. The sensors will support either FlashScan™ or CLIP (Classic Loop Interface Protocol) mode. The possible features available, if supported by the control unit include:

1. The panel controls the LED operation on the sensor. Operational modes are RED blink, RED continuous, GREEN blink, and off.
2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs. Please refer to the operation manual for the UL listed control unit for specific operation of these models

Models FST-851, FST-851R, and FST-851H require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing sensors.

1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 1.
2. Set the desired address on the sensor address switches, see Figure 2.
3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
4. After all sensors have been installed, apply power to the control unit and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

FIGURE 1. WIRING DIAGRAM:

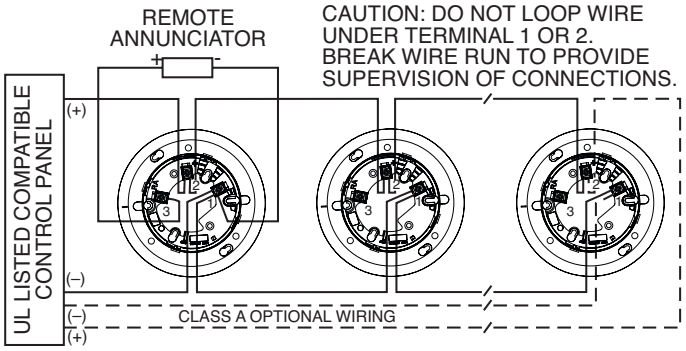


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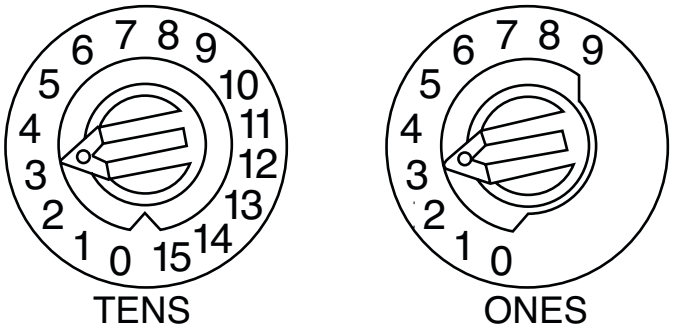
FIGURE 2:



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TAMPER RESISTANCE

The sensor base includes a tamper proof feature which when activated prevents removal of the sensor without the use of a tool. See the installation instruction manual for the sensor base for details in using this feature.

TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

A. Test Magnet (Model No. M02-04 - optional)

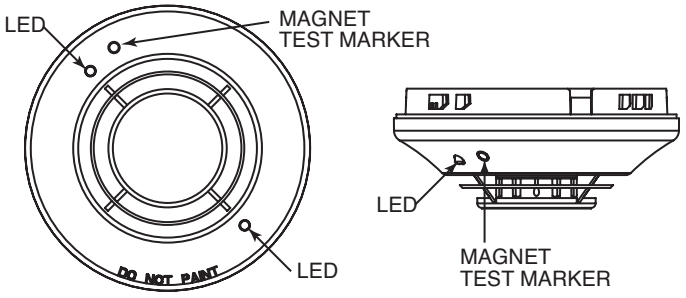
1. Place the optional test magnet against the cover in the magnet test area, as shown in Figure 3, to activate the test feature.
2. The LEDs should latch on within 10 seconds, indicating alarm and annunciating the panel.
3. Reset the detector at the system control panel.

B. Direct Heat Method (Hair dryer of 1000 – 1500 watts)

1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15 cm) away to prevent damage to the cover during testing.
2. The LEDs on the detector should light when the temperature at the detector reaches the alarm setpoint. If the LEDs fail to light, check the power to the detector and the wiring in the detector base.
3. Reset the detector at the system control panel.

Detectors that fail these tests should be cleaned as described under MAINTENANCE and retested. If the detectors still fail these tests, they should be returned for repair.

FIGURE 3. VIEWS SHOWING POSITION OF TEST MAGNET:



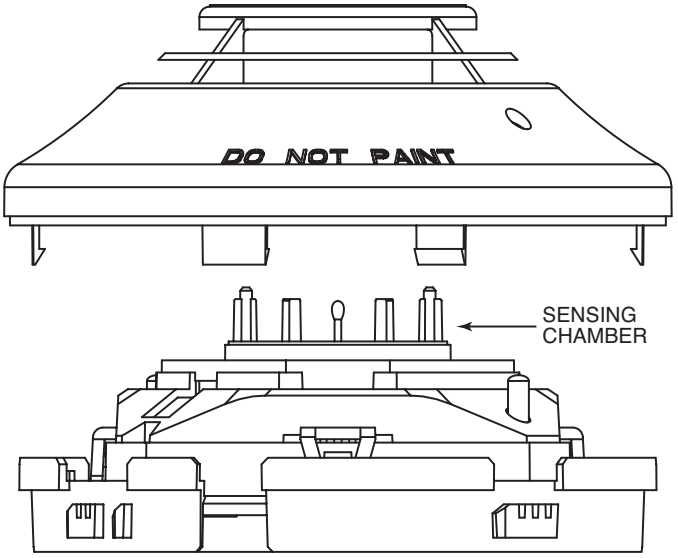
C0196-00

MAINTENANCE

NOTE: Before cleaning notify the proper authorities that the system is undergoing maintenance, and therefore the system will temporarily be out of service. Disable the loop or system undergoing maintenance to prevent unwanted alarms.

It is recommended that the sensor be removed from its mounting base for easier cleaning and that sensors be cleaned at least once a year. Use a vacuum cleaner to remove dust from the sensing chamber.

FIGURE 4:



C0197-00

FM CLASSIFICATION

RTI ratings are for installations which must comply with FM 3210.

FST-851 RTI:	FAST
FST-851R RTI:	V2-FAST
FST-851H RTI:	QUICK

Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

NOTIFIER by Honeywell

FST-851, FST-851R, and FST-851H Intelligent Plug-In Temperature Sensors

12 Clintonville Road
Northford, CT 06472-1653
Phone: 203.484.7161

SPECIFICATIONS

Diameter:	6.1″ (155 mm) installed in B210LP; 4.1″ (104 mm) installed in B501
Height:	2.0″ (51 mm)
Weight:	4.8 ounces (137 gm)
Installation Temperature:	–4°F to 100°F (–20°C to 38°C), FST-851 and FST-851R; –4°F to 150°F (–20°C to 66°C), FST-851H
Operating Humidity Range:	10% to 93% Relative Humidity, Non-condensing
Mounting:	B210LP flanged base; B501 flange less base
Voltage Range:	15 to 32 Volts DC Peak
Standby Current:	300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current:	6.5 mA @ 24 VDC
Fixed Temperature Rating:	135°F (57°C), FST-851 and FST-851R; 190°F (88°C), FST-851H
Rate-of Rise Detection:	Responds to greater than 15°F/minute; FST-851R

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

Before installing sensors, please read the system wiring and installation manual thoroughly. This manual provides detailed information on sensor spacing, placement, zoning, and special applications. Copies of these manuals are available from Notifier.

GENERAL DESCRIPTION

Models FST-851, FST-851R and FST-851H are intelligent sensors that utilize a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open area protection with 50 foot spacing capability as approved by UL 521. Model FST-851 is a fixed temperature sensor with 135°F fixed temperature alarm. Model FST-851R is a rate-of-rise temperature sensor with 135° F fixed temperature alarm. Model FST-851H is a high temperature sensor with 190° F fixed temperature alarm.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (Part No. RA400Z/RA100Z).

Notifier panels offer different feature sets across different models. As a result, certain features of the FST-851, FST-851R and FST-851H may be available on some control panels, but not on others. The sensors will support either FlashScan™ or CLIP (Classic Loop Interface Protocol) mode. The possible features available, if supported by the control unit include:

1. The panel controls the LED operation on the sensor. Operational modes are RED blink, RED continuous, GREEN blink, and off.
2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs. Please refer to the operation manual for the UL listed control unit for specific operation of these models

Models FST-851, FST-851R, and FST-851H require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

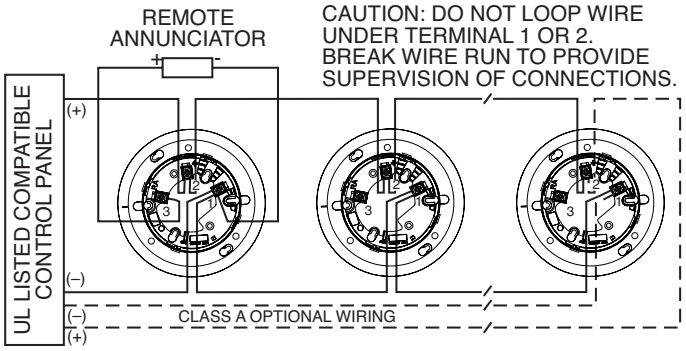
WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing sensors.

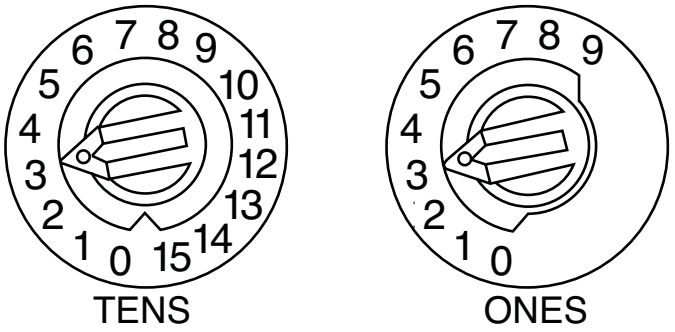
1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 1.
2. Set the desired address on the sensor address switches, see Figure 2.
3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
4. After all sensors have been installed, apply power to the control unit and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

FIGURE 1. WIRING DIAGRAM:



C0129-02

FIGURE 2:



C0162-00

TAMPER RESISTANCE

The sensor base includes a tamper proof feature which when activated prevents removal of the sensor without the use of a tool. See the installation instruction manual for the sensor base for details in using this feature.

TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

A. Test Magnet (Model No. M02-04 - optional)

1. Place the optional test magnet against the cover in the magnet test area, as shown in Figure 3, to activate the test feature.
2. The LEDs should latch on within 10 seconds, indicating alarm and annunciating the panel.
3. Reset the detector at the system control panel.

B. Direct Heat Method (Hair dryer of 1000 – 1500 watts)

1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15 cm) away to prevent damage to the cover during testing.
2. The LEDs on the detector should light when the temperature at the detector reaches the alarm setpoint. If the LEDs fail to light, check the power to the detector and the wiring in the detector base.
3. Reset the detector at the system control panel.

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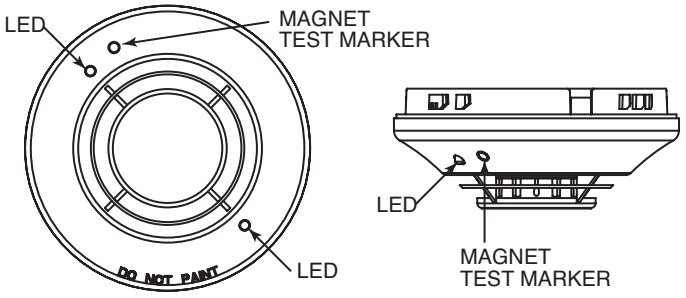


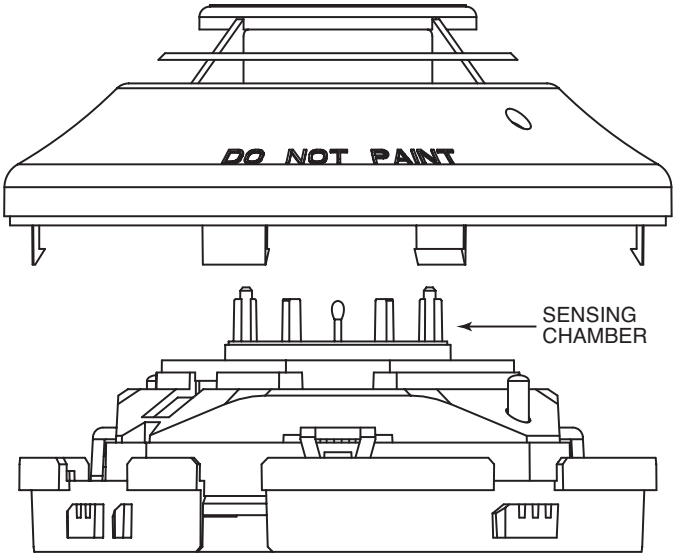
C0196-00

MAINTENANCE

NOTE: Before cleaning notify the proper authorities that the system is undergoing maintenance, and therefore the system will temporarily be out of service. Disable the loop or system undergoing maintenance to prevent unwanted alarms.

It is recommended that the sensor be removed from its mounting base for easier cleaning and that sensors be cleaned at least once a year. Use a vacuum cleaner to remove dust from the sensing chamber.

FIGURE 4:



C0197-00

FM CLASSIFICATION

RTI ratings are for installations which must comply with FM 3210.

FST-851 RTI:	FAST
FST-851R RTI:	V2-FAST
FST-851H RTI:	QUICK

Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

NOTIFIER by Honeywell

FST-851, FST-851R, and FST-851H Intelligent Plug-In Temperature Sensors

12 Clintonville Road
Northford, CT 06472-1653
Phone: 203.484.7161

SPECIFICATIONS

Diameter:	6.1″ (155 mm) installed in B210LP; 4.1″ (104 mm) installed in B501
Height:	2.0″ (51 mm)
Weight:	4.8 ounces (137 gm)
Installation Temperature:	–4°F to 100°F (–20°C to 38°C), FST-851 and FST-851R; –4°F to 150°F (–20°C to 66°C), FST-851H
Operating Humidity Range:	10% to 93% Relative Humidity, Non-condensing
Mounting:	B210LP flanged base; B501 flange less base
Voltage Range:	15 to 32 Volts DC Peak
Standby Current:	300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current:	6.5 mA @ 24 VDC
Fixed Temperature Rating:	135°F (57°C), FST-851 and FST-851R; 190°F (88°C), FST-851H
Rate-of Rise Detection:	Responds to greater than 15°F/minute; FST-851R

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

Before installing sensors, please read the system wiring and installation manual thoroughly. This manual provides detailed information on sensor spacing, placement, zoning, and special applications. Copies of these manuals are available from Notifier.

GENERAL DESCRIPTION

Models FST-851, FST-851R and FST-851H are intelligent sensors that utilize a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open area protection with 50 foot spacing capability as approved by UL 521. Model FST-851 is a fixed temperature sensor with 135°F fixed temperature alarm. Model FST-851R is a rate-of-rise temperature sensor with 135° F fixed temperature alarm. Model FST-851H is a high temperature sensor with 190° F fixed temperature alarm.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (Part No. RA400Z/RA100Z).

Notifier panels offer different feature sets across different models. As a result, certain features of the FST-851, FST-851R and FST-851H may be available on some control panels, but not on others. The sensors will support either FlashScan™ or CLIP (Classic Loop Interface Protocol) mode. The possible features available, if supported by the control unit include:

1. The panel controls the LED operation on the sensor. Operational modes are RED blink, RED continuous, GREEN blink, and off.
2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs. Please refer to the operation manual for the UL listed control unit for specific operation of these models

Models FST-851, FST-851R, and FST-851H require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

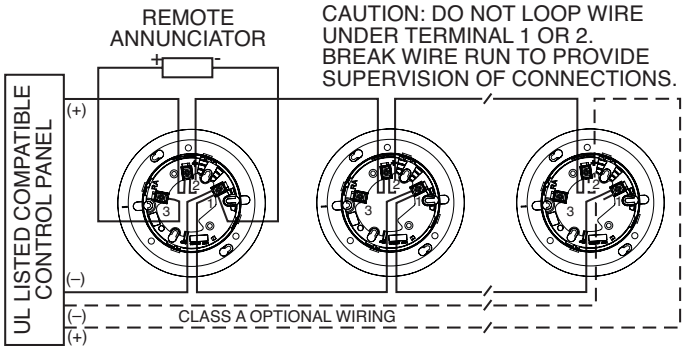
WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing sensors.

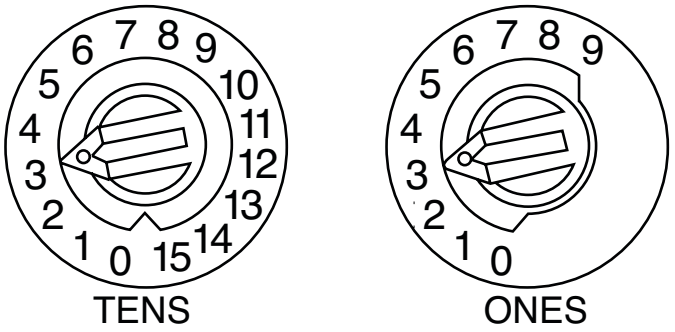
1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 1.
2. Set the desired address on the sensor address switches, see Figure 2.
3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
4. After all sensors have been installed, apply power to the control unit and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

FIGURE 1. WIRING DIAGRAM:



C0129-02

FIGURE 2:



C0162-00

TAMPER RESISTANCE

The sensor base includes a tamper proof feature which when activated prevents removal of the sensor without the use of a tool. See the installation instruction manual for the sensor base for details in using this feature.

TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

A. Test Magnet (Model No. M02-04 - optional)

1. Place the optional test magnet against the cover in the magnet test area, as shown in Figure 3, to activate the test feature.
2. The LEDs should latch on within 10 seconds, indicating alarm and annunciating the panel.
3. Reset the detector at the system control panel.

B. Direct Heat Method (Hair dryer of 1000 – 1500 watts)

1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15 cm) away to prevent damage to the cover during testing.
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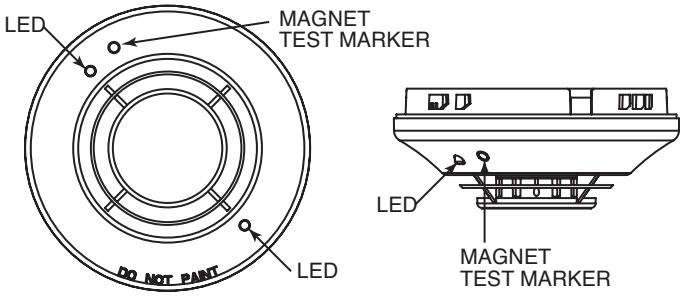

C0196-00

MAINTENANCE

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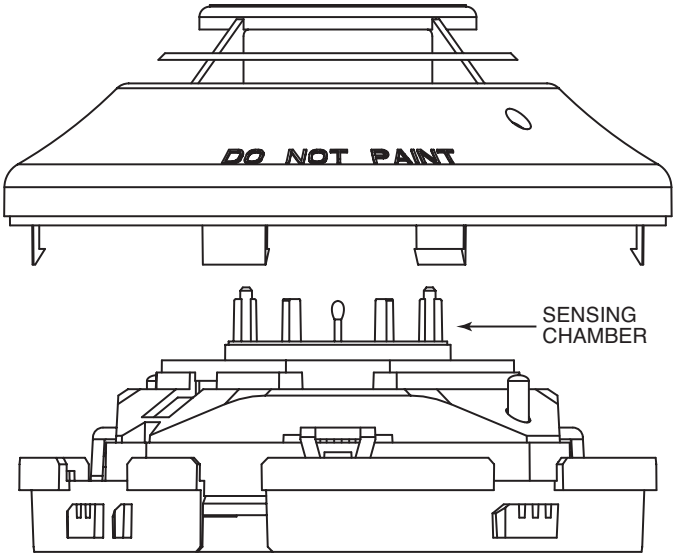

C0197-00

FM CLASSIFICATION

RTI ratings are for installations which must comply with FM 3210.

FST-851 RTI:	FAST
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FST-851H RTI:	QUICK

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FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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NOTIFIER by Honeywell

FST-851, FST-851R, and FST-851H Intelligent Plug-In Temperature Sensors

12 Clintonville Road
Northford, CT 06472-1653
Phone: 203.484.7161

SPECIFICATIONS

Diameter:	6.1″ (155 mm) installed in B210LP; 4.1″ (104 mm) installed in B501
Height:	2.0″ (51 mm)
Weight:	4.8 ounces (137 gm)
Installation Temperature:	–4°F to 100°F (–20°C to 38°C), FST-851 and FST-851R; –4°F to 150°F (–20°C to 66°C), FST-851H
Operating Humidity Range:	10% to 93% Relative Humidity, Non-condensing
Mounting:	B210LP flanged base; B501 flange less base
Voltage Range:	15 to 32 Volts DC Peak
Standby Current:	300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current:	6.5 mA @ 24 VDC
Fixed Temperature Rating:	135°F (57°C), FST-851 and FST-851R; 190°F (88°C), FST-851H
Rate-of Rise Detection:	Responds to greater than 15°F/minute; FST-851R

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

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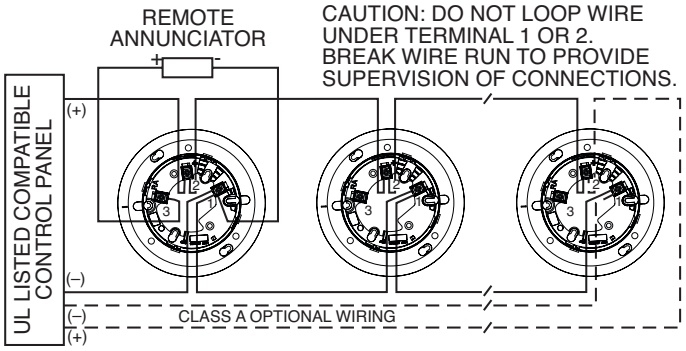

C0129-02

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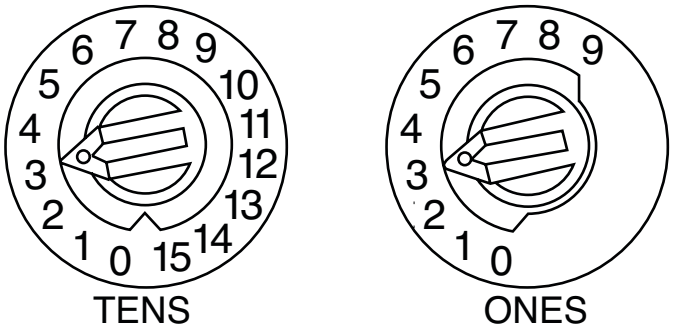

C0162-00

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TESTING

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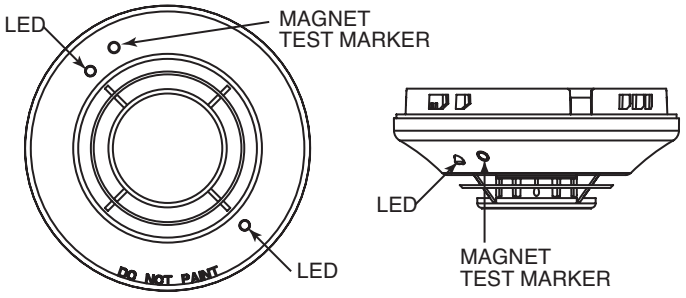

C0196-00

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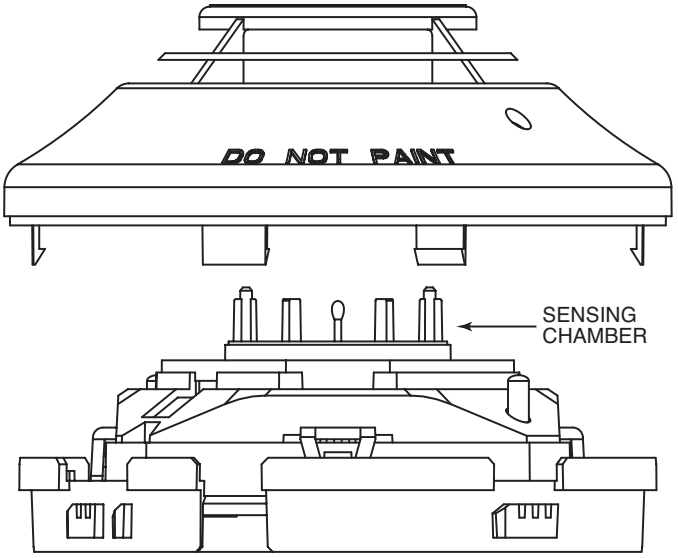

C0197-00

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FST-851, FST-851R, and FST-851H Intelligent Plug-In Temperature Sensors

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Standby Current:	300 µA @ 24 VDC (one communication every 5 seconds with LED blink enabled)
LED Current:	6.5 mA @ 24 VDC
Fixed Temperature Rating:	135°F (57°C), FST-851 and FST-851R; 190°F (88°C), FST-851H
Rate-of Rise Detection:	Responds to greater than 15°F/minute; FST-851R

This sensor must be installed in compliance with the control panel system installation manual. The installation must meet the requirements of the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when installed in compliance with the National Fire Protection Association (NFPA); see NFPA 72.

Before installing sensors, please read the system wiring and installation manual thoroughly. This manual provides detailed information on sensor spacing, placement, zoning, and special applications. Copies of these manuals are available from Notifier.

GENERAL DESCRIPTION

Models FST-851, FST-851R and FST-851H are intelligent sensors that utilize a state-of-the-art thermistor sensing circuit for fast response. These sensors are designed to provide open area protection with 50 foot spacing capability as approved by UL 521. Model FST-851 is a fixed temperature sensor with 135°F fixed temperature alarm. Model FST-851R is a rate-of-rise temperature sensor with 135° F fixed temperature alarm. Model FST-851H is a high temperature sensor with 190° F fixed temperature alarm.

Two LEDs on each sensor light to provide a local, visible sensor indication. Remote LED annunciator capability is available as an optional accessory (Part No. RA400Z/RA100Z).

Notifier panels offer different feature sets across different models. As a result, certain features of the FST-851, FST-851R and FST-851H may be available on some control panels, but not on others. The sensors will support either FlashScan™ or CLIP (Classic Loop Interface Protocol) mode. The possible features available, if supported by the control unit include:

1. The panel controls the LED operation on the sensor. Operational modes are RED blink, RED continuous, GREEN blink, and off.
2. The remote output may be synchronized to the LED operation or controlled independent of the LEDs. Please refer to the operation manual for the UL listed control unit for specific operation of these models

Models FST-851, FST-851R, and FST-851H require compatible addressable communications to function properly. Connect these sensors to listed-compatible control panels only.

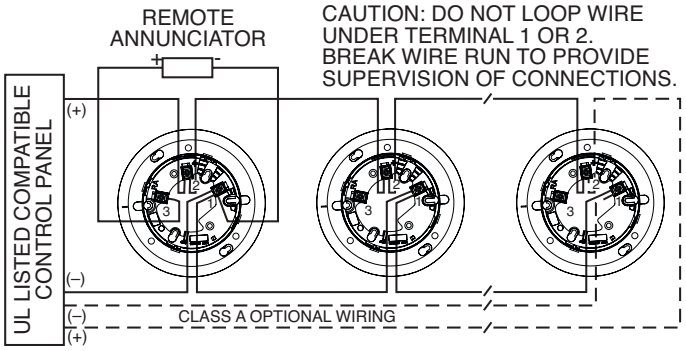
WIRING GUIDE

All wiring must be installed in compliance with the National Electrical Code, applicable local codes and the Authority Having Jurisdiction. Proper wire gauges should be used. The installation wires should be color coded to limit wiring mistakes and ease system troubleshooting. Improper connections will prevent a system from responding properly in the event of a fire.

Remove power from the communication line before installing sensors.

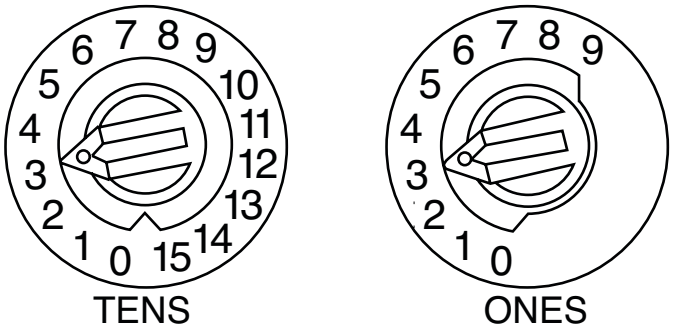
1. Wire the sensor base (supplied separately) per the wiring diagram, Figure 1.
2. Set the desired address on the sensor address switches, see Figure 2.
3. Install the sensor into the sensor base. Push the sensor into the base while turning it clockwise to secure it in place.
4. After all sensors have been installed, apply power to the control unit and activate the communication line.
5. Test the sensor(s) as described in the TESTING section of this manual.

FIGURE 1. WIRING DIAGRAM:



C0129-02

FIGURE 2:



C0162-00

TAMPER RESISTANCE

The sensor base includes a tamper proof feature which when activated prevents removal of the sensor without the use of a tool. See the installation instruction manual for the sensor base for details in using this feature.

TESTING

Before testing, notify the proper authorities that the system is undergoing maintenance, and will temporarily be out of service. Disable the system to prevent unwanted alarms.

All sensors must be tested after installation and periodically thereafter. Testing methods must satisfy the Authority Having Jurisdiction (AHJ). Sensors offer maximum performance when tested and maintained in compliance with NFPA 72.

A. Test Magnet (Model No. M02-04 - optional)

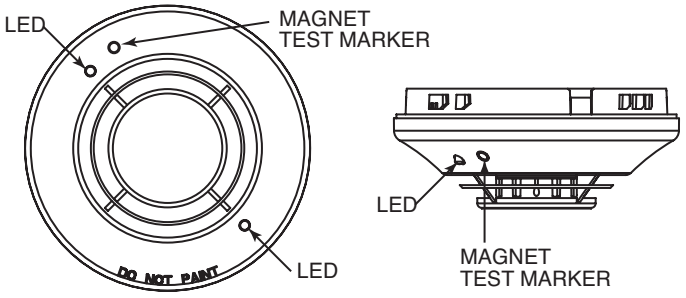
1. Place the optional test magnet against the cover in the magnet test area, as shown in Figure 3, to activate the test feature.
2. The LEDs should latch on within 10 seconds, indicating alarm and annunciating the panel.
3. Reset the detector at the system control panel.

B. Direct Heat Method (Hair dryer of 1000 – 1500 watts)

1. From the side of the detector, direct the heat toward the sensor. Hold the heat source about 6 inches (15 cm) away to prevent damage to the cover during testing.
2. The LEDs on the detector should light when the temperature at the detector reaches the alarm setpoint. If the LEDs fail to light, check the power to the detector and the wiring in the detector base.
3. Reset the detector at the system control panel.

Detectors that fail these tests should be cleaned as described under MAINTENANCE and retested. If the detectors still fail these tests, they should be returned for repair.

FIGURE 3. VIEWS SHOWING POSITION OF TEST MAGNET:



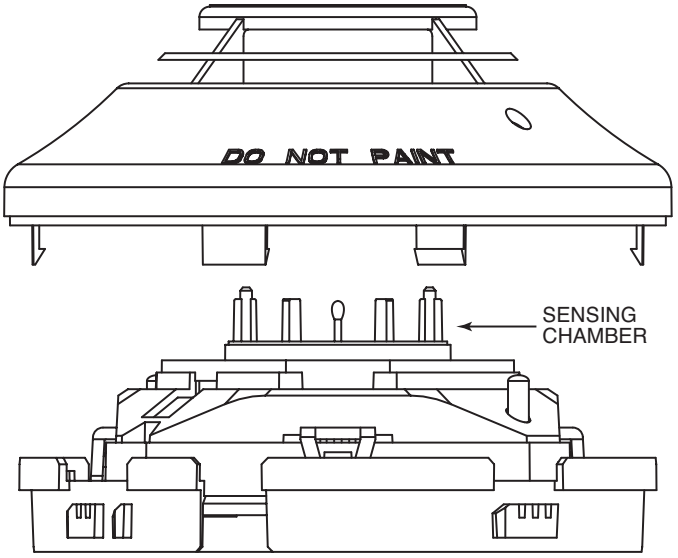
C0196-00

MAINTENANCE

NOTE: Before cleaning notify the proper authorities that the system is undergoing maintenance, and therefore the system will temporarily be out of service. Disable the loop or system undergoing maintenance to prevent unwanted alarms.

It is recommended that the sensor be removed from its mounting base for easier cleaning and that sensors be cleaned at least once a year. Use a vacuum cleaner to remove dust from the sensing chamber.

FIGURE 4:



C0197-00

FM CLASSIFICATION

RTI ratings are for installations which must comply with FM 3210.

FST-851 RTI:	FAST
FST-851R RTI:	V2-FAST
FST-851H RTI:	QUICK

Please refer to insert for the Limitations of Fire Alarm Systems

FCC STATEMENT

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

NOTIFIER® by Honeywell

FST-951 Series Intelligent Addressable Heat Detectors

The NOTIFIER® FST-951 Series intelligent thermal detectors are designed for both performance and aesthetics, and are direct replacements for the FST-851 Series. A new modern, sleek, contemporary design and advanced thermal technologies make the FST-951 Series ideal for both system operation and building design. The point ID address, set using rotary decimal switches, provide specific detector locations.

The series includes a 135°F/57°C fixed-temperature, rate-of-rise, and a 190°F/88°C fixed high-temperature detectors. These thermal detectors provide effective, intelligent property protection in a variety of applications. Detectors are available for both FlashScan® and CLIP applications as designated.

Features

SLC LOOP:

- Two-wire SLC loop connection
- Unit uses base for wiring

ADDRESSING:

- Addressable by device
- Rotary, decimal addressing
  (Refer to the *NOTIFIER panel manuals* for device capacity.)

ARCHITECTURE:

- Designed to meet UL 268 7th Edition
- Sleek, low-profile, stylish design
- State-of-the-art thermistor technology for fast response
- Integral communications and built-in device-type identification
- Built-in tamper resistant feature
- Built-in functional test switch activated by external magnet

OPERATION:

- Fixed temperature model (FST-951) factory preset to 135°F (57°C)
- Rate-of-rise model (FST-951R),15°F (8.3°C) per minute
- High-temperature model FST-951H) factory preset to 190°F (88°C)
- 360°-field viewing angle of the two visual alarm indicators, LEDs blink red in Normal condition and turn on steady red in Alarm
- LEDs blink every time the unit is polled

MECHANICALS:

- Sealed against back pressure
- SEMS screws for wiring of the separate base
- Designed for direct-surface or electrical-box mounting
- Plugs into separate base for ease of installation and maintenance
- Separate base allows interchange of photoelectric, ionization and thermal sensors

OTHER SYSTEM FEATURES:

- Remote test feature from the panel
- Walk test with address display
- Low standby current

OPTIONS:

- Remote LED output connection to optional RA100Z remote LED annunciator

Installation

FST-951 Series plug-in intelligent thermal detectors use a detachable base to simplify installation, service and maintenance. Installation instructions are shipped with each detector.

Mount detector base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring only.*
When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.

Applications

Use thermal detectors for protection of property. For further information, refer to I56-6522, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Construction

These detectors are constructed of fire-resistant plastic. The FST-951 Series plug-in intelligent thermal detectors are designed to commercial standards and offer an attractive appearance.

Operation

Each FST-951 Series detector uses one of the panel's addresses (total limit is panel dependent) on the NOTIFIER Signaling Line Circuit (SLC). It responds to regular polls from the control panel and reports its type and the status. If it receives a test command from the panel (or a local magnet test), it stimulates its electronics and reports an alarm. It blinks its LEDs when polled and turns the LEDs on when commanded by the panel. The FST-951 Series offers features and performance that represent the latest in thermal detector technology.

Product Line Information

NOTE: *"-IV" suffix indicates CLIP and FlashScandevice.*

FST-951: White, low-profile intelligent 135°F fixed thermal sensor, FlashScan only

FST-951A: Same as FST-951 but with ULC listing

FST-951-IV: Ivory, low-profile intelligent 135°F fixed thermal sensor, FlashScan and CLIP

FST-951A-IV: Same as FST-951-IV but with ULC listing

FST-951R: White, low-profile intelligent rate-of-rise thermal sensor, FlashScan only

FST-951RA: Same as FST-951 but with ULC listing

FST-951R-IV: Ivory, low-profile intelligent rate-of-rise fixed thermal sensor, FlashScan and CLIP

FST-951RA-IV: Same as FST-951R-IV but with ULC listing

FST-951H: White, low-profile intelligent 190°F fixed thermal sensor, FlashScan only

FST-951HA: Same as FST-951H but with ULC listing

FST-951H-IV: Ivory, low-profile intelligent 190°F thermal sensor, FlashScan and CLIP

FST-951HA-IV Same as FST-951 but with ULC listing

INTELLIGENT BASES

NOTE: *For details on intelligent bases, see DN-60981.*

B300-6: White, 6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300-6-IV: Ivory,6" base, standard flanged low-profile mounting base *(CSFM: 7300-1653:0109)*

B300A-6: Same as B300-6, ULC listed

B300A-6-IV: Ivory, 6" standard flanged low-profile mounting base, ULC listed

B300-6-BP: Bulk pack of B300-6, package contains 10

B501-WHITE: White, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-BL: Black, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-IV: Ivory color, 4" standard European flangeless mounting base. UL/ULC listed *(CSFM: 7300-1653:0109)*

B501-WHITE-BP: Bulk pack of B501-WHITE contains 10

B224RB-WH: White, relay base (*CSFM: 7300-1653:0216)*

B224RB-IV: Ivory, relay base (*CSFM: 7300-1653:0216)*

B224RBA-WH: White, relay base, ULC listing

B224RBA-IV: Ivory, relay base, ULC listing

B224BI-WH: White, isolator detector base (CSFM: 7300-1653:0216)

B224BI-IV: Ivory isolator detector base (CSFM: 7300-1653:0216)

B224BIA-WH: White, isolator detector base, ULC listing

B224BIA-IV: Ivory isolator detector base, ULC listing

B200S-WH: White, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200S-IV: Ivory, Intelligent addressable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone. Uses FlashScan protocol. *(CSFM: 7300-1653:0213)*

B200SA-WH: Same as B200S-WH, ULC listing

B200SA-IV: Same as B200S-IV, ULC listing

B200SCOA-WH: White, Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications

B200SCOA-IV: Ivory Intelligent, programmable sounder base in English/French (required in Canada for ULC applications with CO Series detector applications, ULC listing

B200S-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200S-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. (*CSFM: 7300-1653:0238)*

B200SR-WH: White, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SR-IV: Ivory, Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Intended for retrofit applications. *(CSFM: 7300-1653:0213)*

B200SRA-WH: Same as B200SR-WH with, ULC listing

B200SRA-IV: Same as B200SR-IV in Ivory color, ULC listing

B200SR-LF-WH: White, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

B200SR-LF-IV: Ivory, Low Frequency Intelligent, programmable sounder base. Produces a fundamental frequency of 520 Hz +/- 10% with a square wave or its equivalent; designed to meet the NFPA 72 sleeping space requirement. Intended for retrofit applications. (*CSFM: 7300-1653:0238)*

MOUNTING KITS AND ACCESSORIES

TR300: White, replacement flange for B210LP(A) base

TR300-IV: Ivory, replacement flange for B210LP(A) base

RA100Z(A): Remote LED annunciator. 3-32 VDC. Mounts to a U.S. single-gang electrical box. For use with B501(A) and B300-6(A).

M02-04-00: Test magnet

M02-09-00: Test magnet with telescoping handle

CK300: Color Kit (includes cover and trim ring), white, 10-pack

CK300-IV: Color Kit (includes cover and trim ring), ivory, 10-pack

CK300-BL: Color Kit (includes cover and trim ring), black, 10-pack

Sensitivity: UL Applications: 0.5% to 4.0% per foot obscuration. ULC is 0.5% to 3.5%

Size: 2.0" (5.3 cm) high; base determines diameter

- **– B300-6:** 6.1" (15.6 cm) diameter
- **– B501:** 4" (10.2 cm) diameter

For a complete list of detector bases see DN-60981

Shipping weight: 3.4 oz. (95 g)

Operating temperature range:

- FST-951, FST-951R Series: –4°F to 100°F (–20°C to 38°C)
- FST-951H Series: –4°F to 150°F (–20°C to 66°C)

Detector spacing: UL approved for 50 ft. (15.24 m) center-to-center, FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing

Relative humidity: 10% – 93% non-condensing

Thermal ratings: fixed-temperature set point 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C)

Mounting: B300-6(A) flanged base, included

See **"Product Line Information: Intelligent Bases,"** if using a different base.

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak

Standby current (max. avg.): 200µA @ 24 VDC (one communication every 5 seconds with LED enabled)

Max current: 4.5 mA @ 24 VDC ("ON")

Listings and Approvals

Listings and approvals below apply to the FST-951 Series detectors. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- UL/ULC Listing: S747
- FM Approved
- CSFM: 7270-0028:0502

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Country of Origin: Mexico

NOTIFIER
12 Clintonville Road
Northford, CT 06472
203.484.7161
www.notifier.com

NOTIFIER® by Honeywell

安装、维护、使用说明书

NOTIFIER® by Honeywell

I56-3982-000

B901G

嵌入式探测器底座

霍尼韦尔消防安防系统（上海）有限公司
上海市张江高科技园区李冰路 430 号 中国 上海 张江
邮编：201203 电话：021-28942000

技术条件

直径：	102.6mm（4.0 英寸）
高度：	14.1mm（0.6 英寸）
重量：	36g（1.3 盎司）
安装孔距：	50mm~70mm 中心对称

电气参数 - 包括底座和探测器

电压范围：	15~32 VDC
静态电流（正常）：	380μA，24VDC
最大额定电压下的上电冲击：	1.5mA－秒
LED 电流（一般）：	3mA， 24VDC

适用下列型号探测器：

JTY-GD-FSP-951G 点型光电感烟火灾探测器

JTW-BD-FST-951G 点型感温火灾探测器

安装、使用产品前，请仔细阅读使用说明书，以便正确地使用和维护产品。如果要将产品安装在已经开通运行的系统中，请务必通知相关人员让系统暂时停止工作，保证安装产品前切断控制器电源。

注意：用户应妥善保存本说明书。

重要：探测器底座应有关标准的要求定期进行测试。每年至少清洗一次。

概述

B901G 型嵌入式底座配用霍尼韦尔消防安防系统（上海）有限公司的感烟或感温火灾探测器。

B901G 底座用于智能系统，提供有电源+IN/OUT、-OUT 及+RA 联接的螺钉端子。通过回路线＋IN/OUT 和 －OUT 线进行通讯。

底座端子

编号	功能
1 -OUT	回路线（－）
2 +IN/OUT	回路线（＋）
3 +RA	门灯输出（＋）

接线安装指导（见图 2）

所有的导线必须按照有关标准和规范进行联接。应选用适当的线号。联接探测器和控制器以及辅助设备之间的导线应有颜色标识，以免混淆。不正确的接线会妨碍系统对火灾的反应。

底座可用最大线号为 12 号（(2.5 平方毫米截面积）导线。为使系统工作在最佳状态，电源 +IN/OUT 和 - IN,-OUT 线应使用双绞线并应设于独立接地的导管中以防止外界的电子干扰。如果使用屏蔽电缆，进出底座的屏蔽联接必须用接头帽、压接或焊接等适当的可靠联接方法使屏蔽联接不断。

接线时剥去线端 9.5mm（3/8 英寸长）（用底座上的剥线度量模 STRIP GAUGE）绝缘层，将裸露线头插入端子压线板下，拧紧螺钉端子。勿将线环绕在压线板下。

在安装探测器之前应检查所联接区域内的底座接线是否良好。应对联线进行导通性，底座上的极性，以及绝缘性测试。

防卸装置

探测器底座上还具有可选用的防卸功能，当启用此功能后不用某种工具将无法卸下探测器。

欲使探测器防拆卸，仅需在探测器安装之前从防卸卡杆上去掉塑料臂〔见图 3〕。防卸杆在底座上。当要卸下在防卸状态的探测器时，可用专用防卸钥匙压住防卸杆并同时逆时针旋转探测器。防卸杆可从底座侧边的防卸开口处触及到。

⚠ 注 意

勿轻易启用防卸功能，尤其对安装在高顶棚处等人不易触及地方的探测器底座。否则，在维护保养时探测器拆卸困难。

底座上断掉整个塑料杆可以解除防卸功能，然而一旦这样做后将永远丧失防卸功能。

图 1、端子平面图

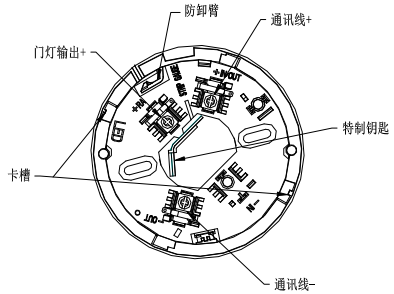
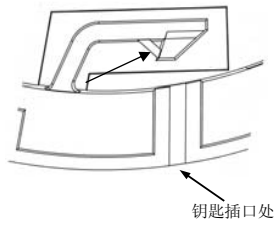


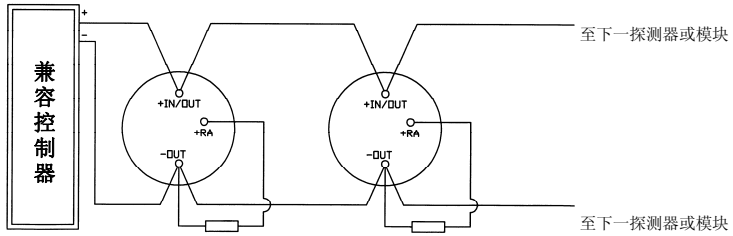
图 3、启用防卸功能

去掉塑料臂可启动防御功能



注意：产品使用终结报废后或者使用过程中更换下来的零部件，请按照国家或者当地对电子产品废弃物的处理办法处置，请勿丢弃.

接线说明



远程指示器 远程指示器

图 2、典型的二线回路接线图

产品标签日期码构成说明

产品的日期码由四位数组成：第一位表示生产年份的末位数字，第二位和第三位表示生产的月份，第四位表示当月的第几周。

X	XX	X
表示：“生产年的末位数”	“生产月份”	“当月第几周”

质量保证

霍尼韦尔消防安防系统（上海）有限公司对所生产的产品实行三年保修。如果是由于人为损坏、使用不当或自行调整改动产品而导致失效的产品，不属于本保修范围，而因此造成的后果霍尼韦尔消防安防系统（上海）有限公司将不负责任。

NOTIFIER® by Honeywell

Honeywell Fire and Security Systems(Shanghai) Co., Ltd.
430,Li Bing Road, Zhangjiang Hi-Tech Park
Pudong New Area, 201203, Shanghai
Tel: 021 -28942000 Fax: 021 -58559612

I56-3982-000

B901G Plug-in Detector Base
For use with the following detectors:
JTY-GD-FSP-951G and JTW-BD-FST-951G

SPECIFICATIONS

Base Diameter:	102.6mm (4.0 inches)
Height:	14.1mm (0.6 inches)
Weight:	36g (1.3 ounces)
Mounting:	50mm to 70mm square box
Electrical Ratings — includes base and detector	
System Voltage:	15 to 32VDC
Standby Current :	380μA , 24VDC at Normal
Start-up Impact:	1.5mA Max every second
LED Current:	3mA, 24VDC

Before installing and using the product, please read the system wiring and installation manual thoroughly. If the products will be installed in an existing operational system, inform the operator and local authority that the system will be temporarily out of service, disconnect power to the control panel before installing the products.

NOTICE: This manual should be left with the owner/user of this equipment.

IMPORTANT: The detector used with this base must be tested and maintained regularly following **GB** Standard requirements. The detector used with this base should be cleaned at least once a year.

GENERALDESCRIPTION

The B901G plug-in sensor base is used with Notifier smoke and heat detector heads. The B901G base is intended for use in an intelligent system with screw terminals provided for power (+)and(-), and remote annunciator connections. The communication takes place over the power (+) and (-) lines.

BASE TERMINALS

P/N	Function
1. –OUT	Loop Wire (-)
2. +IN/OUT	Loop Wire (+)
3. +RA	Remote Annunciator (+)

MOUNTING

This detector base mounts directly to 50 mm and 60 mm junction boxes.

Install the base to the box using the screws supplied with the junction box and the appropriate mounting slots in the base as Figure 1 showed.

INSTALLATION GUIDELINES(SEE FIGURTION GUIDELINES(SEE FIGURE 2)

All wiring must be installed in compliance with the National El-ectrical Code and the local codes having jurisdiction. Proper wire gauges should be used. The conductors used to connect smoke detectors to control panels and accessory devices should be color-coded to reduce the likelihood of wiring errors. Improper connections can prevent a system from responding properly in the event of a fire.

For signal wiring (the wiring between interconnected detectors), it is recommended that the wire be no smaller than 1.0 square mm. Wire sizes up to 2.5 square mm may be used with the base . For best system performance, the power (+) and (–) loop wires should be twisted pair and installed in separate grounded conduit to protect the loop from extraneous electrical interference.

Smoke detectors and alarm system control panels have specifications for allowable loop resistance. Consult the control panel manufacturer's specifications for the total loop resistance allowed for the particular model control panel being used before wiring the detector loops.

Wire connections are made by simply stripping about 3/8 inch-es (9.5mm) insulation from the end of the wire, sliding the bare end of the wire under the clamping plate, and tightening the clamping plate screw. Use the strip gauge molded into the base for ease of wiring to terminals.

The zone wiring of the detector base should be checked before the detector heads are installed in them. The wiring should be checked for continuity, polarity in the base, and dielectric tests. De-tector to be installed at that location. This information is important to set the address, and type of detector to be installed at that location. This information is important to set the adders-s of the detector head that will later be plugged into the base and to verify the type required for that location. Note: During the installation, Make the rib of the detector align with the rib on the base until it drops into place. (See Figure 3 B).

TEMPER-RESISTANCE FEATURE

This detector includes a tamper-resistant feature that prevents its removal form the mounting base without the use of a key. To make the detector tamper-resistant, remove the tab from the tamper arm on the mounting base using a cutting tool. Remove the tamper key from the center of the mounting base (see Figure 3) by twisting it back and forth several times. Once the detector is installed, it may be removed from the mounting base by inserting the T-shaped end of the key into the slot on the side of the unit and rotating the detector counter-clockwise.

⚠CAUTION

.

Do not use the tamper-resistance feature if the removal tool is to be used.

FIGURE 1.

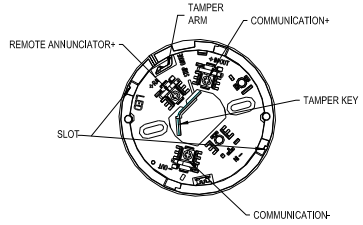
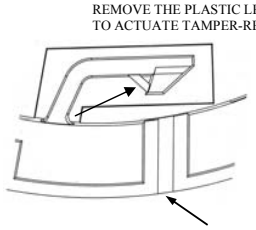
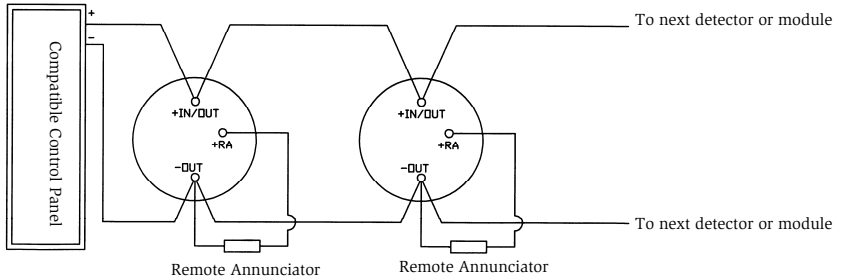


FIGURE 3. ACTIVATING TAMPER-RESISTANCE FEATURE:



Note: Please dispose electronic waste following national or local regulations after being scrapped or replaced. Do not discard.

FIGURE 2. SYSTEM DIAGRAM:



PRODUCT NAMEPLATE DATE CODE NOTE

Product date code consists of four digits: The first represents the end number of the producing year, the second and the third represent the producing month, and the fourth represents the week of the month.

X	X X	X
The end number of the producing year	The producing month	The week of the month

THREE-YEAR LIMITED WARRANTY

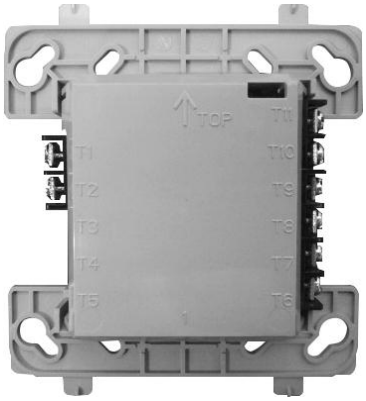
Honeywell Fire and Security Systems(Shanghai) Co., Ltd. warrants its enclosed product to be free from defects in materials and workmanship under Normal use and service for a period of three years from date of manufacture. The company's obligation of this Warranty shall be limited to the repair or replacement of any part of the product which is found to be defective in materials or workmanship under normal use and service during the three year period commencing with the date of manufacture.

JKM-FCM-9G Module
Output Module

NOTIFIER® by Honeywell

SPECIFICATIONS

Normal Operating Voltage: 15 to 32 VDC
Maximum Current Draw: 3mA (LED On)
Operating Current: 500µA max., 1 communication every 5 seconds 47K EOL resistor
Maximum NAC Line Loss: 4 VDC
External Supply Voltage (between Terminals T10 and T11)
Maximum (NAC): Regulated 24 VDC
Max. NAC Current Ratings: For class B wiring system, the current rating is 2A, for class A wiring system, the current rating is 1A
Temperature Range: -10˚C to 55˚C (14°F to 131°F) @ GB, 32°F to 120°F (0°C to 49°C) @ UL
Humidity: 5% to 95%RH, Non-condensing @ GB, 10% to 93%RH, Non-condensing @ UL
Mounting Size: 4.9″ H x 4.9″ W x 1.4″ D (Mounts to a 4.6″ square by 1.9″ deep box, see Figure 2A)
Accessories: SMB500 Electrical Box; 47K EOL resistor part # A2143-000
Weight: 6.0 ounces (170g) (Includes packaging materials)
Standard: GB16806-2006 & UL864
Software Ver.: A
Certification:



Mounting

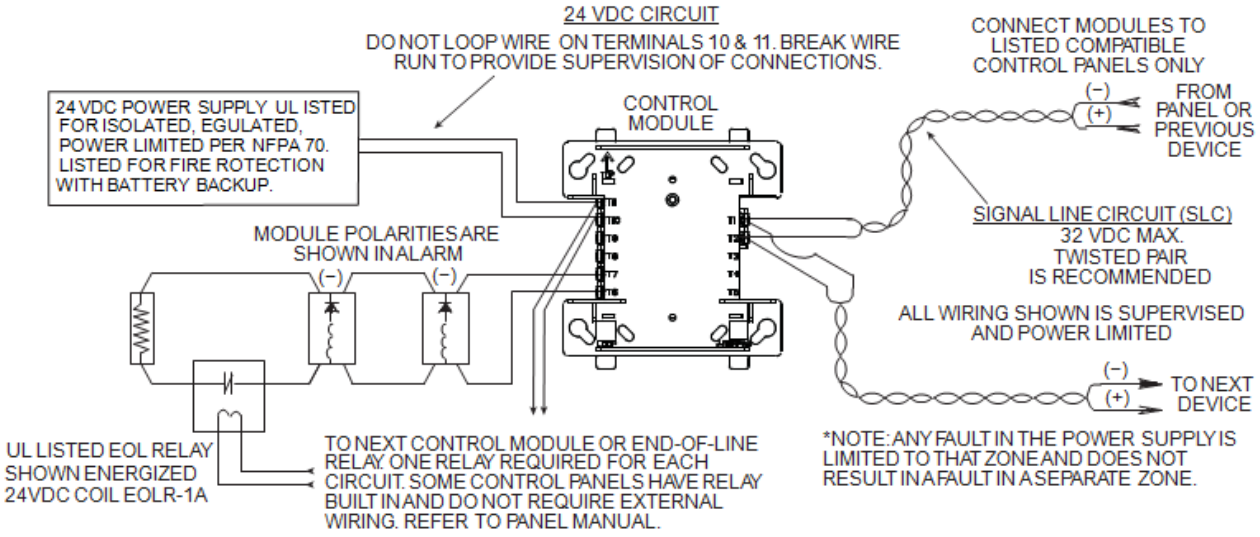
The JKM-FCM-9G mounts directly to 4-inch square electrical boxes (see Figure 2B). The box must have a minimum depth of 2 1/8 inches. Surface mounted electrical boxes (SMB500) are available from System Sensor.

Wiring

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations.

1. Set the module address by the model CP900M.
2. Install module wiring in accordance with the job drawings and app-ropriate wiring diagrams.
3. Secure module to electrical box.

Typical notification appliance circuit configuration



ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

Model J-SAP-M-M900KG

NOTIFIER® by Honeywell

Manual Call Point

Intelligent Device

Description

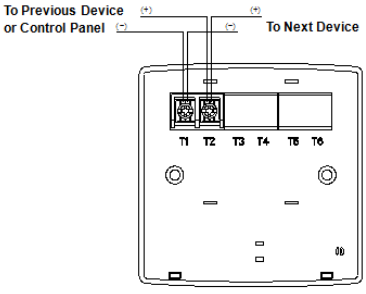
The J-SAP-M-M900KG is designed to be used to as a component of a fire control system compatible control panel. It is a dedicating addressable call point for installation on the 2-wire communication circuit providing both signaling of alarm to the monitoring control panel and local led indication of activation.
The J-SAP-M-M900KG is designed for indoor application. It is not intended for use in an externally exposed or hazardous location (refer to your supplier for product recommendations should these applications be involved).
If the manual call point is connected with the polarity reversal wire, it will not operate normally. But, other units can still operate as usually in the loop.

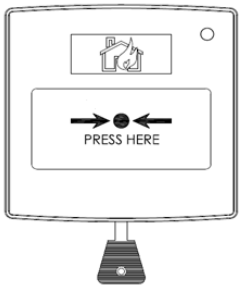
J-SAP-M-M900KG

Features

- SLC as power supply
- Working status indicating LED
- Analog communications
- Electronic address programming
- Resettable alarm button with self-carried key

System Diagram





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Electronic Specifications

Operating Voltage	15~32VDC
Standby current	350μA@24VDC
Alarm current	3mA
Standard	UL864

Physical/Environmental Specification

Temperature Range	32°F to 120°F (0° to 49°C)
Relative Humidity	10% to 93% non-condensing
Shipping Weight	4.1 oz (115g)(Net weight)
Type of alarm button	Resettable

Ordering Information

J-SAP-M-M900KG	Manual call point

Accessory

CP900	Address programmer

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.
For more information, contact Notifier Shanghai. Phone: (86) 21-2894-2000.

JSKM-CMM-9G
Input/Output Module

NOTIFIER® by Honeywell

SPECIFICATIONS

Operating Temperature Range: -10°C ～ 55°C (14°F to 131°F) (GB); 0℃～ 49℃ (32°F～120°F) (UL)
Operating Humidity Range: 5% ～ 95%RH, Non-condensing (GB); 10% ～ 93%RH, Non-condensing (UL)
Voltage Range: 15～32VDC
Standby Current: 450uA max., 1 communication every 5 seconds 47K EOL resistor
Initiating Device Circuit: Max.Voltage: 2.4 Vdc; Max. Short-circuit current: 100 uA
Maximum IDC wiring resistance: 40 Ohm
Rated External Supply Voltage: 24VDC
External Supply Voltage (between Terminals T10 and T11)
Maximum (NAC): Regulated 24VDC
Notification Appliance Circuit: 2A, 24VDC (Resistive load);
Maximum NAC wiring resistance: 40 Ohm
Mounting Size: 124.6mm (L) x 124.6mm (W) x 35.6mm (H) (with the mounting plate)
Weight: About 170g
Software Ver.: B
Standard: GB16806-2006 & UL864 & ULC-S527
Certification:

MOUNTING

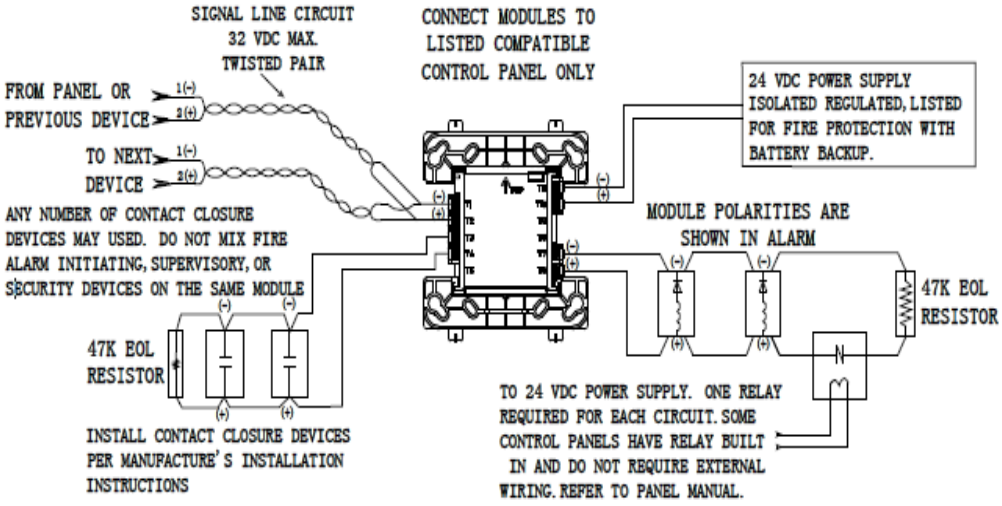
The module mounts directly to 100mm square electrical boxes. The box must have a minimum depth of 50mm.

WIRING

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations.

1. Set the module address by the model.
2. Install module wiring in accordance with the job drawings and app-ropriate wiring diagrams.
3. Secure module to electrical box.

JSKM-CMM-9G INPUT /OUTPUT RELAY MODULE WIRING DIAGRAM



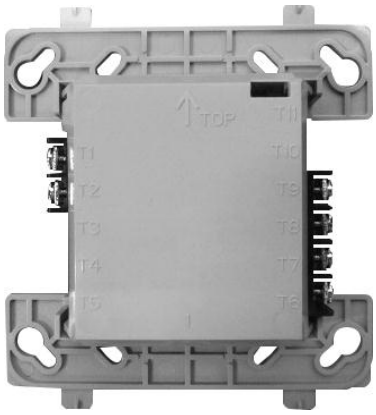
ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

JSM-FMM-9G Module
Input Module

NOTIFIER® by Honeywell

SPECIFICATIONS

Normal Operating Voltage: 15 to 32 VDC
Maximum Current Draw: 3mA (LED On)
Operating Current: 500µA max., 1 communication every 5 seconds 47K EOL resistor
EOL Resistance: 47K Ohms
Maximum IDC wiring resistance: 40 Ohms
Maximum IDC Voltage: 9.5 Volts
Maximum IDC Current: 300µA
Temperature Range: -10˚C to 55˚C (14°F to 131°F) @ GB, 32°F to 120°F (0°C to 49°C) @ UL
Humidity: 5% to 95%RH, Non-condensing @ GB, 10% to 93%RH, Non-condensing @ UL
Mounting Size: 4.9″ H x 4.9″ W x 1.4″ D (Mounts to a 4.6″ square by 1.9″ deep box, see Figure 2A)
Accessories: SMB500 Electrical Box; 47K EOL resistor part # A2143-000
Weight: 5.5 ounces (155g) (Includes packaging materials)
Standard: GB16806-2006 & UL864
Software Ver.: A
Certification:



Mounting

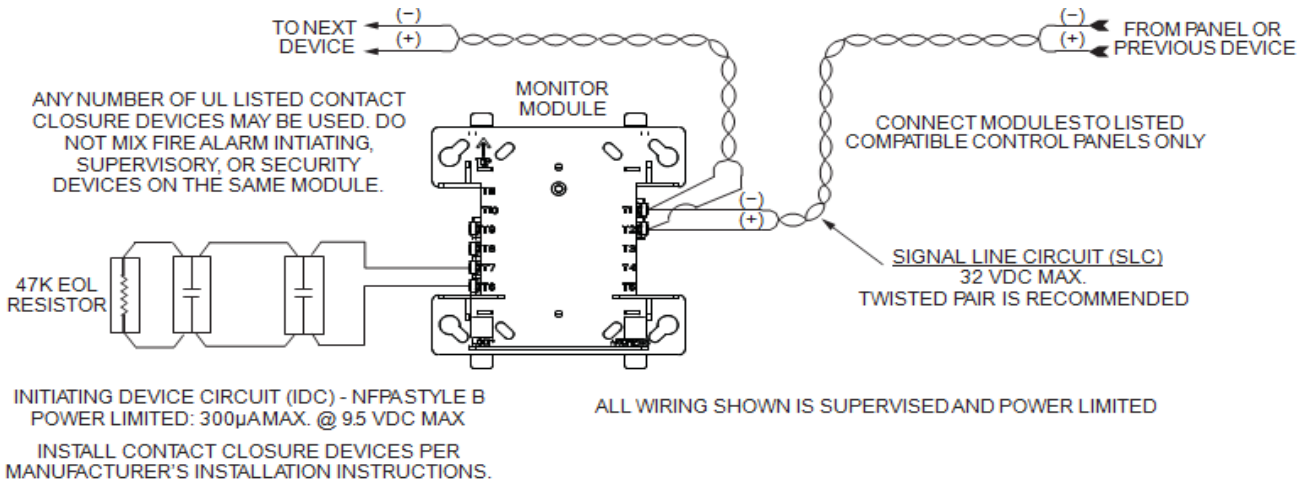
The JSM-FMM-9G mounts directly to 4-inch square electrical boxes (see Figure 2B). The box must have a minimum depth of 21/8 inches. Surface mounted electrical boxes (SMB500) are available from Notifier.

Writing

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.

1. Set the module address by the model CP900M.
2. Install module wiring in accordance with the job drawings and appropriate wiring diagrams.
3. Secure module to electrical box (supplied by installer), as shown in Figure 2.

TYPICAL 2-WIRE INITIATING CIRCUIT CONFIGURATION



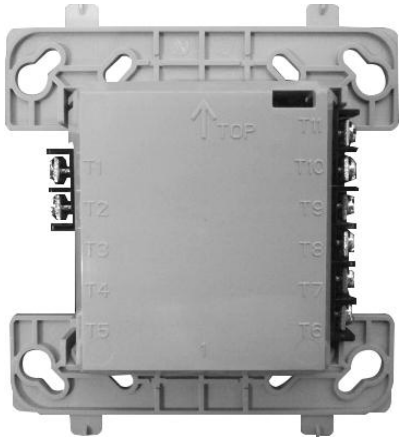
ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

KM-FZM-9G Module
Interface Module

NOTIFIER® by Honeywell

SPECIFICATIONS

Normal Operating Voltage: 15 to 32 VDC
Maximum Current Draw: 3mA (LED On)
Operating Current: 350µA max., 1 communication every 5 seconds 47K EOL resistor
EOL Resistance: 3.9K Ohms
Maximum IDC wiring resistance: 25 Ohms
IDC Supply Voltage (between Terminals T10 and T11)
Regulated DC Voltage: 24 VDC power limited
Current: 90mA per module
Temperature Range: -10˚C to 55˚C (14°F to 131°F) @ GB, 32°F to 120°F (0°C to 49°C) @ UL
Humidity: 5% to 95%RH, Non-condensing @ GB, 10% to 93%RH, Non-condensing @ UL
Mounting Size: 4.9″ H x 4.9″ W x 1.4″ D (Mounts to a 4.6″ square by 1.9″ deep box, see Figure 2A)
Accessories: SMB500 Electrical Box; 47K EOL resistor part # A2143-100
Weight: 5.6 ounces (160g) (Includes packaging materials)
Standard: GB16806-2006 & UL864
Software Ver.: A
Certification:



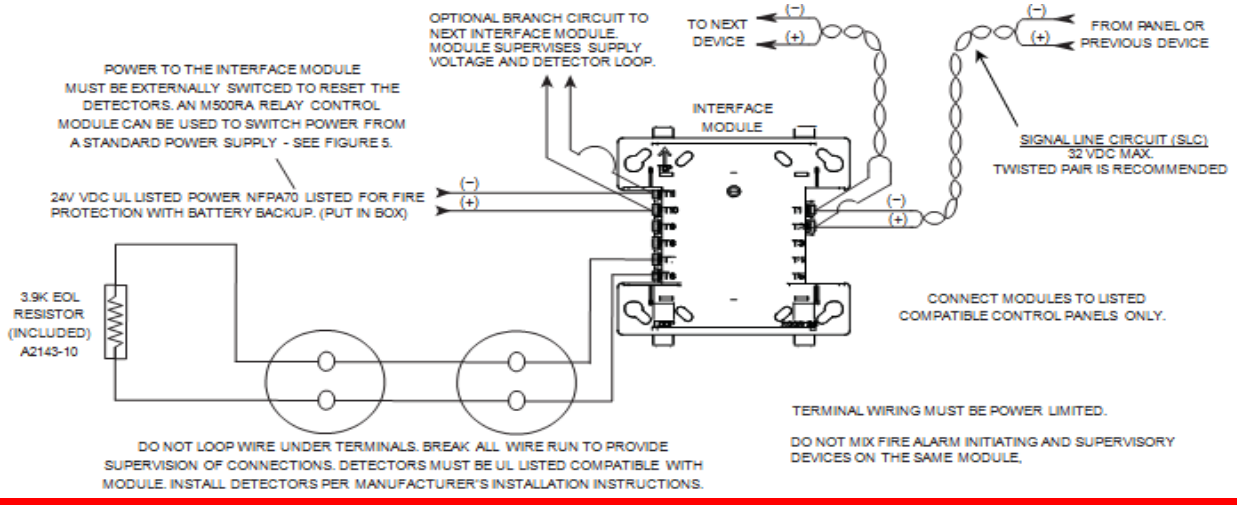
Mounting

The KM-FZM-9G mounts directly to 4-inch square electrical boxes (see Figure 2B). The box must have a minimum depth of 2 1/8 inches. Surface mounted electrical boxes (SMB500) are available from Notifier.

Wiring

NOTE: All wiring must conform to applicable local codes, ordinances, and regulations. This module is intended for power limited wiring only.
1. Set the module address by the model CP900M.
2. Install module wiring in accordance with the job drawings and appropriate wring diagrams.
3. Secure module to electrical box (supplied by installer), as shown in Figure.

TYPICAL 2-WIRE INITIATING CIRCUIT CONFIGURATION



ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

LDM

Lamp Driver Modules

NOTIFIER® by Honeywell

Annunciator Control Systems

General

The **LDM Series** lamp driver modules, when combined with a custom graphic display, provide annunciation and control for Notifier's intelligent fire alarm control panels. These modules use a serial communications interface, and may be located up to 6,000 feet from the panel.

Features

- ALARM/CIRCUIT ON and TROUBLE lamp/LED per-point option, or more dense alarm-only option (field selectable).
- Control switch option for remote control per point.
- Lamps/LEDs may be programmed to display status of indicating circuits or control relays as well as system status conditions.
- System trouble lamp/LED signal.
- On-line/power LED indicator.
- Alarm and trouble resound with flash of new conditions.
- Local sounder for both alarm/circuit-on and trouble conditions with silence/acknowledge switch connection.
- Serial EIA-485 interface for reduced installation costs.
- May be powered by 24 VDC from the panel or by remote power supplies.
- Efficient switch-power converter reduces power consumption.
- Microprocessor-controlled electronics, fully supervised.
- Plug-in terminal blocks for ease of installation and service.
- Trouble monitor option for remote power supplies.

Construction

Two basic models are available; the LDM-32 control module and the LDM-E32 expander module. Each may be selected to provide 32 alarm indications; or 16 alarm, 16 trouble, and 16 control points.

Applications

The LDM-32/LDM-E32 with a custom graphic array may be used to indicate point status and, in some versions, to control the state of output points.

In addition, the LDM-R32 module may be used to provide 32 dry-contact relays for electrical isolation when connecting the system to other equipment.

LDM-32

0551LDM.wmf

Installation

The LDM-32 and LDM-E32 modules mount on four standoffs inside the custom annunciator graphic box. Alternately, the modules may be installed in a CHS-4L chassis. The module size is approximately 4.4" (11.2cm) x 7.1" (18cm).

Communications between the LDM Series annunciators and the host FIre Alarm Control Panel are made through a two-wire EIA-485 multi-drop loop, and a two-wire regulated 24 VDC power loop. Up to 32 LDM systems may be connected to a single control panel.

All field-wiring terminations use removable, compression-type terminal blocks for ease of installation, wiring, and circuit testing.

Operation

LDM Series modules, when used with a custom graphic annunciator, provide the Notifier's intelligent fire alarm control panels with up to 32 unique or redundant annunciators, each with a capacity of 64 points for a total capacity of **2048 points**.

Local or remote power supplies and serial communications allow the custom annunciators to be located anywhere on the protected premises.

AM2020/AFP1010 system alarm and/or trouble conditions may be annunciated on a per-point basis, or in a grouped-zone configuration.

AFP300/400 system panel points, intelligent addressable devices and software zones can be annunciated/controlled in a grouped fashion (see programming manual for details).

Control of system operational controls, such as Signal Silence, System Reset, and local annunciation controls (such as Local

Acknowledge), and Lamp Test may be accomplished through special key- or push-switches.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **MEA Listed:** 291-61-E Vol. 4 (System 500, LDM-R32); 289-91-E Vol. V (AM2020/AFP1010); 104-93-E (AFP-200); 17-96-E (AFP-300/400); 447-99-E (AFC-600)
- **CSFM:** 7120-0028:0156, 7165-0028:0224 (NFS-3030, NFS2-3030); 7170-0028:0223 (NFS-3030, NFS2-3030)
- **BSA:** 578-81-SA (System 5000, System 500 except LDM-R32)
- **FM Approved**
- **City of Chicago** approved**:** Class 1, Class 2
- **City of Denver** approved
- **FDNY** COA #6085 (NFS2-640); 6065 (NFS2-3030)

Product Line Information

LDM-32: Lamp Driver Module with 32 alarm lamp-driver transistors (sink to power common on alarm). May be selected (dip switch) for 16 alarm/circuit on, 16 trouble, and 16 switch inputs if desired. Also includes system-trouble lamp driver and lamp-test/local-acknowledge switch input. Integral piezo sounder sounds for each new alarm or trouble and is silenced with the Local Acknowledge switch, or permanently disabled with a dip switch selection. Flash of new alarms or troubles is selectable through dip switches. 16 switch inputs may be used for panel SILENCE, RESET, or remote relay control. Instructions are included.

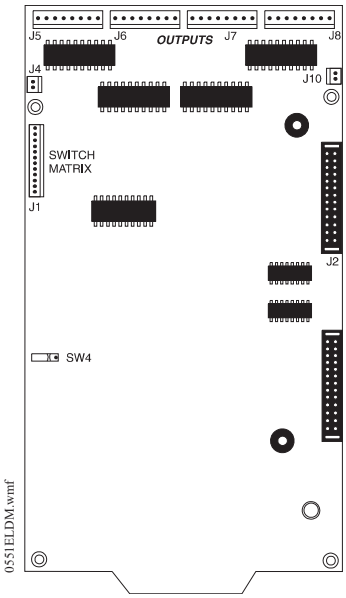
LDM-E32: Lamp Driver Module with 32 alarm drivers; or 16 alarm, 16 trouble, and 16 switch inputs. One LDM-E32 is allowed per LDM-32 in alarm-only mode. Three LDM-E32 modules are allowed per LDM-32 in alarm/trouble. Includes ribbon cable to connect to LDM-32/LDM-E32.

LDM-R32: Lamp Driver Module which connects to any LDM-32 or LDM-E32 to convert transistor outputs to 32 Form-A dry contacts (1.0 A @ 30 VDC). Provides 32 output terminal screw connections and a single common terminal screw. Includes ribbon cables to connect to the LDM-32/LDM-E32. Use for electrical isolation when interfacing the system to other equipment.

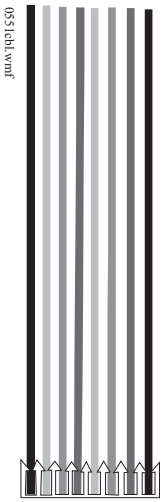
LDM-CBL24, LDM-CBL48: Ribbon cable sets to provide either a 24" (60.96cm) or 48" (121.96cm) connection between LDM-32/LDM-E32 and LEDs or lamps on a custom graphic panel. Includes all cables necessary for one LDM-32 or LDM-E32. Cables have connector on one end only (split, strip, and connect other end to graphic annunciator).

Architectural/Engineering Specifications

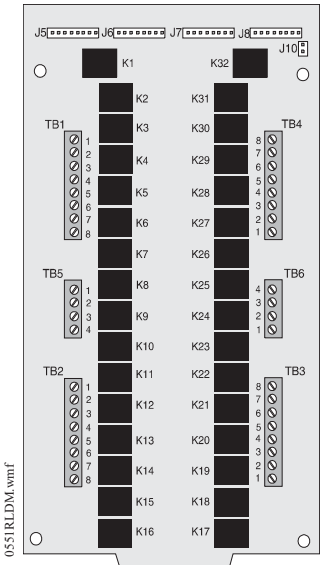
For specifications on LDM Graphic Annunciator Lamp Driver Modules, contact NOTIFIER.



LDM-E32



LDM-CBL48
LDM-CBL24



LDM-R32

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

MODBUS-GW

Modbus Gateway

NOTIFIER® by Honeywell

Network Systems

General

The Modbus Gateway provides a communication link between networks that use the Modbus/TCP communication protocol and Fire Alarm Control Panels (FACPs) resident on an NFN network.

The Modbus Gateway communicates with the NOTI-FIRE-NET network via the network port on any NCM. The Modbus communication protocol is consistent with Modbus Application Protocol Specification V1.1b.

The Modbus Gateway is designed to need very little configuration; no separate configuration utility is required. In most applications you will only need to enter the TCP/IP settings for your network and the nodes you would like to monitor. The gateway will automatically map all the configured points and supply you with a user friendly comma-separated value report that defines the mapping.

Features

- Compatible with standard and high speed NOTI-FIRE-NET.
- Monitor four compatible NFN or HS-NFN nodes not including the Modbus Gateway node itself.
- Provide data such as event type, active/inactive, enabled/disabled, acknowledged/unacknowledged, device type, analog value (4-20ma modules only) and system troubles.
- Support reads of up to 100 registers at a time. Analog values can be read 10 registers at a time.
- Log diagnostic information.
- Send standard Modbus exception responses.
- Reduce configuration time by auto-discovering and mapping points.

MODBUS MASTERS COMPATIBLE

- The Modbus Gateway was designed to be compatible with standard Modbus/TCP masters.
- Support one-byte Unit IDs.
- Have configurable polling times.
- The Modbus Gateway supports one Modbus Master.

PANEL COMPATIBLE

The Modbus Gateway was designed to be compatible with the following panels:

- NFS-320
- NFS-640
- NFS2-640
- NFS-3030
- NFS2-3030

NFN-GW-EM-3.JPG

Standards and Codes

The Modbus Gateway is recognized by UL as an ancillary (supplementary) reporting device. It complies with the following UL/ULC Standards and NFPA 72 Fire Alarm Systems requirements.

- **UL 864:** Control Units for Fire Alarm Systems, Ninth Edition
- **UL 2017:** General-Purpose Signaling Devices and Systems, First Edition
- **CAN/ULC-S527-99:** Standard for Control Units for Fire Alarm Systems, Second Edition
- **CAN/ULC-S559-04:** Equipment for Fire Signal Receiving Centres and Systems, First Edition

Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635
- **CSFM:** 7300-0028:250
- **FDNY:** COA#6047

System Architecture & Requirements

An Internet or Intranet IP network connection is required to configure the Modbus Gateway, and to connect it with Modbus clients. The Internet or Intranet IP network connection must meet the following requirements.

- Private of Business LAN
- Static IP address required
- Standard 100Base-T connection
- Required Ports(s): 502

REQUIRED EQUIPMENT

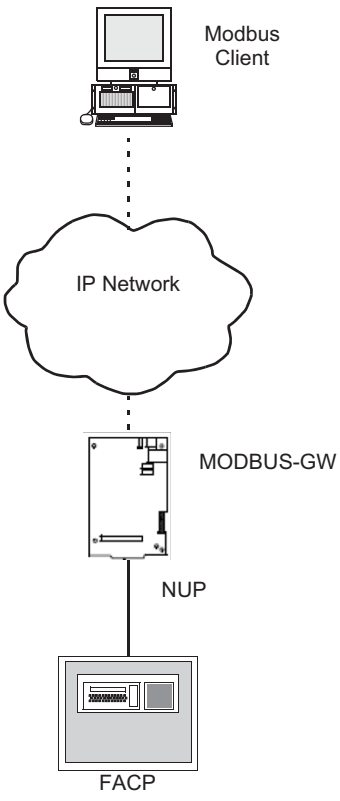
- MODBUS-GW-NFN Modbus Embedded Gateway.
- Network Control Module
- NFN Network - Version 5.0 or above

NETWORK COMPONENTS

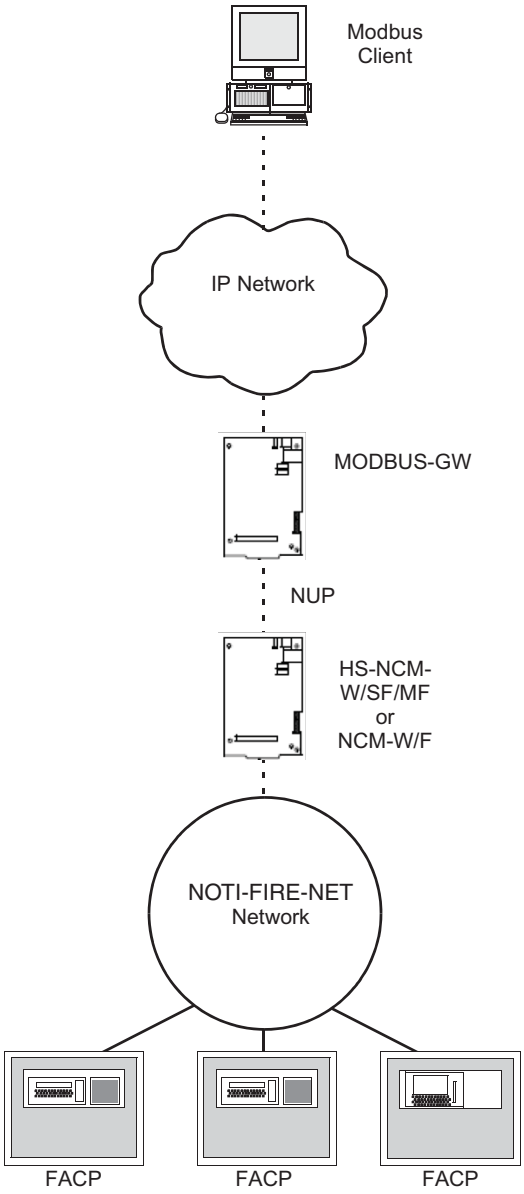
- RJ45 to RJ45 standard Ethernet network cable-customer's internet or intranet connection to Modbus Gateway
- NFN network-version 5.0 or above (sold separately)
- High Speed Network Communication Module: HS-NCM-W/SF/MF board-used to facilitate network communication between the Modbus Gateway and a High Speed NFN network or Network Communication Module: NCM-W/F board-used to facilitate network communication between the Modbus Gateway and an NFN network.
- Cabinet and Hardware (sold separately)
  - CAB-4 series cabinet.
  - CHS-4L chassis.

CUSTOMER SUPPLIED EQUIPMENT

- Windows XP Professional with Internet Explorer running Java version 6 or higher



Sample System: Modbus Gateway Direct to Fire Alarm Control Panel



Sample System: Modbus Gateway on NOTI-FIRE-NET Network

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

MODBUS-GW

Modbus Gateway

NOTIFIER® by Honeywell

Network Systems

General

The Modbus Gateway provides a communication link between networks that use the Modbus/TCP communication protocol and Fire Alarm Control Panels (FACPs) resident on an NFN network.

The Modbus Gateway communicates with the NOTI-FIRE-NET network via the network port on any NCM. The Modbus communication protocol is consistent with Modbus Application Protocol Specification V1.1b.

The Modbus Gateway is designed to need very little configuration; no separate configuration utility is required. In most applications you will only need to enter the TCP/IP settings for your network and the nodes you would like to monitor. The gateway will automatically map all the configured points and supply you with a user friendly comma-separated value report that defines the mapping.

Features

- Compatible with standard and high speed NOTI-FIRE-NET.
- Monitor four compatible NFN or HS-NFN nodes not including the Modbus Gateway node itself.
- Provide data such as event type, active/inactive, enabled/disabled, acknowledged/unacknowledged, device type, analog value (4-20ma modules only) and system troubles.
- Support reads of up to 100 registers at a time. Analog values can be read 10 registers at a time.
- Log diagnostic information.
- Send standard Modbus exception responses.
- Reduce configuration time by auto-discovering and mapping points.

MODBUS MASTERS COMPATIBLE

- The Modbus Gateway was designed to be compatible with standard Modbus/TCP masters.
- Support one-byte Unit IDs.
- Have configurable polling times.
- The Modbus Gateway supports one Modbus Master.

PANEL COMPATIBLE

The Modbus Gateway was designed to be compatible with the following panels:

- NFS-320
- NFS-640
- NFS2-640
- NFS-3030
- NFS2-3030

NFN-GW-EM-3.JPG

Standards and Codes

The Modbus Gateway is recognized by UL as an ancillary (supplementary) reporting device. It complies with the following UL/ULC Standards and NFPA 72 Fire Alarm Systems requirements.

- **UL 864:** Control Units for Fire Alarm Systems, Ninth Edition
- **UL 2017:** General-Purpose Signaling Devices and Systems, First Edition
- **CAN/ULC-S527-99:** Standard for Control Units for Fire Alarm Systems, Second Edition
- **CAN/ULC-S559-04:** Equipment for Fire Signal Receiving Centres and Systems, First Edition

Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635
- **CSFM:** 7300-0028:250
- **FDNY:** COA#6047

System Architecture & Requirements

An Internet or Intranet IP network connection is required to configure the Modbus Gateway, and to connect it with Modbus clients. The Internet or Intranet IP network connection must meet the following requirements.

- Private of Business LAN
- Static IP address required
- Standard 100Base-T connection
- Required Ports(s): 502

REQUIRED EQUIPMENT

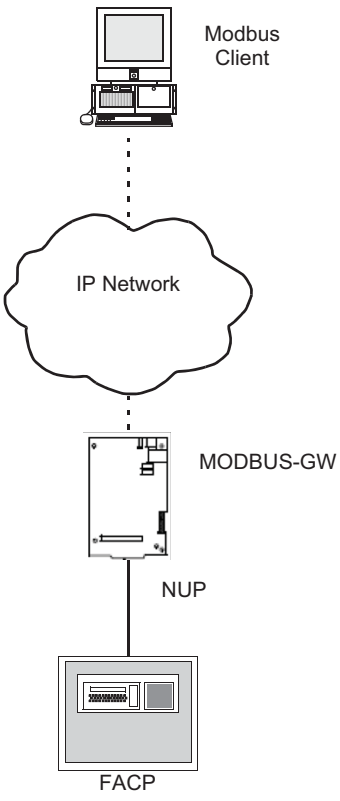
- MODBUS-GW-NFN Modbus Embedded Gateway.
- Network Control Module
- NFN Network - Version 5.0 or above

NETWORK COMPONENTS

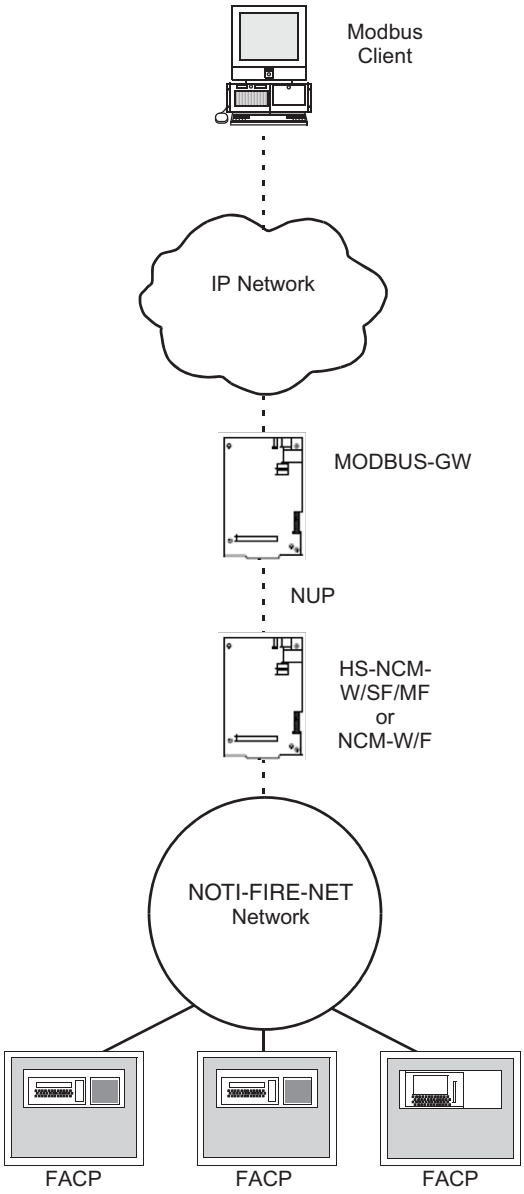
- RJ45 to RJ45 standard Ethernet network cable-customer's internet or intranet connection to Modbus Gateway
- NFN network-version 5.0 or above (sold separately)
- High Speed Network Communication Module: HS-NCM-W/SF/MF board-used to facilitate network communication between the Modbus Gateway and a High Speed NFN network or Network Communication Module: NCM-W/F board-used to facilitate network communication between the Modbus Gateway and an NFN network.
- Cabinet and Hardware (sold separately)
  - CAB-4 series cabinet.
  - CHS-4L chassis.

CUSTOMER SUPPLIED EQUIPMENT

- Windows XP Professional with Internet Explorer running Java version 6 or higher



Sample System: Modbus Gateway Direct to Fire Alarm Control Panel



Sample System: Modbus Gateway on NOTI-FIRE-NET Network

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NOTIFIER® by Honeywell

N-ANN-80 80-Character Serial LCD Annunciator

General

The N-ANN-80 annunciator is a compact, backlit, 80-character LCD fire annunciator that mimics the Fire Alarm Control Panel (FACP) display. It provides system status indicators for AC Power, Alarm, Trouble, Supervisory, and Alarm Silenced conditions. The N-ANN-80 and the FACP communicate over a two-wire serial interface employing the ANN-Bus communication format. Connected devices are powered, via two additional wires, by either the host FACP or a remote UL-listed, filtered power supply. The N-ANN-80 is black; for white order N-ANN-80-W.

The N-ANN-80 displays English-language text of system point information including device type, zone, independent point alarm, trouble or supervisory status, as well as any custom alpha labels programmed into the control panel. It includes control switches for remote control of critical system functions. (A keyswitch prevents unauthorized operation of the control switches.)

Up to eight N-ANN-80s may be connected to the ANN-Bus of each FACP. Minimal programming is required, which saves time during system commissioning. The N-ANN-80 is compatible with NOTIFIER FACPs with an ANN-Bus, such as the NFW-50X.

Features

- Listed to UL Standard 864, 9th Edition
- Backlit 80-character LCD display (20 characters x 4 lines)
- Mimics all display information from the host panel
- Control switches for System Acknowledge, Signal Silence, Drill, and Reset
- Control switches can be independently enabled or disabled at the FACP
- Keyswitch enables/disables control switches and mechanically locks annunciator enclosure
- Keyswitch can be enabled or disabled at the FACP
- Enclosure supervised for tamper
- System status LEDs for AC Power, Alarm, Trouble, Supervisory, and Alarm Silence
- Local sounder can be enabled or disabled at the FACP
- N-ANN-80 connects to the ANN-Bus terminal on the FACP and requires minimal panel programming
- Displays device type identifiers, individual point alarm, trouble, supervisory, zone, and custom alpha labels
- Time-and date display field
- Surface mount directly to wall or to single, double, or 4" square electrical box
- Semi-flush mount to single, double, or 4" square electrical box. Use ANN-SB80KIT for angled view mounting
- Can be remotely located up to 6,000 feet (1,800 m) from the panel
- Backlight turns off during AC loss to conserve battery power but will turn back on if an alarm condition occurs
- May be powered by 24 VDC from the host FACP or by remote power supply (requires 24 VDC)
- Up to eight N-ANN-80s can be connected on the ANN-Bus

Controls and Indicators

- AC Power
- Alarm
- Trouble
- Supervisory
- Alarm Silenced

Specifications

- **Operating voltage range:** 18 VDC to 28 VDC
- **Current consumption @** 24 VDC nominal (filtered and non-resettable): 40 mA maximum
- **Ambient temperature:** 32°F to 120°F (0°C to 49°C)
- **Relative humidity:** 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F)
- 5.375” (13.65 cm.) high x 6.875” (17.46 cm.) wide x 1.375” (3.49 cm.) deep
- For use indoors in a dry location
- All connections are power-limited and supervised

The ANN-Bus

POWERING THE DEVICES ON THE ANN-BUS FROM AUXILIARY POWER SUPPLY

The ANN-Bus can be powered by an auxiliary power supply when the maximum number of ANN-Bus devices exceeds the ANN-Bus power requirements. See the FACP manual for more information.

ANN-BUS DEVICE ADDRESSING

Each ANN-Bus device requires a unique address (ID Number) in order to communicate with the FACP. A maximum of 8 devices can be connected to the FACP ANN-Bus communication circuit. See the FACP manual for more information.

WIRE REQUIREMENTS: COMMUNICATIONS CIRCUIT

The N-ANN-80 connects to the FACP ANN-Bus communications circuit. To determine the type of wire and the maximum wiring distance that can be used with FACP ANN-Bus accessory modules, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw is calculated by adding the individual worst case currents for each module.

NOTE: *For total worst case current draw on a single ANN-Bus refer to appropriate FACP manual.*

WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 - 2.08 mm^2) wire for 24 VDC power circuit is acceptable.
- All connections are power-limited and supervised.
- A maximum of eight N-ANN-80 modules may be connected to this circuit.

Ordering Options:

N-ANN-80: Black 80 character LCD Annunciator.

N-ANN-80-W: White, 80 character LCD Annunciator.

ANN-SB80KIT-B: Black surface mount backbox with angled wedge.

ANN-SB80KIT-W: White surface mount backbox with angled wedge.

Agency Listings and Approvals

The listings and approvals below apply to the N-ANN-80. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7120-0028:0240
- **MEA:** 442-06-E Vol. 2

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QUALITY SYSTEMS

Country of Origin: USA

NOTIFIER® by Honeywell

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N-ANN-80 80-Character Serial LCD Annunciator

General

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The N-ANN-80 displays English-language text of system point information including device type, zone, independent point alarm, trouble or supervisory status, as well as any custom alpha labels programmed into the control panel. It includes control switches for remote control of critical system functions. (A keyswitch prevents unauthorized operation of the control switches.)

Up to eight N-ANN-80s may be connected to the ANN-Bus of each FACP. Minimal programming is required, which saves time during system commissioning. The N-ANN-80 is compatible with NOTIFIER FACPs with an ANN-Bus, such as the NFW-50X.

Features

- Listed to UL Standard 864, 9th Edition
- Backlit 80-character LCD display (20 characters x 4 lines)
- Mimics all display information from the host panel
- Control switches for System Acknowledge, Signal Silence, Drill, and Reset
- Control switches can be independently enabled or disabled at the FACP
- Keyswitch enables/disables control switches and mechanically locks annunciator enclosure
- Keyswitch can be enabled or disabled at the FACP
- Enclosure supervised for tamper
- System status LEDs for AC Power, Alarm, Trouble, Supervisory, and Alarm Silence
- Local sounder can be enabled or disabled at the FACP
- N-ANN-80 connects to the ANN-Bus terminal on the FACP and requires minimal panel programming
- Displays device type identifiers, individual point alarm, trouble, supervisory, zone, and custom alpha labels
- Time-and date display field
- Surface mount directly to wall or to single, double, or 4" square electrical box
- Semi-flush mount to single, double, or 4" square electrical box. Use ANN-SB80KIT for angled view mounting
- Can be remotely located up to 6,000 feet (1,800 m) from the panel
- Backlight turns off during AC loss to conserve battery power but will turn back on if an alarm condition occurs
- May be powered by 24 VDC from the host FACP or by remote power supply (requires 24 VDC)
- Up to eight N-ANN-80s can be connected on the ANN-Bus

Controls and Indicators

- AC Power
- Alarm
- Trouble
- Supervisory
- Alarm Silenced

Specifications

- **Operating voltage range:** 18 VDC to 28 VDC
- **Current consumption @** 24 VDC nominal (filtered and non-resettable): 40 mA maximum
- **Ambient temperature:** 32°F to 120°F (0°C to 49°C)
- **Relative humidity:** 93% ± 2% RH (non-condensing) at 32°C ± 2°C (90°F ± 3°F)
- 5.375” (13.65 cm.) high x 6.875” (17.46 cm.) wide x 1.375” (3.49 cm.) deep
- For use indoors in a dry location
- All connections are power-limited and supervised

The ANN-Bus

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The ANN-Bus can be powered by an auxiliary power supply when the maximum number of ANN-Bus devices exceeds the ANN-Bus power requirements. See the FACP manual for more information.

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Each ANN-Bus device requires a unique address (ID Number) in order to communicate with the FACP. A maximum of 8 devices can be connected to the FACP ANN-Bus communication circuit. See the FACP manual for more information.

WIRE REQUIREMENTS: COMMUNICATIONS CIRCUIT

The N-ANN-80 connects to the FACP ANN-Bus communications circuit. To determine the type of wire and the maximum wiring distance that can be used with FACP ANN-Bus accessory modules, it is necessary to calculate the total worst case current draw for all modules on a single 4-conductor bus. The total worst case current draw is calculated by adding the individual worst case currents for each module.

NOTE: *For total worst case current draw on a single ANN-Bus refer to appropriate FACP manual.*

WIRE REQUIREMENTS: POWER CIRCUIT

- 14 to 18 AWG (0.75 - 2.08 mm^2) wire for 24 VDC power circuit is acceptable.
- All connections are power-limited and supervised.
- A maximum of eight N-ANN-80 modules may be connected to this circuit.

Ordering Options:

N-ANN-80: Black 80 character LCD Annunciator.

N-ANN-80-W: White, 80 character LCD Annunciator.

ANN-SB80KIT-B: Black surface mount backbox with angled wedge.

ANN-SB80KIT-W: White surface mount backbox with angled wedge.

Agency Listings and Approvals

The listings and approvals below apply to the N-ANN-80. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7120-0028:0240
- **MEA:** 442-06-E Vol. 2

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ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

Country of Origin: USA

NOTIFIER® by Honeywell

NBG-12LR and NBG-12LRA

Dual-Action Agent Release Stations

NOTIFIER® by Honeywell

Releasing Panels

General

The NBG-12LR and NBG-12LRA are Agent Release Stations designed for use with NOTIFIER Fire Alarm Control Panels with releasing capabilities.

Features

- Non-coded, dual-action operation.
- Made with durable polycarbonate.
- Optional surface backbox.

NBG-12LRA

- Abort switch.
- Power-on indication.
- Released indication.
- Manual release (dual-action).

NBG-12LR

- Dual-action release only.

Applications

The NBG-12LRA and NBG-12LR are ideal for areas such as clean rooms and computer rooms where a chemical agent is used to extinguish a fire.

Specifications

- **Temperature Range:** 32°F to 120°F (0°C to 49°C).
- **Relative Humidity:** 10% to 93% (noncondensing).
- **For use indoors in a dry location.**

Product Line Information

NBG-12LRA: Agent release station with abort switch, Release LED, and Normal LED.

NBG-12LR: Dual-action agent release station.

SBA-10: Surface backbox for NBG-12LRA, metal. Dimensions 4.5” (11.43 cm) W x 8.188” (20.8 cm) L x 1.375” (3.49 cm) D.

SB-10: Surface backbox for NBG-12LR, metal. Dimensions 4.125” (10.48 cm) W x 5.5” (13.97 cm) L x 1.375” (3.49 cm) D.

SB-I/O: Surface backbox for NBG-12LR, plastic.

BG12TR: Optional trim ring for semi-flush mounting.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in progress. *Consult factory for latest listing status.*

- **UL/ULC Listed:** S692.
- **MEA Listed:** 67-20-E.
- **FM Approved.**
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA#6114 (NFS2-3030), COA#6121 (NFS2-640, NFS-320).
- **U.S. Coast Guard, Lloyd’s Register, American Bureau of Shipping (ABS):** For information on marine applications, see DN-60688.

Dual Action NBG-12LR

Dual Action NBG-12LRA

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www.notifier.com

NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier NBG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface for any Notifier intelligent control panel except FireWarden series panels, and the NSP-25 panel. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word “ACTIVATED” appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375 µA.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

The NBG-12LX
Addressable Manual Pull Station

Installation

The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word “ACTIVATED” (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or

4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

Product Line Information

NBG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17021: Keys, set of two.

NY-Plate: New York City trim plate.

Agency Listings and Approvals

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

CONTROL FIRE SYSTEMS.COM

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Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NBG-12 Series

Non-Coded Conventional Manual Fire Alarm Pull Stations

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The NOTIFIER **NBG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The NBG-12 Series features a variety of models including single- and dual-action versions.

The NBG-12 Series provides an alarm initiating input signal to conventional fire alarm control panels (FACPs) such as the SFP Series, and to XP Transponders. Its innovative design, durable construction, and multiple mounting options make the NBG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word “ACTIVATED” appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words “NORMAL” and “ACTIVATED” are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions *(FUEGO)* available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.

6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor’s popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word “ACTIVATED” appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station’s front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station’s front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

pull station		SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

6643dim2.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: *******The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.*

Pre-Signal Models

The **NBG-12LPS** and **NBG-12LPSP** pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. *See diagram at right.*

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved *(except NBG-12LPS, NBG-12LPSP)*.
- **MEA** approved: file 67-02-E *(NBG-12, NBG-12L, NBG-12LOB, NBG-12LA)*.
- **Lloyd's Register** type approved: file 93/60141 (E3) *(NBG-12, NBG-12L, NBG-12LA, NBG-12LOB, NBG-12S)*.
- **U.S. Coast Guard** approved: files 161.002/23/3 *(AFP-200 with NBG-12, NBG-12L, NBG-12S)*; 161.002/42/1 *(NFS-640 with NBG-12, NBG-12L, NBG-12S)*; 161.002/27/3 *(AFP1010/ AM2020 with NBG-12, NBG-12L, NBG-12S)*.
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

NBG-12S: Single-action pull station with pigtail connections, hex lock.

NBG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, ***hex lock***.

NBG-12L: Dual-action pull station with SPST N/O switch, screw terminal connections, ***key lock***.

NBG-12LSP: Same as NBG-12L with English/Spanish *(FIRE/ FUEGO)* labeling.

NBG-12LPS: Dual-action pull station with pre-signal option.

NBG-12LPSP: Same as NBG-12LPS with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (**NBG-12LO**), and backbox. Includes **SB-I/O** indoor/outdoor backbox, and sealing gasket. Model will also mount to **WP-10** weatherproof backbox in retrofit applications.

NOTE: *NBG-12LO not available separately;*
NBG-12LO + approved backbox = NBG-12LOB.
Outdoor applications listings apply to NBG-12LOB combination.

NBG-12LA: Dual-action pull station with key lock and annunciator contacts.

SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. *(Included with NBG-12LOB.)*

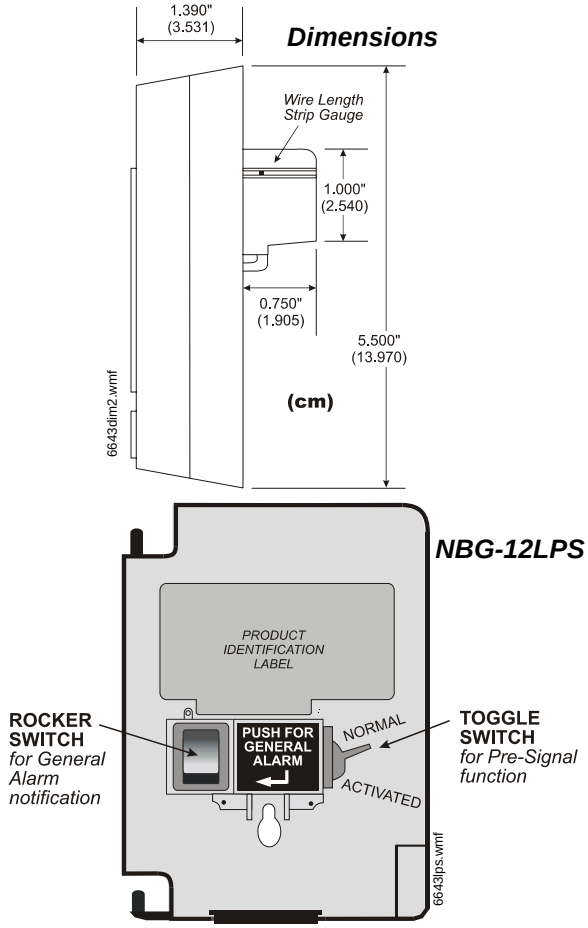
BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

17021: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex key, 9/64". (Included with hex-lock pull stations.)

NOTE: *For addressable NBG-12LX models, see data sheet DN-6726.*



ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier NBG-12LX is a state-of-the-art, dual-action (i.e., requires two motions to activate the station) pull station that includes an addressable interface for any Notifier intelligent control panel except FireWarden series panels, and the NSP-25 panel. Because the NBG-12LX is addressable, the control panel can display the exact location of the activated manual station. This leads fire personnel quickly to the location of the alarm.

Features

- Maintenance personnel can open station for inspection and address setting without causing an alarm condition.
- Built-in bicolor LED, which is visible through the handle of the station, flashes in normal operation and latches steady red when in alarm.
- Handle latches in down position and the word “ACTIVATED” appears to clearly indicate the station has been operated.
- Captive screw terminals wire-ready for easy connection to SLC loop (accepts up to 12 AWG/3.25 mm² wire).
- Can be surface mounted (with SB-10 or SB-I/O) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Smooth dual-action design.
- Meets ADAAG controls and operating mechanisms guidelines (Section 4.1.3[13]); meets ADA requirement for 5 lb. maximum activation force.
- Highly visible.
- Attractive shape and textured finish.
- Key reset.
- Includes Braille text on station handle.
- Optional trim ring (BG12TR).
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Up to 99 NBG-12LX stations per loop on CLIP protocol loops.
- Up to 159 NBG-12LX stations per loop on FlashScan® protocol loops.
- Dual-color LED blinks green to indicate normal on FlashScan® systems.

Construction

Shell, door, and handle are molded of durable polycarbonate material with a textured finish.

Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
- **Normal operating voltage:** 24 VDC.
- **Maximum SLC loop voltage:** 28.0 VDC.
- **Maximum SLC standby current:** 375 µA.
- **Maximum SLC alarm current:** 5 mA.
- **Temperature Range:** 32°F to 120°F (0°C to 49°C)
- **Relative Humidity:** 10% to 93% (noncondensing)
- **For use indoors in a dry location**

The NBG-12LX
Addressable Manual Pull Station

Installation

The NBG-12LX will mount semi-flush into a single-gang, double-gang, or standard 4" (10.16 cm) square electrical outlet box, or will surface mount to the model SB-10 or SB-I/O surface backbox. If the NBG-12LX is being semi-flush mounted, then the optional trim ring (BG12TR) may be used. The BG12TR is usually needed for semi-flush mounting with 4" (10.16 cm) or double-gang boxes (not with single-gang boxes).

Operation

Pushing in, then pulling down on the handle causes it to latch in the down/activated position. Once latched, the word “ACTIVATED” (in bright yellow) appears at the top of the handle, while a portion of the handle protrudes from the bottom of the station. To reset the station, simply unlock the station with the key and pull the door open. This action resets the handle; closing the door automatically resets the switch.

Each manual station, on command from the control panel, sends data to the panel representing the state of the manual switch. Two rotary decimal switches allow address settings (1 – 159 on FlashScan® systems, 1 – 99 on CLIP systems).

Architectural/Engineering Specifications

Manual Fire Alarm Stations shall be non-coded, with a key-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red-colored polycarbonate material with clearly visible operating instructions provided on the cover. The word FIRE shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger. Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or

4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

Manual stations shall connect with two wires to one of the control panel SLC loops. The manual station shall, on command from the control panel, send data to the panel representing the state of the manual switch. Manual stations shall provide address setting by use of rotary decimal switches.

The loop poll LED shall be clearly visible through the front of the station. The LED shall flash while in the normal condition, and stay steadily illuminated when in alarm.

Product Line Information

NBG-12LX: Dual-action addressable pull station. Includes key locking feature. (Listed for Canadian and non-Canadian applications.)

NBG-12LXSP: Spanish/English labelled version.

NBG-12LXP: Portuguese labelled version.

SB-10: Surface backbox; metal.

SB-I/O: Surface backbox; plastic.

BG12TR: Optional trim ring.

17021: Keys, set of two.

NY-Plate: New York City trim plate.

Agency Listings and Approvals

In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S692 (listed for Canadian and non-Canadian applications).
- **MEA:** 67-02-E.
- **CSFM:** 7150-0028:0199.
- **FDNY:** COA #6085 (NFS2-640), COA #6098 (NFS2-3030).
- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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NBG-12LX

Addressable Manual Pull Station

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

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Specifications

- **Shipping Weight:** 9.6 oz. (272.15 g)
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- **For use indoors in a dry location**

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- **BSMI:** CI313066760047.
- **U.S. Coast Guard.**
- **Lloyd's Register.**
- **FM Approved.**

Patented: U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

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www.notifier.com

NFS2-3030

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

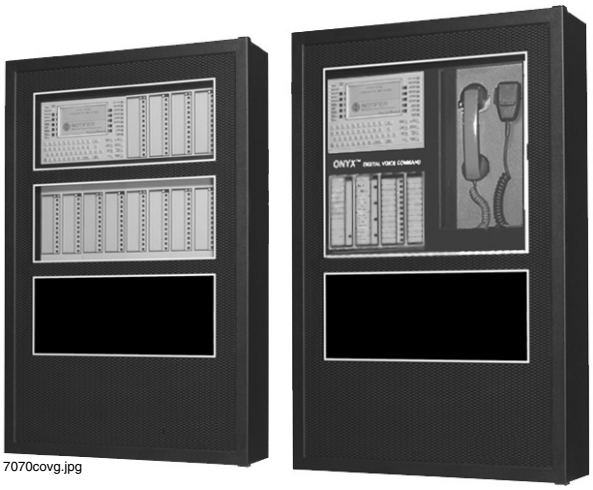
Intelligent Fire Alarm Control Panels

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel (FACP) designed for medium- to large-scale facilities. Fire emergency detection and evacuation are extremely critical to life safety, and the NFS2-3030 is ideally suited for these applications. The NFS2-3030 is part of the ONYX® Series of products from NOTIFIER. The NFS2-3030 is ideal for virtually any application because it features a modular design that is configured per project requirements. With one to ten Signaling Line Circuits (SLCs), the NFS2-3030 supports up to 3,180 intelligent addressable devices.

Information is critical to fire evacuation personnel, and the NFS2-3030's large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.



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NFS2-3030 (left)
and NFS2-3030 with DVC audio option (right)

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when a marine-listed version is used with marine-listed compatible equipment. *See DN-60688.*
- Complies with UL 2572 Mass Notification Systems (NFS2-3030 version 20 or higher).
- One to ten isolated intelligent Signaling Line Circuits (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/3,180 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Large 16 line, 640 character LCD backlit display or use display-less as a network node.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the central processing unit (CPU) fails.
- Weekly Occupancy Schedules allow changing sensitivity by time of day and day of week.
- EIA-485 annunciators, including custom graphics.
- History file with 4000-event capacity in nonvolatile memory, plus separate 1000-event alarm-only file.
- Advanced history filters allow sorting by event, time, date, or address.
- Alarm Verification selection per point, with automatic counter.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- Positive Alarm Sequence (PAS) Presignal.
- Silence Inhibit and Auto Silence timer options.
- Field-programmable on panel or on PC, with VeriFire Tools program, also check, compare.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Up to 1000 powerful Boolean logic equations.
- Supports SCS Series smoke control system in both HVAC and FSCS modes.
- FM6320 approved Gas Detection System with FMM-4-20 module and any FM listed gas detector.
- EIA-232 printer port.
- EIA-485 annunciator port.

640-Character Display Features

- Backlit, 640-character display.
- Program keypad: full QWERTY keypad.
- Up to nine users, each with a password and selectable access levels.
- **11 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Other Event; Signals Silenced; Point Disabled; CPU Failure; Controls Active.
- **Membrane Switch Controls:** Acknowledge; Signal Silence; Drill; System Reset; Lamp Test.
- **LCD Display:** 640 characters (16 lines x 40 characters) with long-life LED backlight.

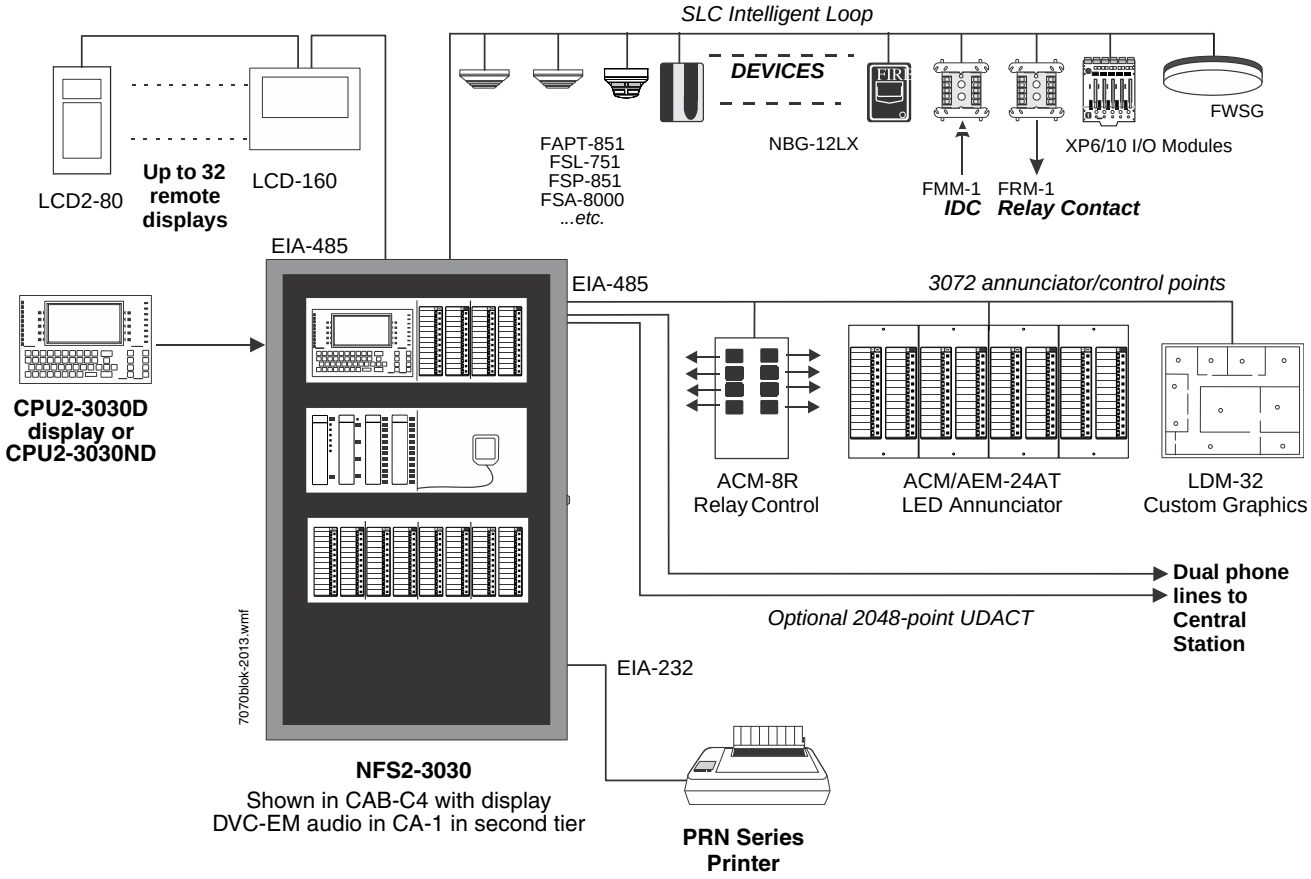
FlashScan® Intelligent Features

- Polls up to 318 devices on each loop in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Sensitivity levels:
  - **– Ion –** 0.5 to 2.5%/foot obscuration.
  - **– Photo –** 0.5 to 2.35%/foot obscuration.
  - **– Laser (VIEW®) –** 0.02 to 2.0%/foot obscuration.
  - **– Acclimate Plus™ –** 0.5 to 4.0%/foot obscuration.
  - **– IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **– IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.
- Programmable activation of sounder/relay bases during alarm or pre-alarm.
- Read Status displays the level of detector cleanliness.

FSL-751 VIEW® (Very Intelligent Early Warning) Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

Sample System Options



NOTE: *CPU2-3030 firmware version 14.0 (and higher) can support LCD-160 on the RDP port, or LCD2-80 in terminal mode, but not both at the same time.*

FAPT-851 ACCLIMATE PLUS™ LOW-PROFILE INTELLIGENT MULTI-SENSOR

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD

ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.
- FSA-20000P covers 28,800 square feet through one to four addressable pipes. Supports addressable pipes to pinpoint location of alarm events.

FCO-851 INTELLIQUAD™ PLUS

ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

FMM-4-20 GAS DETECTION MODULE

- Interface to industry-standard linear scale 4-20 mA sensors.
- Five programmable thresholds.
- FM Approved, Class 6320 (Stationary Gas Sensors/ Detectors).

SWIFT WIRELESS

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).

VOICE AND TELEPHONE FEATURES

- Up to eight channels of digital audio.
- 35 watt, 50 watt, 75 watt, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series).
- Solid state message generation.
- Hard-wired voice control module options.
- Firefighter telephone option.
- 30- to 120-watt analog amplifiers (AA Series).
- Backup tone generator and amplifier option.

FlashScan® Exclusive World-Leading Detector Protocol

At the heart of the NFS2-3030 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

As well as giving quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-3030 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan® detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

ONYX Intelligent Sensing is a set of software algorithms that provide the NFS2-3030 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the very high-speed microcomputer used by the NFS2-3030.

Drift Compensation and Smoothing. Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, usually caused by electrical interference.

Maintenance Warnings. When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust. Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm. Each detector may be set for “Self-Optimizing” pre-alarm. In this special mode, the detector “learns” its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing. A patented feature of ONYX Intelligent Sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit. The NFS2-3030, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-3030 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-3030 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows® based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-3030 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On single-FACP systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

Main System Components

CPU2-3030D: NFS2-3030 Primary Display. CPU2-3030D ships with keypad/display installed; includes 640-character backlit LCD display, QWERTY programming and control keypad. CPU2-3030 is a central processing unit and requires an AMPS-24(E) power supply. For English ULC applications, use CPU2-3030DC. Non-English versions are available: CPU2-3030D-FR, CPU2-3030D-HE, CPU2-3030D-KO, CPU2-3030D-PO, CPU2-3030D-SC, CPU2-3030D-SP, CPU2-3030D-TC, and CPU2-3030D-TH. For English Marine applications order CPU2-3030D-M; for non-English Marine applications order CPU2-3030D-M and the appropriate KP-KIT-XX. (See DN-60688.)

CPU2-3030ND: CPU2-3030 without display. Non-English versions are available: CPU2-3030ND-FR, CPU2-3030ND-HE, CPU2-3030ND-KO, CPU2-3030ND-PO, CPU2-3030ND-SC, CPU2-3030ND-SP, CPU2-3030ND-TC.

LCM-320: Loop Control Module. Provides one SLC. NFS2-3030 supports up to five LCM-320s and five LEM-320 expanders for a total of ten SLCs. *See DN-6881.*

LEM-320: Loop Expander Module. Expands an LCM-320. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop* NFS2-3030 *with display:* CPU2-3030*D, DP-DISP, two BMP-1s, CHS-M3, two LCM-320s, two LEM-320s, AMPS-24, SBB-A4,* DR-A4*, BP2-4, BB-100, batteries.*

Networking Options

NCA-2: Network Control Annunciator, 640 characters. An alternate primary display for CPU2-3030 can be provided by the NCA-2, NCS, or ONYXWorks. Using NCA-2 as primary display enables non-English languages. On network systems (two or more networked fire panel nodes), one network display (either NCA-2, NCS, or ONYXWorks) is required for every system. On network systems, the NCA-2 connects (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP and two BMP-1 blank modules are required for mounting. Non-English versions are available: NCA-2-FR, NCA-2-HE, NCA-2-KO, NCA-2-PO, NCA-2-SC, NCA-2-SP, NCA-2-TC, NCA-2-TH. For English ULC applications, order NCA-2C; for marine applications, order NCA-2-M; for non-English marine applications order NCA-2-M and appropriate KP-KIT-XX. *See DN-7047.*

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861*.

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971*.

ONYXWorks: UL-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

AMPS-24(E): One required for each NFS2-3030. Addressable power supply and battery charger with two 24 VDC outputs. Addressable by any FlashScan® or CLIP mode FACP. Charges 7 to 200 AH batteries. Occupies up to five addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and

transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952*.

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

FCPS-24S6/-24S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. AMPS-24 uses two 12 volt, 7 to 200 AH batteries. *See DN-6933*.

Audio Options

NOTE: *See "Enclosures, Chassis, and Dress Plates" on page 6 for mounting hardware.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045*.

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAA2/DAX Series amplifiers. *See DN-60633.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Microphone used with DVC/DVC-EM. Included with CA-2 chassis assembly. *See DN-7045.*

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier. AA-120 is 120 watts, 25 Vrms. AA-100 is 100 watts, 70.7 Vrms. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. *See DN-60897*

VS4095/5: Printer, 40-column, 24 V. Order from Keltron, Inc. *See DN-3260*.

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT; expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862*.

ACM-48A: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A; expands the ACM-48A to 96 points. *See DN-6862*.

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558*.

LCD-160: Liquid Crystal Display annunciator, 160-character backlit. Can store character sets for multiple languages. LCD-160C is used for ULC applications. *See DN-6940.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See LCD2-80 (DN-60548).*

SCS Series: Smoke control station; eight (expandable to 16) circuits. *See DN-4818*.

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (as in single-address mode applications) or in CHS-M3 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686*.

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs *(requires optional programming kit)*. Mounts on a CHS-4 series chassis within NFS2-3030.

Compatible Intelligent Devices

NOTE: "A" suffix indicates ULC-Listed model.

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792.*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6985.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851R(A): Low-profile intelligent photoelectric sensor, remote test capable. For use with DNR(W). *See DN-6935.*

FSP-851T(A): Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FST-851(A):: FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus™ low-profile multisensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW® laser photo detector. *See DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851 separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SCOA: Based on B200SA, with added CO detector markings in English/French. For Canadian applications only.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1(A):: FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FMM-4-20: FlashScan 4-20 mA protocol monitor module. *See DN-60411.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. *See DN-6989.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-3030 mounts in a standard CAB-4 Series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered separately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. *See DN-60229.*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Order CPU2-3030D-M; for non-English marine applications order CPU2-3030D and appropriate KP-KIT-XX. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

CHS-M3: Mounting chassis for CPU2-3030. One required for each CPU2-3030D/3030ND.

CA-2: Chassis for FACP control panel when DVC-EM is used with firefighter's telephone. Mounts in the top two rows of a CAB-4 series enclosure.

DP-DISP: Dress panel for top row in cabinet with CPU2-3030D installed.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier. *See DN-7046.*

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts on the left side of DAA2 chassis. *See DN-7046.*

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted

on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

ADDR-B4: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4: Three-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2: Dress Panel used with the CA-2 chassis assembly.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

ADP-4B: Annunciator dress plate. Mounts in rows 2, 3 or 4 of a CAB-4 series enclosure. Used with ACS series annunciators.

BMP-1: Blank module for unused module positions.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

BP2-4: Battery plate, required.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers.

CHS-4N: Chassis for mounting up to four APS-6Rs.

CHS-6: Chassis used with the XP6 and XP10 Multi-Modules. Mounts up to six modules in any CAB-4 series row.

NFS-LBB: Battery Box. The NFS-LBB is used to mount up to two 55 AH batteries. Dimensions: Box: 24" (610 mm) wide x 14" (356 mm) high x 7.75" (197 mm) deep. Door: 24.125" (613 mm) wide x 14.25" (362 mm) high; door adds 0.0625" (approx. 1.6 mm) to depth.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

BB-100: Backbox for batteries and power supplies. The BB-100 is used to mount up to two 100 AH batteries and power supply, if needed. 30" (76.20 cm) wide x 25" (63.50 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-200: Backbox for batteries and power supplies. Holds up to four 100 AH batteries (200 AH capacity) and power supply. 30" (76.20 cm) wide x 36" (91.44 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-UZC: Backbox for housing the UZC-256 for applications where the UZC will not fit in panel enclosure. Black; for red, order BB-UZC-R. *See DN-3404.*

ABF-1B(C) Annunciator Flush Box

ABF-1DB(C) Annunciator Flush Box with Door. UL/ULC Listed.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

OTHER OPTIONS

411: Slave digital alarm communicator. *See DN-6619.*

411UDAC: Digital alarm communicator. *See DN-6746.*

IPDACT-2, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red; for black, order IPENC-B.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. *See DH-60769.*

***NOTE:** For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

SYSTEM CAPACITY

- Intelligent Signaling Line Circuits .....1 expandable to 10
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules ..... 159 per loop
- Programmable software zones..... over 2000
- ACS annunciators
  per CPU2-3030 .....32 address x 64 or 96 points
  ***NOTE:** The CPU2-3030 can support up to 96 annunciator address points per ACM-24AT/-48A.*

SPECIFICATIONS

Primary Input Power:

– AMPS-24: 110-120 VAC, 50/60 Hz, 4.5 A maximum.

– AMPS-24E: 240 VAC, 50/60 Hz, 2.25 A maximum.

DC Output:

– Main 24 VDC: Up to 5.0 A

– Aux 24 VDC: Up to 5.0 A

– 5 VDC: Up to 0.15 A.

Current draw (Standby/Alarm):

– CPU2-3030D board: 0.340 A.

– CPU2-3030ND board: 0.120 A.

– LCM-320: 0.130 A.

– LEM-320: 0.100 A.

– AMPS-24(E)*: 0.13 A.
(Draws power from secondary power source only.)

NOTE: *See AMPS-24(E) Manual 51907 for a complete current draw calculation sheet and details of input and output values.*

Battery charger range: 7 AH – 200 AH. Use separate cabinet for batteries over 26 AH.

Float Rate: 27.6 V.

Shipping Weight

- CPU2-3030D: 5.95 lb (2.70 kg).
- CPU2-3030ND: 2.90 lb (1.32 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635.
- **ULC Listed:** S527-11.
- **MEA:** 232-06-E.
- **Fire Dept. of New York:** COA#6211.
- **CSFM:** 7165-0028:0224 (Commercial).
- **FM Approved.**
- **FM6320 Approved.** Class 6320 for Gas Detection.
- **City of Chicago.**
- **City of Denver.**
- **Singapore Productivity and Standards Board (PSB).**
- **CCCF listed.**
- **Fire Services Department (Hong Kong).**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in “Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-3030 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-3030 version 20 or higher)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS2-3030

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

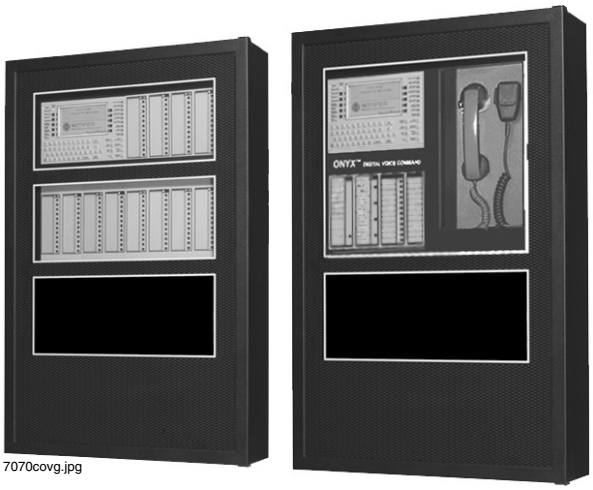
Intelligent Fire Alarm Control Panels

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel (FACP) designed for medium- to large-scale facilities. Fire emergency detection and evacuation are extremely critical to life safety, and the NFS2-3030 is ideally suited for these applications. The NFS2-3030 is part of the ONYX® Series of products from NOTIFIER. The NFS2-3030 is ideal for virtually any application because it features a modular design that is configured per project requirements. With one to ten Signaling Line Circuits (SLCs), the NFS2-3030 supports up to 3,180 intelligent addressable devices.

Information is critical to fire evacuation personnel, and the NFS2-3030's large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.



7070covg.jpg

NFS2-3030 (left)
and NFS2-3030 with DVC audio option (right)

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when a marine-listed version is used with marine-listed compatible equipment. *See DN-60688.*
- Complies with UL 2572 Mass Notification Systems (NFS2-3030 version 20 or higher).
- One to ten isolated intelligent Signaling Line Circuits (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/3,180 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Large 16 line, 640 character LCD backlit display or use display-less as a network node.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the central processing unit (CPU) fails.
- Weekly Occupancy Schedules allow changing sensitivity by time of day and day of week.
- EIA-485 annunciators, including custom graphics.
- History file with 4000-event capacity in nonvolatile memory, plus separate 1000-event alarm-only file.
- Advanced history filters allow sorting by event, time, date, or address.
- Alarm Verification selection per point, with automatic counter.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- Positive Alarm Sequence (PAS) Presignal.
- Silence Inhibit and Auto Silence timer options.
- Field-programmable on panel or on PC, with VeriFire Tools program, also check, compare.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Up to 1000 powerful Boolean logic equations.
- Supports SCS Series smoke control system in both HVAC and FSCS modes.
- FM6320 approved Gas Detection System with FMM-4-20 module and any FM listed gas detector.
- EIA-232 printer port.
- EIA-485 annunciator port.

640-Character Display Features

- Backlit, 640-character display.
- Program keypad: full QWERTY keypad.
- Up to nine users, each with a password and selectable access levels.
- **11 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Other Event; Signals Silenced; Point Disabled; CPU Failure; Controls Active.
- **Membrane Switch Controls:** Acknowledge; Signal Silence; Drill; System Reset; Lamp Test.
- **LCD Display:** 640 characters (16 lines x 40 characters) with long-life LED backlight.

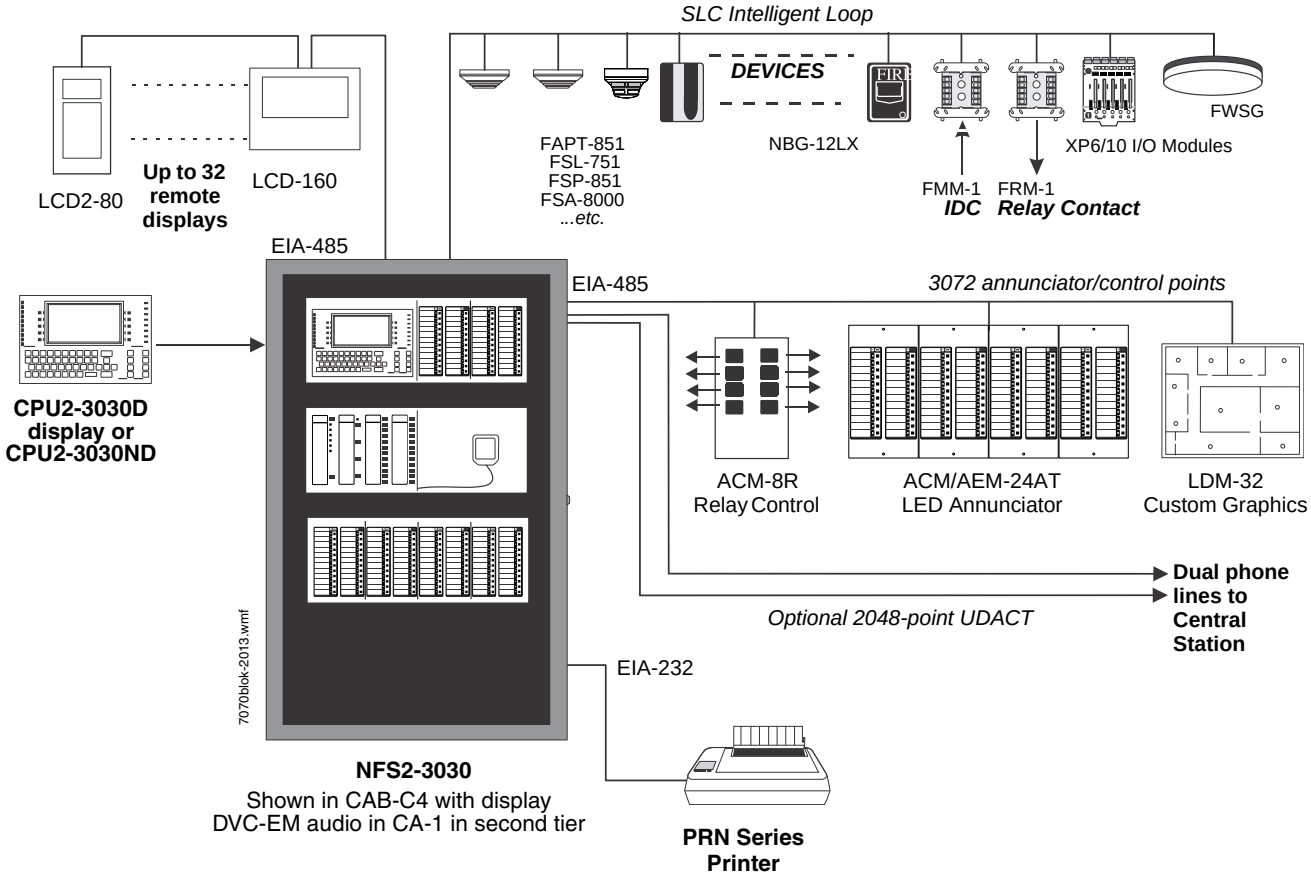
FlashScan® Intelligent Features

- Polls up to 318 devices on each loop in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Sensitivity levels:
  - **– Ion –** 0.5 to 2.5%/foot obscuration.
  - **– Photo –** 0.5 to 2.35%/foot obscuration.
  - **– Laser (VIEW®) –** 0.02 to 2.0%/foot obscuration.
  - **– Acclimate Plus™ –** 0.5 to 4.0%/foot obscuration.
  - **– IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **– IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.
- Programmable activation of sounder/relay bases during alarm or pre-alarm.
- Read Status displays the level of detector cleanliness.

FSL-751 VIEW® (Very Intelligent Early Warning) Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

Sample System Options



NOTE: *CPU2-3030 firmware version 14.0 (and higher) can support LCD-160 on the RDP port, or LCD2-80 in terminal mode, but not both at the same time.*

FAPT-851 ACCLIMATE PLUS™ LOW-PROFILE INTELLIGENT MULTI-SENSOR

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD

ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.
- FSA-20000P covers 28,800 square feet through one to four addressable pipes. Supports addressable pipes to pinpoint location of alarm events.

FCO-851 INTELLIQUAD™ PLUS

ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

FMM-4-20 GAS DETECTION MODULE

- Interface to industry-standard linear scale 4-20 mA sensors.
- Five programmable thresholds.
- FM Approved, Class 6320 (Stationary Gas Sensors/ Detectors).

SWIFT WIRELESS

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).

VOICE AND TELEPHONE FEATURES

- Up to eight channels of digital audio.
- 35 watt, 50 watt, 75 watt, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series).
- Solid state message generation.
- Hard-wired voice control module options.
- Firefighter telephone option.
- 30- to 120-watt analog amplifiers (AA Series).
- Backup tone generator and amplifier option.

FlashScan® Exclusive World-Leading Detector Protocol

At the heart of the NFS2-3030 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

As well as giving quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-3030 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan® detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

ONYX Intelligent Sensing is a set of software algorithms that provide the NFS2-3030 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the very high-speed microcomputer used by the NFS2-3030.

Drift Compensation and Smoothing. Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, usually caused by electrical interference.

Maintenance Warnings. When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust. Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm. Each detector may be set for “Self-Optimizing” pre-alarm. In this special mode, the detector “learns” its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing. A patented feature of ONYX Intelligent Sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit. The NFS2-3030, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-3030 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-3030 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows® based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-3030 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On single-FACP systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

Main System Components

CPU2-3030D: NFS2-3030 Primary Display. CPU2-3030D ships with keypad/display installed; includes 640-character backlit LCD display, QWERTY programming and control keypad. CPU2-3030 is a central processing unit and requires an AMPS-24(E) power supply. For English ULC applications, use CPU2-3030DC. Non-English versions are available: CPU2-3030D-FR, CPU2-3030D-HE, CPU2-3030D-KO, CPU2-3030D-PO, CPU2-3030D-SC, CPU2-3030D-SP, CPU2-3030D-TC, and CPU2-3030D-TH. For English Marine applications order CPU2-3030D-M; for non-English Marine applications order CPU2-3030D-M and the appropriate KP-KIT-XX. (See DN-60688.)

CPU2-3030ND: CPU2-3030 without display. Non-English versions are available: CPU2-3030ND-FR, CPU2-3030ND-HE, CPU2-3030ND-KO, CPU2-3030ND-PO, CPU2-3030ND-SC, CPU2-3030ND-SP, CPU2-3030ND-TC.

LCM-320: Loop Control Module. Provides one SLC. NFS2-3030 supports up to five LCM-320s and five LEM-320 expanders for a total of ten SLCs. *See DN-6881.*

LEM-320: Loop Expander Module. Expands an LCM-320. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop* NFS2-3030 *with display:* CPU2-3030*D, DP-DISP, two BMP-1s, CHS-M3, two LCM-320s, two LEM-320s, AMPS-24, SBB-A4,* DR-A4*, BP2-4, BB-100, batteries.*

Networking Options

NCA-2: Network Control Annunciator, 640 characters. An alternate primary display for CPU2-3030 can be provided by the NCA-2, NCS, or ONYXWorks. Using NCA-2 as primary display enables non-English languages. On network systems (two or more networked fire panel nodes), one network display (either NCA-2, NCS, or ONYXWorks) is required for every system. On network systems, the NCA-2 connects (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP and two BMP-1 blank modules are required for mounting. Non-English versions are available: NCA-2-FR, NCA-2-HE, NCA-2-KO, NCA-2-PO, NCA-2-SC, NCA-2-SP, NCA-2-TC, NCA-2-TH. For English ULC applications, order NCA-2C; for marine applications, order NCA-2-M; for non-English marine applications order NCA-2-M and appropriate KP-KIT-XX. *See DN-7047.*

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861*.

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971*.

ONYXWorks: UL-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

AMPS-24(E): One required for each NFS2-3030. Addressable power supply and battery charger with two 24 VDC outputs. Addressable by any FlashScan® or CLIP mode FACP. Charges 7 to 200 AH batteries. Occupies up to five addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and

transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952*.

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

FCPS-24S6/-24S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. AMPS-24 uses two 12 volt, 7 to 200 AH batteries. *See DN-6933*.

Audio Options

NOTE: *See "Enclosures, Chassis, and Dress Plates" on page 6 for mounting hardware.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045*.

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAA2/DAX Series amplifiers. *See DN-60633.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Microphone used with DVC/DVC-EM. Included with CA-2 chassis assembly. *See DN-7045.*

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier. AA-120 is 120 watts, 25 Vrms. AA-100 is 100 watts, 70.7 Vrms. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. *See DN-60897*

VS4095/5: Printer, 40-column, 24 V. Order from Keltron, Inc. *See DN-3260*.

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT; expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862*.

ACM-48A: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A; expands the ACM-48A to 96 points. *See DN-6862*.

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558*.

LCD-160: Liquid Crystal Display annunciator, 160-character backlit. Can store character sets for multiple languages. LCD-160C is used for ULC applications. *See DN-6940.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See LCD2-80 (DN-60548).*

SCS Series: Smoke control station; eight (expandable to 16) circuits. *See DN-4818*.

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (as in single-address mode applications) or in CHS-M3 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686*.

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs *(requires optional programming kit)*. Mounts on a CHS-4 series chassis within NFS2-3030.

Compatible Intelligent Devices

NOTE: "A" suffix indicates ULC-Listed model.

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792.*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6985.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851R(A): Low-profile intelligent photoelectric sensor, remote test capable. For use with DNR(W). *See DN-6935.*

FSP-851T(A): Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FST-851(A):: FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus™ low-profile multisensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW® laser photo detector. *See DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851 separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SCOA: Based on B200SA, with added CO detector markings in English/French. For Canadian applications only.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1(A):: FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FMM-4-20: FlashScan 4-20 mA protocol monitor module. *See DN-60411.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. *See DN-6989.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-3030 mounts in a standard CAB-4 Series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered separately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. *See DN-60229.*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Order CPU2-3030D-M; for non-English marine applications order CPU2-3030D and appropriate KP-KIT-XX. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

CHS-M3: Mounting chassis for CPU2-3030. One required for each CPU2-3030D/3030ND.

CA-2: Chassis for FACP control panel when DVC-EM is used with firefighter's telephone. Mounts in the top two rows of a CAB-4 series enclosure.

DP-DISP: Dress panel for top row in cabinet with CPU2-3030D installed.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier. *See DN-7046.*

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts on the left side of DAA2 chassis. *See DN-7046.*

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted

on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

ADDR-B4: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4: Three-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2: Dress Panel used with the CA-2 chassis assembly.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

ADP-4B: Annunciator dress plate. Mounts in rows 2, 3 or 4 of a CAB-4 series enclosure. Used with ACS series annunciators.

BMP-1: Blank module for unused module positions.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

BP2-4: Battery plate, required.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers.

CHS-4N: Chassis for mounting up to four APS-6Rs.

CHS-6: Chassis used with the XP6 and XP10 Multi-Modules. Mounts up to six modules in any CAB-4 series row.

NFS-LBB: Battery Box. The NFS-LBB is used to mount up to two 55 AH batteries. Dimensions: Box: 24" (610 mm) wide x 14" (356 mm) high x 7.75" (197 mm) deep. Door: 24.125" (613 mm) wide x 14.25" (362 mm) high; door adds 0.0625" (approx. 1.6 mm) to depth.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

BB-100: Backbox for batteries and power supplies. The BB-100 is used to mount up to two 100 AH batteries and power supply, if needed. 30" (76.20 cm) wide x 25" (63.50 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-200: Backbox for batteries and power supplies. Holds up to four 100 AH batteries (200 AH capacity) and power supply. 30" (76.20 cm) wide x 36" (91.44 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-UZC: Backbox for housing the UZC-256 for applications where the UZC will not fit in panel enclosure. Black; for red, order BB-UZC-R. *See DN-3404.*

ABF-1B(C) Annunciator Flush Box

ABF-1DB(C) Annunciator Flush Box with Door. UL/ULC Listed.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

OTHER OPTIONS

411: Slave digital alarm communicator. *See DN-6619.*

411UDAC: Digital alarm communicator. *See DN-6746.*

IPDACT-2, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red; for black, order IPENC-B.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. *See DH-60769.*

***NOTE:** For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

SYSTEM CAPACITY

- Intelligent Signaling Line Circuits .....1 expandable to 10
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules ..... 159 per loop
- Programmable software zones..... over 2000
- ACS annunciators
  per CPU2-3030 .....32 address x 64 or 96 points
  ***NOTE:** The CPU2-3030 can support up to 96 annunciator address points per ACM-24AT/-48A.*

SPECIFICATIONS

Primary Input Power:

– AMPS-24: 110-120 VAC, 50/60 Hz, 4.5 A maximum.

– AMPS-24E: 240 VAC, 50/60 Hz, 2.25 A maximum.

DC Output:

– Main 24 VDC: Up to 5.0 A

– Aux 24 VDC: Up to 5.0 A

– 5 VDC: Up to 0.15 A.

Current draw (Standby/Alarm):

– CPU2-3030D board: 0.340 A.

– CPU2-3030ND board: 0.120 A.

– LCM-320: 0.130 A.

– LEM-320: 0.100 A.

– AMPS-24(E)*: 0.13 A.
(Draws power from secondary power source only.)

NOTE: *See AMPS-24(E) Manual 51907 for a complete current draw calculation sheet and details of input and output values.*

Battery charger range: 7 AH – 200 AH. Use separate cabinet for batteries over 26 AH.

Float Rate: 27.6 V.

Shipping Weight

- CPU2-3030D: 5.95 lb (2.70 kg).
- CPU2-3030ND: 2.90 lb (1.32 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635.
- **ULC Listed:** S527-11.
- **MEA:** 232-06-E.
- **Fire Dept. of New York:** COA#6211.
- **CSFM:** 7165-0028:0224 (Commercial).
- **FM Approved.**
- **FM6320 Approved.** Class 6320 for Gas Detection.
- **City of Chicago.**
- **City of Denver.**
- **Singapore Productivity and Standards Board (PSB).**
- **CCCF listed.**
- **Fire Services Department (Hong Kong).**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in “Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-3030 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-3030 version 20 or higher)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS2-3030

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

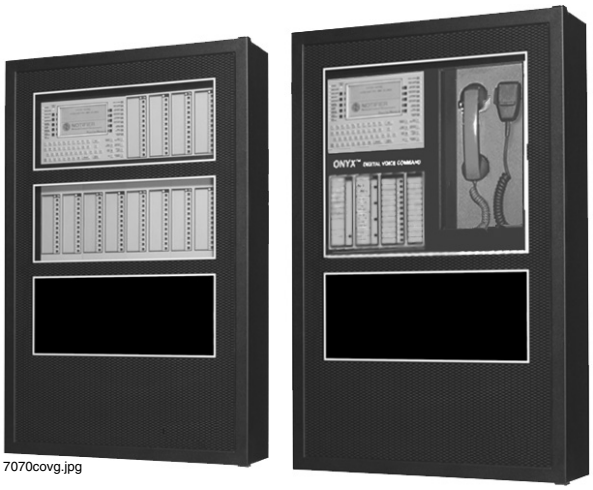
Intelligent Fire Alarm Control Panels

General

The NFS2-3030 is an intelligent Fire Alarm Control Panel (FACP) designed for medium- to large-scale facilities. Fire emergency detection and evacuation are extremely critical to life safety, and the NFS2-3030 is ideally suited for these applications. The NFS2-3030 is part of the ONYX® Series of products from NOTIFIER. The NFS2-3030 is ideal for virtually any application because it features a modular design that is configured per project requirements. With one to ten Signaling Line Circuits (SLCs), the NFS2-3030 supports up to 3,180 intelligent addressable devices.

Information is critical to fire evacuation personnel, and the NFS2-3030's large 640-character Liquid Crystal Display (LCD) presents vital information to operators concerning a fire situation, fire progression, and evacuation details.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.



7070covg.jpg

NFS2-3030 (left)
and NFS2-3030 with DVC audio option (right)

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when a marine-listed version is used with marine-listed compatible equipment. *See DN-60688.*
- Complies with UL 2572 Mass Notification Systems (NFS2-3030 version 20 or higher).
- One to ten isolated intelligent Signaling Line Circuits (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/3,180 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Large 16 line, 640 character LCD backlit display or use display-less as a network node.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online/offline program option.
- With built-in Degraded Mode operation, the system is capable of general alarm if a fire alarm condition is present even if the central processing unit (CPU) fails.
- Weekly Occupancy Schedules allow changing sensitivity by time of day and day of week.
- EIA-485 annunciators, including custom graphics.
- History file with 4000-event capacity in nonvolatile memory, plus separate 1000-event alarm-only file.
- Advanced history filters allow sorting by event, time, date, or address.
- Alarm Verification selection per point, with automatic counter.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- Positive Alarm Sequence (PAS) Presignal.
- Silence Inhibit and Auto Silence timer options.
- Field-programmable on panel or on PC, with VeriFire Tools program, also check, compare.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Up to 1000 powerful Boolean logic equations.
- Supports SCS Series smoke control system in both HVAC and FSCS modes.
- FM6320 approved Gas Detection System with FMM-4-20 module and any FM listed gas detector.
- EIA-232 printer port.
- EIA-485 annunciator port.

640-Character Display Features

- Backlit, 640-character display.
- Program keypad: full QWERTY keypad.
- Up to nine users, each with a password and selectable access levels.
- **11 LED indicators:** Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Other Event; Signals Silenced; Point Disabled; CPU Failure; Controls Active.
- **Membrane Switch Controls:** Acknowledge; Signal Silence; Drill; System Reset; Lamp Test.
- **LCD Display:** 640 characters (16 lines x 40 characters) with long-life LED backlight.

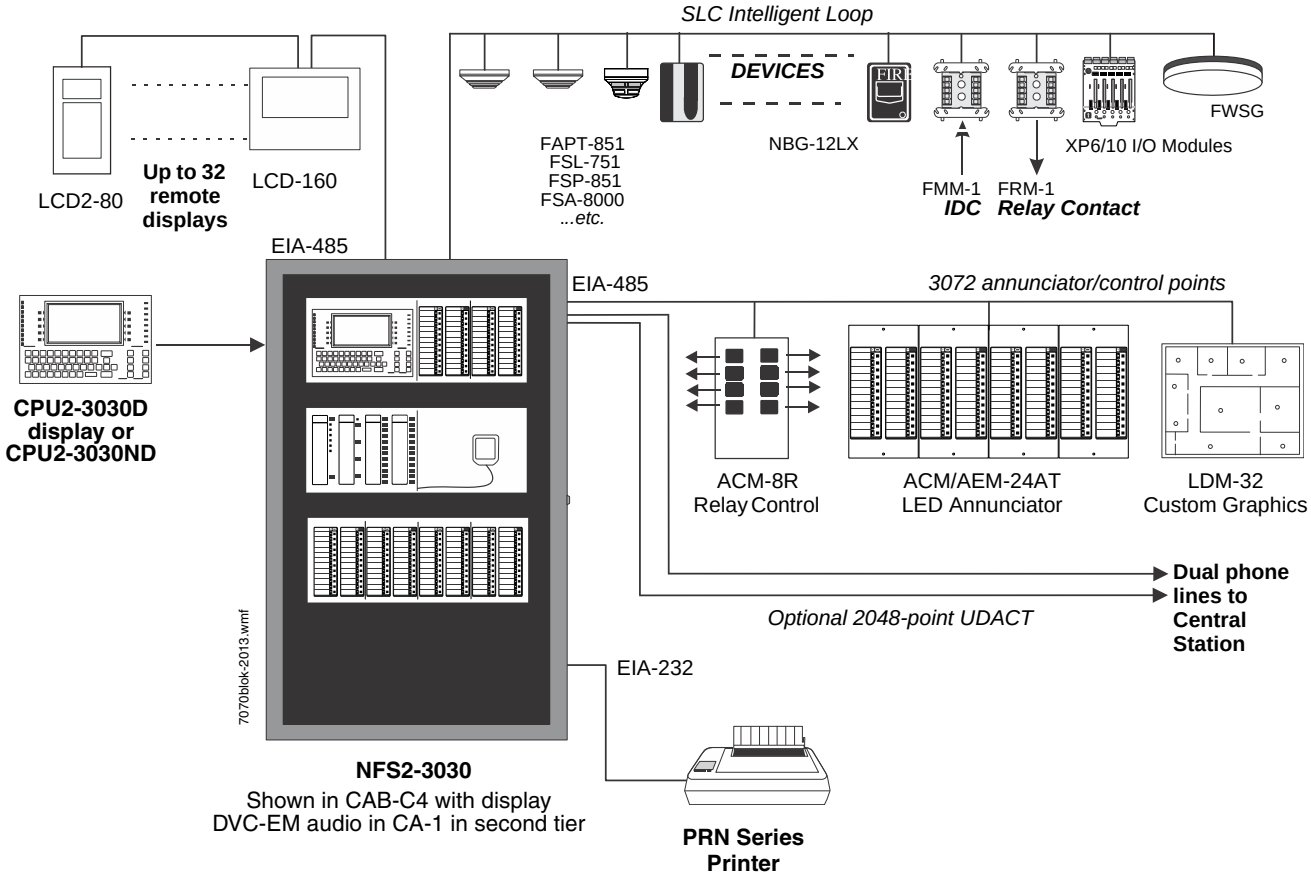
FlashScan® Intelligent Features

- Polls up to 318 devices on each loop in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Sensitivity levels:
  - **– Ion –** 0.5 to 2.5%/foot obscuration.
  - **– Photo –** 0.5 to 2.35%/foot obscuration.
  - **– Laser (VIEW®) –** 0.02 to 2.0%/foot obscuration.
  - **– Acclimate Plus™ –** 0.5 to 4.0%/foot obscuration.
  - **– IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **– IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.
- Programmable activation of sounder/relay bases during alarm or pre-alarm.
- Read Status displays the level of detector cleanliness.

FSL-751 VIEW® (Very Intelligent Early Warning) Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

Sample System Options



NOTE: *CPU2-3030 firmware version 14.0 (and higher) can support LCD-160 on the RDP port, or LCD2-80 in terminal mode, but not both at the same time.*

FAPT-851 ACCLIMATE PLUS™ LOW-PROFILE INTELLIGENT MULTI-SENSOR

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD

ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.
- FSA-20000P covers 28,800 square feet through one to four addressable pipes. Supports addressable pipes to pinpoint location of alarm events.

FCO-851 INTELLIQUAD™ PLUS

ADVANCED MULTI-CRITERIA FIRE/CO DETECTOR

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

FMM-4-20 GAS DETECTION MODULE

- Interface to industry-standard linear scale 4-20 mA sensors.
- Five programmable thresholds.
- FM Approved, Class 6320 (Stationary Gas Sensors/ Detectors).

SWIFT WIRELESS

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

RELEASING FEATURES

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).

VOICE AND TELEPHONE FEATURES

- Up to eight channels of digital audio.
- 35 watt, 50 watt, 75 watt, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series).
- Solid state message generation.
- Hard-wired voice control module options.
- Firefighter telephone option.
- 30- to 120-watt analog amplifiers (AA Series).
- Backup tone generator and amplifier option.

FlashScan® Exclusive World-Leading Detector Protocol

At the heart of the NFS2-3030 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

As well as giving quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-3030 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan® detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

ONYX Intelligent Sensing is a set of software algorithms that provide the NFS2-3030 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the very high-speed microcomputer used by the NFS2-3030.

Drift Compensation and Smoothing. Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, usually caused by electrical interference.

Maintenance Warnings. When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust. Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm. Each detector may be set for “Self-Optimizing” pre-alarm. In this special mode, the detector “learns” its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing. A patented feature of ONYX Intelligent Sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit. The NFS2-3030, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-3030 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-3030 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows® based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-3030 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On single-FACP systems (one NFS2-3030D), the display option is the CPU2-3030D. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Options listed as follows.

Main System Components

CPU2-3030D: NFS2-3030 Primary Display. CPU2-3030D ships with keypad/display installed; includes 640-character backlit LCD display, QWERTY programming and control keypad. CPU2-3030 is a central processing unit and requires an AMPS-24(E) power supply. For English ULC applications, use CPU2-3030DC. Non-English versions are available: CPU2-3030D-FR, CPU2-3030D-HE, CPU2-3030D-KO, CPU2-3030D-PO, CPU2-3030D-SC, CPU2-3030D-SP, CPU2-3030D-TC, and CPU2-3030D-TH. For English Marine applications order CPU2-3030D-M; for non-English Marine applications order CPU2-3030D-M and the appropriate KP-KIT-XX. (See DN-60688.)

CPU2-3030ND: CPU2-3030 without display. Non-English versions are available: CPU2-3030ND-FR, CPU2-3030ND-HE, CPU2-3030ND-KO, CPU2-3030ND-PO, CPU2-3030ND-SC, CPU2-3030ND-SP, CPU2-3030ND-TC.

LCM-320: Loop Control Module. Provides one SLC. NFS2-3030 supports up to five LCM-320s and five LEM-320 expanders for a total of ten SLCs. *See DN-6881.*

LEM-320: Loop Expander Module. Expands an LCM-320. *See DN-6881.*

SAMPLE SYSTEM: *Four-loop* NFS2-3030 *with display:* CPU2-3030*D, DP-DISP, two BMP-1s, CHS-M3, two LCM-320s, two LEM-320s, AMPS-24, SBB-A4,* DR-A4*, BP2-4, BB-100, batteries.*

Networking Options

NCA-2: Network Control Annunciator, 640 characters. An alternate primary display for CPU2-3030 can be provided by the NCA-2, NCS, or ONYXWorks. Using NCA-2 as primary display enables non-English languages. On network systems (two or more networked fire panel nodes), one network display (either NCA-2, NCS, or ONYXWorks) is required for every system. On network systems, the NCA-2 connects (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP and two BMP-1 blank modules are required for mounting. Non-English versions are available: NCA-2-FR, NCA-2-HE, NCA-2-KO, NCA-2-PO, NCA-2-SC, NCA-2-SP, NCA-2-TC, NCA-2-TH. For English ULC applications, order NCA-2C; for marine applications, order NCA-2-M; for non-English marine applications order NCA-2-M and appropriate KP-KIT-XX. *See DN-7047.*

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861*.

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971*.

ONYXWorks: UL-listed graphics PC workstation, ONYXWorks GUI software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

AMPS-24(E): One required for each NFS2-3030. Addressable power supply and battery charger with two 24 VDC outputs. Addressable by any FlashScan® or CLIP mode FACP. Charges 7 to 200 AH batteries. Occupies up to five addresses on an SLC, depending on configuration. Primary input power for panel. *See DN-6883.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and

transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952*.

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

FCPS-24S6/-24S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. AMPS-24 uses two 12 volt, 7 to 200 AH batteries. *See DN-6933*.

Audio Options

NOTE: *See "Enclosures, Chassis, and Dress Plates" on page 6 for mounting hardware.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045*.

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAA2/DAX Series amplifiers. *See DN-60633.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Microphone used with DVC/DVC-EM. Included with CA-2 chassis assembly. *See DN-7045.*

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier. AA-120 is 120 watts, 25 Vrms. AA-100 is 100 watts, 70.7 Vrms. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. *See DN-60897*

VS4095/5: Printer, 40-column, 24 V. Order from Keltron, Inc. *See DN-3260*.

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT; expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862*.

ACM-48A: ONYX® Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A; expands the ACM-48A to 96 points. *See DN-6862*.

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558*.

LCD-160: Liquid Crystal Display annunciator, 160-character backlit. Can store character sets for multiple languages. LCD-160C is used for ULC applications. *See DN-6940.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See LCD2-80 (DN-60548).*

SCS Series: Smoke control station; eight (expandable to 16) circuits. *See DN-4818*.

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (as in single-address mode applications) or in CHS-M3 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686*.

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs *(requires optional programming kit)*. Mounts on a CHS-4 series chassis within NFS2-3030.

Compatible Intelligent Devices

NOTE: "A" suffix indicates ULC-Listed model.

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792.*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6985.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851R(A): Low-profile intelligent photoelectric sensor, remote test capable. For use with DNR(W). *See DN-6935.*

FSP-851T(A): Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FST-851(A):: FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus™ low-profile multisensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW® laser photo detector. *See DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851 separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SCOA: Based on B200SA, with added CO detector markings in English/French. For Canadian applications only.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1(A):: FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FMM-4-20: FlashScan 4-20 mA protocol monitor module. *See DN-60411.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. *See DN-6989.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-3030 mounts in a standard CAB-4 Series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered separately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. *See DN-60229.*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Order CPU2-3030D-M; for non-English marine applications order CPU2-3030D and appropriate KP-KIT-XX. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

CHS-M3: Mounting chassis for CPU2-3030. One required for each CPU2-3030D/3030ND.

CA-2: Chassis for FACP control panel when DVC-EM is used with firefighter's telephone. Mounts in the top two rows of a CAB-4 series enclosure.

DP-DISP: Dress panel for top row in cabinet with CPU2-3030D installed.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier. *See DN-7046.*

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts on the left side of DAA2 chassis. *See DN-7046.*

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted

on a half-chassis and one NFS2-3030 or NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

ADDR-B4: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4: Three-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series "DR" doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2: Dress Panel used with the CA-2 chassis assembly.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

ADP-4B: Annunciator dress plate. Mounts in rows 2, 3 or 4 of a CAB-4 series enclosure. Used with ACS series annunciators.

BMP-1: Blank module for unused module positions.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

BP2-4: Battery plate, required.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers.

CHS-4N: Chassis for mounting up to four APS-6Rs.

CHS-6: Chassis used with the XP6 and XP10 Multi-Modules. Mounts up to six modules in any CAB-4 series row.

NFS-LBB: Battery Box. The NFS-LBB is used to mount up to two 55 AH batteries. Dimensions: Box: 24" (610 mm) wide x 14" (356 mm) high x 7.75" (197 mm) deep. Door: 24.125" (613 mm) wide x 14.25" (362 mm) high; door adds 0.0625" (approx. 1.6 mm) to depth.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

BB-100: Backbox for batteries and power supplies. The BB-100 is used to mount up to two 100 AH batteries and power supply, if needed. 30" (76.20 cm) wide x 25" (63.50 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-200: Backbox for batteries and power supplies. Holds up to four 100 AH batteries (200 AH capacity) and power supply. 30" (76.20 cm) wide x 36" (91.44 cm) high x 7.5" (19.05 cm) deep; depth includes door.

BB-UZC: Backbox for housing the UZC-256 for applications where the UZC will not fit in panel enclosure. Black; for red, order BB-UZC-R. *See DN-3404.*

ABF-1B(C) Annunciator Flush Box

ABF-1DB(C) Annunciator Flush Box with Door. UL/ULC Listed.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-3030 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

OTHER OPTIONS

411: Slave digital alarm communicator. *See DN-6619.*

411UDAC: Digital alarm communicator. *See DN-6746.*

IPDACT-2, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red; for black, order IPENC-B.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. *See DH-60769.*

***NOTE:** For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

SYSTEM CAPACITY

- Intelligent Signaling Line Circuits .....1 expandable to 10
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules ..... 159 per loop
- Programmable software zones..... over 2000
- ACS annunciators
  per CPU2-3030 .....32 address x 64 or 96 points
  ***NOTE:** The CPU2-3030 can support up to 96 annunciator address points per ACM-24AT/-48A.*

SPECIFICATIONS

Primary Input Power:

– AMPS-24: 110-120 VAC, 50/60 Hz, 4.5 A maximum.

– AMPS-24E: 240 VAC, 50/60 Hz, 2.25 A maximum.

DC Output:

– Main 24 VDC: Up to 5.0 A

– Aux 24 VDC: Up to 5.0 A

– 5 VDC: Up to 0.15 A.

Current draw (Standby/Alarm):

– CPU2-3030D board: 0.340 A.

– CPU2-3030ND board: 0.120 A.

– LCM-320: 0.130 A.

– LEM-320: 0.100 A.

– AMPS-24(E)*: 0.13 A.
(Draws power from secondary power source only.)

NOTE: *See AMPS-24(E) Manual 51907 for a complete current draw calculation sheet and details of input and output values.*

Battery charger range: 7 AH – 200 AH. Use separate cabinet for batteries over 26 AH.

Float Rate: 27.6 V.

Shipping Weight

- CPU2-3030D: 5.95 lb (2.70 kg).
- CPU2-3030ND: 2.90 lb (1.32 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635.
- **ULC Listed:** S527-11.
- **MEA:** 232-06-E.
- **Fire Dept. of New York:** COA#6211.
- **CSFM:** 7165-0028:0224 (Commercial).
- **FM Approved.**
- **FM6320 Approved.** Class 6320 for Gas Detection.
- **City of Chicago.**
- **City of Denver.**
- **Singapore Productivity and Standards Board (PSB).**
- **CCCF listed.**
- **Fire Services Department (Hong Kong).**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in “Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-3030 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-3030 version 20 or higher)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS-320

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

Intelligent Fire Alarm Control Panels

General

The NFS-320 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meet virtually every application requirement.

The NFS-320's modular design makes system planning easier. The panel can be configured with just a few devices for small building applications, or networked with many devices to protect a large campus or a high-rise office block. Simply add additional peripheral equipment to suit the application. Wireless fire protection can be added with the SWIFT wireless gateway and devices.

For installations using NFS-320C, an optional ACM Series annunciator can be mounted in the same cabinet (up to 48 zones/points, order separately; *see DN-60085*).

NOTE: *Unless called out with a version-specific "R", "C" or "E" at the end of the part number, "NFS-320" refers to models NFS-320, NFS-320R, NFS-320C, and NFS-320E.*

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NFS-320

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when used with listed compatible equipment. *See DN-60688.*
- One isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors and 159 modules per SLC; 318 devices maximum.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Optional FWSG Wireless SWIFT Gateway supports wireless SLC devices.
- Standard 80-character display.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- 6.0 A power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with automatic counter.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- NAC coding functions:
  - March time.
  - Temporal.
  - California two-stage coding.
  - Canadian two-stage.
  - Strobe synchronization.
- Field-programmable on panel or on PC with VeriFire® Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.

FlashScan® Intelligent Features

- Polls up to 318 devices in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **Ion** – 0.5 to 2.5%/foot obscuration.
  - **Photo** – 0.5 to 2.35%/foot obscuration.
  - **Laser (VIEW®)** – 0.02 to 2.0%/foot obscuration.
  - **Acclimate® Plus™** – 0.5 to 4.0%/foot obscuration.
  - **IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the NFS-320's primary microprocessor fails, FlashScan detectors revert to degraded operation and can activate the control panel's NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.

- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

FSL-751 VIEW (Very Intelligent Early Warning)
Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

FAPT-851 Acclimate® Plus™
Low-Profile Intelligent Multi-Sensor

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 IntelliQuad
Advanced Multi-Criteria Detector

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

Intelligent FAAST® Detectors FSA-5000, FSA-8000, FSA-20000 and FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.
- FSA-20000P covers 28,800 square feet through one to four pipes. Supports addressable pipes to pinpoint location of alarm events.

FCO-851 IntelliQuad™ PLUS
Advanced Multi-Criteria Fire/CO Detector

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

SWIFT Wireless

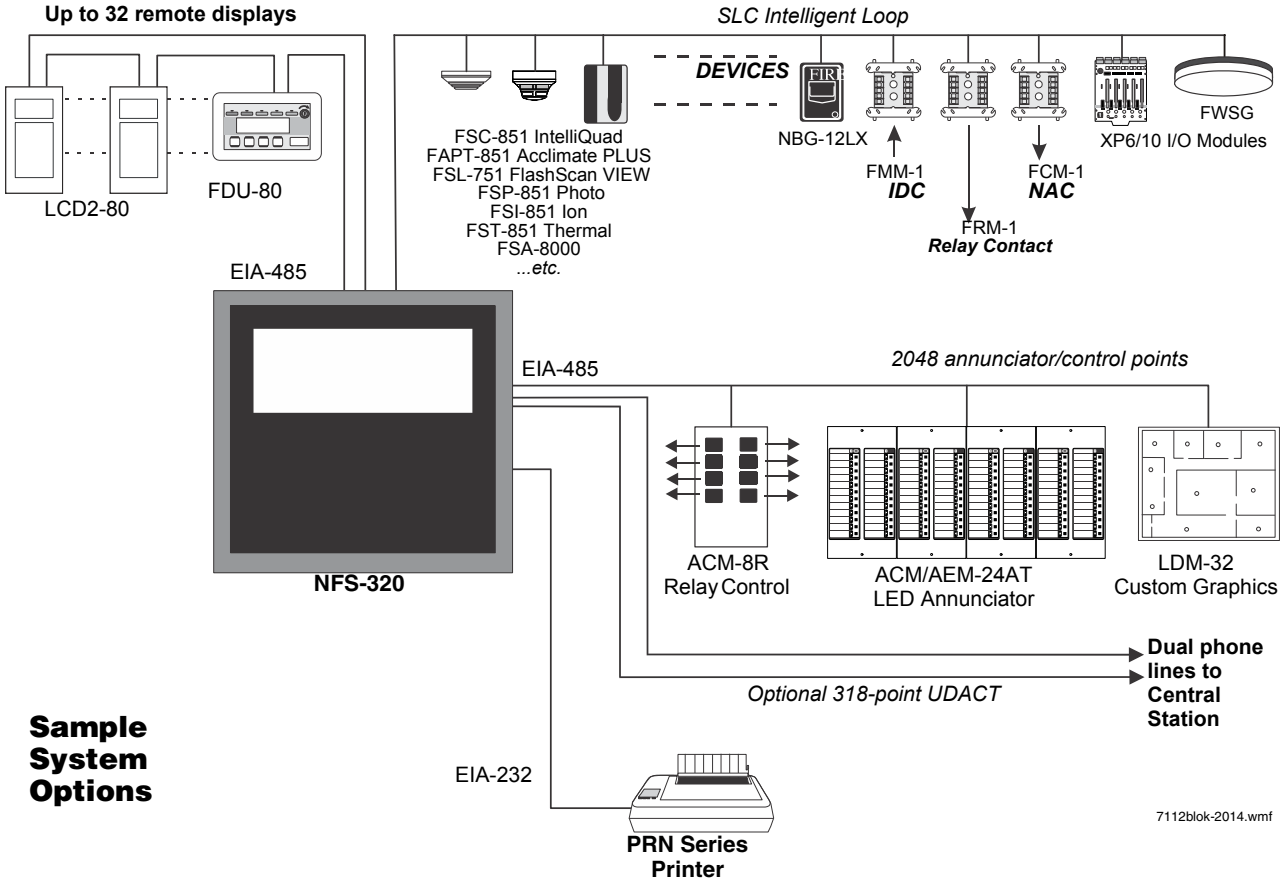
- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

Releasing Features

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO2 listed.

Voice Features

- Integrates with FirstCommand Series. *See DN-60772.*
- Telephone applications require NFC-FFT.



Sample System Options

HIGH-EFFICIENCY OFFLINE SWITCHING 3.0 A POWER SUPPLY (6.0 A IN ALARM)

- 120 VAC (NFS-320/NFS-320C); 240 VAC (NFS-320E).
- Displays battery current/voltage on panel (with display).

FlashScan, Exclusive World-Leading Detector Protocol

At the heart of the NFS-320 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS-320 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

Intelligent sensing is a set of software algorithms that provides the NFS-320 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS-320.

Drift Compensation and Smoothing: Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

Maintenance Warnings: When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust: Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm: Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing: A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit (with KDM-R2) The NFS-320, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS-320 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS-320 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS-320 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS-320's flexible system design.

Wiring: When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *NFS-320 Installation Manual.*

It is critical that all mounting holes of the NFS-320 are secured with a screw or standoff to ensure continuity of Earth Ground.

Networking: If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module (HS-NCM can support two nodes; see "Networking Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of them.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type (keyboard layout).

12 LED Indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Product Line Information

CONFIGURATION GUIDELINES

The NFS-320 system ships assembled; description and some options follow. See "Enclosures, Chassis, and Dress Plates" on page 5 for information about mounting peripherals.

***NOTE:** Stand-alone and network systems require a main display. On stand-alone systems, the panel's keypad provides the required display. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. (For NCA-2, see DN-7047.)*

NFS-320: The standard, factory-assembled NFS-320 system includes the following components: one control panel mounted on chassis (120 V operation — ships with grounding cable, battery interconnect cables, and document kit); includes integral power supply mounted to the main circuit board; one primary display KDM-R2 keypad/display; and one cabinet for surface or semi-flush mounting. *Purchase batteries separately. One or two option boards may be mounted inside the NFS-320 cabinet; additional option boards can be used in remote cabinets. (Non-English versions also available. NFS-320-SP, NFS-320-PO.)*

NFS-320R: Same as NFS-320, but in red enclosure.

NFS-320C: Based on NFS-320 above. NFS-320C supports installation of an optional ACM-series annunciator in the same cabinet. UL- and ULC-listed. *(Non-English version also available: NFS-320C-FR.) For NFS-320C, see DN-60085.*

NFS-320CR: Same as NFS-320C but in a red enclosure. *For NFS-320C, see DN-60085.*

NFS-320E: Same as NFS-320, but with 240 V operation. *(Non-English versions also available. NFS-320E-SP, NFS-320E-PO.)*

TR-320: Trim ring for the NFS-320 cabinet.

Networking Options

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861.*

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL-listed graphics PC workstation, software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952.*

FCPS-24S6/S8: Remote 6 A and 8 A power supplies with battery charger. See *DN-6927.*

BAT Series: Batteries. NFS-320 uses two 12 volt, 18 to 200 AH batteries. *See DN-6933.*

Audio Options

NFC-50/100: 25 watt, 25 VRMS, emergency Voice Evacuation Control Panel (VECP) with integral commercial microphone, digital message generator, and Class A or Class B speaker circuits. *See DN-60772.*

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. See *DN-60897.*

VS4095/5: Printer, 40-column, 24 V. Mounted in external backbox. *See DN-3260.*

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals; mount on NFS-320 chassis. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

ACM-48A: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See DN-6862.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558.*

FDU-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-6820.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-60548.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom driver modules. *See DN-0551.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits (HVAC only). *See DN-4818.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit; mount on NFS-320 chassis or remotely. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Mounts in **BB-UZC**. *See DN-3404.*

Compatible Intelligent Devices

***NOTE:** "A" suffix indicates ULC-Listed model:*

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6934.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851T(A): Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FSP-851R(A): Remote-test capable photoelectric detector for use with DNR(W) duct detector housings. *See DN-6935.*

FST-851(A): FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus low-profile multi-sensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW laser photo detector. *See DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851R separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1: FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

BB-UZC: Backbox for housing the UZC-256. Required for NFS-320 applications. Black. For red, order BB-UZC-R.

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBBR: Same as above, but red.

SEISKIT-320/B26: Seismic mounting kit. Required for seismic-certified applications with NFS-320 and BB-26. Includes battery bracket for two 26 AH batteries.

SEISKIT-BB25: Seismic mounting kit for the BB-25. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

Other Options

411: Slave Digital Alarm Communicator. *See DN-6619.*

411UDAC: Digital Alarm Communicator. *See DN-6746.*

IPDACT-2/2UD, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order **IPENC-B**.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. *See DH-60769.*

Backboxes

NOTE: "C" suffix indicates ULC-Listed model:

ABF-1B Annunciator Flush Box.

ABF-1DB(C) Annunciator Flush Box with Door.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

NFS-320-RB: Replacement board with central processing unit (CPU). *NOTE: Keypad must be removed before shipping old unit out for repair.*

- NFS-320-RBE: Replacement CPU, Export.
- NFS-320-RB-PO: Replacement CPU, Portuguese.
- NFS-320-RB-POE: Replacement CPU, Export, Portuguese.
- NFS-320-RBC-FR: Replacement CPU, Canadian French.
- NFS-320-RB-SP: Replacement CPU, Spanish.
- NFS-320-RB-SPE: Replacement CPU, Export, Spanish.

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

System Capacity

- Intelligent Signaling Line Circuits 1
- Intelligent detectors 159
- Addressable monitor/control modules 159
- Programmable internal hardware and output circuits 4
- Programmable software zones 99
- Special programming zones 14
- LCD annunciators per NFS-320/-320E 32
- ACS annunciators per NFS-320/-320E ..... 32 addresses x 64 points

Specifications

- Primary input power
  - NFS-320: 120 VAC, 50/60 Hz, 5.0 A.
  - NFS-320E: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - NFS-320(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2 (Backlight on): 0.100 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A of available power. This is shared by all internal circuits. See Installation Manual for a complete current draw calculation sheet.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

NFS-320 cabinet dimensions:

- Backbox: 18.12 in. (46.025 cm) width; 18.12 in. (46.025 cm) height; 5.81 in. (14.76 cm) depth.
- Door: 18.187 in. (46.195 cm) width; 18.40 in. (46.736 cm) height; 0.75 in. (1.905 cm) depth.
- Trim ring: Molding width is 0.905 in. (2.299 cm).
- Shipping weight (without batteries): 36.15 lb. (16.4 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/ 32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic NFS-320 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635.
- **FM Approved.**
- **CSFM:** 7165-0028:0243.
- **MEA:** 128-07-E.
- **Fire Dept. of New York:** COA# 6212.
- **City of Chicago.**
- **ULC Listed:** S527-11

NOTE: *For additional information on UL- and ULC-listed model NFS-320C, see DN-60085. For information on NFS-320SYS, see DN-60637.*

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in "Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/50/0, 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS-320 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS-320 version 20 or higher).
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **CENTRAL STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires DACT).
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS-320

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

Intelligent Fire Alarm Control Panels

General

The NFS-320 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meet virtually every application requirement.

The NFS-320's modular design makes system planning easier. The panel can be configured with just a few devices for small building applications, or networked with many devices to protect a large campus or a high-rise office block. Simply add additional peripheral equipment to suit the application. Wireless fire protection can be added with the SWIFT wireless gateway and devices.

For installations using NFS-320C, an optional ACM Series annunciator can be mounted in the same cabinet (up to 48 zones/points, order separately; *see DN-60085*).

NOTE: *Unless called out with a version-specific "R", "C" or "E" at the end of the part number, "NFS-320" refers to models NFS-320, NFS-320R, NFS-320C, and NFS-320E.*

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NFS-320

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when used with listed compatible equipment. *See DN-60688.*
- One isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Up to 159 detectors and 159 modules per SLC; 318 devices maximum.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Optional FWSG Wireless SWIFT Gateway supports wireless SLC devices.
- Standard 80-character display.
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- 6.0 A power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 80-character remote annunciators (up to 32).
- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with automatic counter.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- NAC coding functions:
  - March time.
  - Temporal.
  - California two-stage coding.
  - Canadian two-stage.
  - Strobe synchronization.
- Field-programmable on panel or on PC with VeriFire® Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.

FlashScan® Intelligent Features

- Polls up to 318 devices in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **Ion** – 0.5 to 2.5%/foot obscuration.
  - **Photo** – 0.5 to 2.35%/foot obscuration.
  - **Laser (VIEW®)** – 0.02 to 2.0%/foot obscuration.
  - **Acclimate® Plus™** – 0.5 to 4.0%/foot obscuration.
  - **IntelliQuad** – 1.0 to 4.0%/foot obscuration.
  - **IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the NFS-320's primary microprocessor fails, FlashScan detectors revert to degraded operation and can activate the control panel's NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.

- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

FSL-751 VIEW (Very Intelligent Early Warning)
Smoke Detection Technology

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

FAPT-851 Acclimate® Plus™
Low-Profile Intelligent Multi-Sensor

- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 IntelliQuad
Advanced Multi-Criteria Detector

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

Intelligent FAAST® Detectors FSA-5000, FSA-8000, FSA-20000 and FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.
- FSA-20000P covers 28,800 square feet through one to four pipes. Supports addressable pipes to pinpoint location of alarm events.

FCO-851 IntelliQuad™ PLUS
Advanced Multi-Criteria Fire/CO Detector

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4(CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

SWIFT Wireless

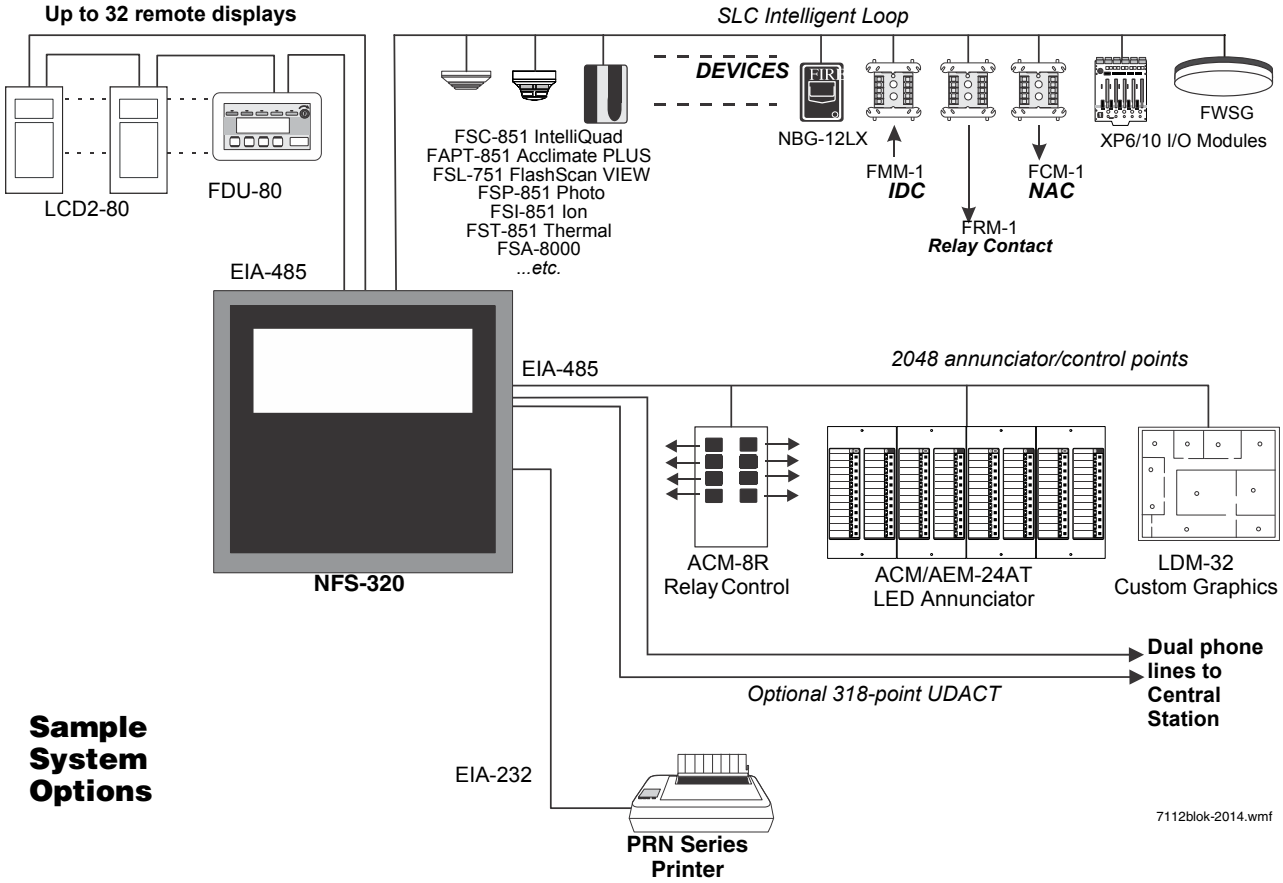
- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

Releasing Features

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO2 listed.

Voice Features

- Integrates with FirstCommand Series. *See DN-60772.*
- Telephone applications require NFC-FFT.



Sample System Options

HIGH-EFFICIENCY OFFLINE SWITCHING 3.0 A POWER SUPPLY (6.0 A IN ALARM)

- 120 VAC (NFS-320/NFS-320C); 240 VAC (NFS-320E).
- Displays battery current/voltage on panel (with display).

FlashScan, Exclusive World-Leading Detector Protocol

At the heart of the NFS-320 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS-320 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

Intelligent sensing is a set of software algorithms that provides the NFS-320 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS-320.

Drift Compensation and Smoothing: Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

Maintenance Warnings: When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust: Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm: Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing: A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit (with KDM-R2) The NFS-320, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS-320 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS-320 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS-320 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS-320's flexible system design.

Wiring: When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *NFS-320 Installation Manual.*

It is critical that all mounting holes of the NFS-320 are secured with a screw or standoff to ensure continuity of Earth Ground.

Networking: If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module (HS-NCM can support two nodes; see "Networking Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of them.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type (keyboard layout).

12 LED Indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Product Line Information

CONFIGURATION GUIDELINES

The NFS-320 system ships assembled; description and some options follow. See "Enclosures, Chassis, and Dress Plates" on page 5 for information about mounting peripherals.

***NOTE:** Stand-alone and network systems require a main display. On stand-alone systems, the panel's keypad provides the required display. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. (For NCA-2, see DN-7047.)*

NFS-320: The standard, factory-assembled NFS-320 system includes the following components: one control panel mounted on chassis (120 V operation — ships with grounding cable, battery interconnect cables, and document kit); includes integral power supply mounted to the main circuit board; one primary display KDM-R2 keypad/display; and one cabinet for surface or semi-flush mounting. *Purchase batteries separately. One or two option boards may be mounted inside the NFS-320 cabinet; additional option boards can be used in remote cabinets. (Non-English versions also available. NFS-320-SP, NFS-320-PO.)*

NFS-320R: Same as NFS-320, but in red enclosure.

NFS-320C: Based on NFS-320 above. NFS-320C supports installation of an optional ACM-series annunciator in the same cabinet. UL- and ULC-listed. *(Non-English version also available: NFS-320C-FR.) For NFS-320C, see DN-60085.*

NFS-320CR: Same as NFS-320C but in a red enclosure. *For NFS-320C, see DN-60085.*

NFS-320E: Same as NFS-320, but with 240 V operation. *(Non-English versions also available. NFS-320E-SP, NFS-320E-PO.)*

TR-320: Trim ring for the NFS-320 cabinet.

Networking Options

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861.*

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL-listed graphics PC workstation, software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952.*

FCPS-24S6/S8: Remote 6 A and 8 A power supplies with battery charger. See *DN-6927.*

BAT Series: Batteries. NFS-320 uses two 12 volt, 18 to 200 AH batteries. *See DN-6933.*

Audio Options

NFC-50/100: 25 watt, 25 VRMS, emergency Voice Evacuation Control Panel (VECP) with integral commercial microphone, digital message generator, and Class A or Class B speaker circuits. *See DN-60772.*

Compatible Devices, EIA-232 Ports

PRN-7: 80-column printer. See *DN-60897.*

VS4095/5: Printer, 40-column, 24 V. Mounted in external backbox. *See DN-3260.*

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals; mount on NFS-320 chassis. *See DN-6870.*

Compatible Devices, EIA-485 Ports

ACM-24AT: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

ACM-48A: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See DN-6862.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558.*

FDU-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-6820.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-60548.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom driver modules. *See DN-0551.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits (HVAC only). *See DN-4818.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit; mount on NFS-320 chassis or remotely. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Mounts in **BB-UZC**. *See DN-3404.*

Compatible Intelligent Devices

***NOTE:** "A" suffix indicates ULC-Listed model:*

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6934.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851T(A): Low-profile FlashScan photoelectric detector with 135°F (57°C) thermal. *See DN-6935.*

FSP-851R(A): Remote-test capable photoelectric detector for use with DNR(W) duct detector housings. *See DN-6935.*

FST-851(A): FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus low-profile multi-sensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW laser photo detector. *See DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851R separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. *See DN-60054.*

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1: FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FCM-1(A): FlashScan control module. *See DN-6724.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FRM-1(A): FlashScan relay module. *See DN-6724.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

BB-UZC: Backbox for housing the UZC-256. Required for NFS-320 applications. Black. For red, order BB-UZC-R.

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBBR: Same as above, but red.

SEISKIT-320/B26: Seismic mounting kit. Required for seismic-certified applications with NFS-320 and BB-26. Includes battery bracket for two 26 AH batteries.

SEISKIT-BB25: Seismic mounting kit for the BB-25. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

Other Options

411: Slave Digital Alarm Communicator. *See DN-6619.*

411UDAC: Digital Alarm Communicator. *See DN-6746.*

IPDACT-2/2UD, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order **IPENC-B**.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. *See DH-60769.*

Backboxes

NOTE: "C" suffix indicates ULC-Listed model:

ABF-1B Annunciator Flush Box.

ABF-1DB(C) Annunciator Flush Box with Door.

ABF-2B Annunciator Flush Box

ABF-2DB(C) Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

NFS-320-RB: Replacement board with central processing unit (CPU). *NOTE: Keypad must be removed before shipping old unit out for repair.*

- NFS-320-RBE: Replacement CPU, Export.
- NFS-320-RB-PO: Replacement CPU, Portuguese.
- NFS-320-RB-POE: Replacement CPU, Export, Portuguese.
- NFS-320-RBC-FR: Replacement CPU, Canadian French.
- NFS-320-RB-SP: Replacement CPU, Spanish.
- NFS-320-RB-SPE: Replacement CPU, Export, Spanish.

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

System Capacity

- Intelligent Signaling Line Circuits 1
- Intelligent detectors 159
- Addressable monitor/control modules 159
- Programmable internal hardware and output circuits 4
- Programmable software zones 99
- Special programming zones 14
- LCD annunciators per NFS-320/-320E 32
- ACS annunciators per NFS-320/-320E ..... 32 addresses x 64 points

Specifications

- Primary input power
  - NFS-320: 120 VAC, 50/60 Hz, 5.0 A.
  - NFS-320E: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - NFS-320(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2 (Backlight on): 0.100 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A of available power. This is shared by all internal circuits. See Installation Manual for a complete current draw calculation sheet.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

NFS-320 cabinet dimensions:

- Backbox: 18.12 in. (46.025 cm) width; 18.12 in. (46.025 cm) height; 5.81 in. (14.76 cm) depth.
- Door: 18.187 in. (46.195 cm) width; 18.40 in. (46.736 cm) height; 0.75 in. (1.905 cm) depth.
- Trim ring: Molding width is 0.905 in. (2.299 cm).
- Shipping weight (without batteries): 36.15 lb. (16.4 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/ 32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic NFS-320 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635.
- **FM Approved.**
- **CSFM:** 7165-0028:0243.
- **MEA:** 128-07-E.
- **Fire Dept. of New York:** COA# 6212.
- **City of Chicago.**
- **ULC Listed:** S527-11

NOTE: *For additional information on UL- and ULC-listed model NFS-320C, see DN-60085. For information on NFS-320SYS, see DN-60637.*

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in "Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/50/0, 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS-320 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS-320 version 20 or higher).
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual, Waterflow and Sprinkler Supervisory). *Not applicable for FM.*
- **CENTRAL STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires DACT).
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS2-640(E)

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

Intelligent Fire Alarm Control Panels

General

The NFS2-640 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meet virtually every application requirement.

The NFS2-640's modular design makes system planning easier. The panel can be configured with just a few devices for small building applications, or networked with many devices to protect a large campus or a high-rise office block. Simply add additional peripheral equipment to suit the application.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.

NOTE: *Unless called out with a version-specific "E" at the end of the part number, "NFS2-640" refers to models NFS2-640 and NFS2-640E; similarly, "CPU2-640" refers to models CPU2-640 and CPU2-640E.*

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when used with listed compatible equipment. *See DN-60688.*
- One, expandable to two, isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/636 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Standard 80-character display, 640-character large display (NCA-2), or display-less (a node on a network).
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- 6.0 A switch mode power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 80-character remote annunciators (up to 32).

NFS2-640-DVC_right.jpg

NFS2-640

- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with automatic counter.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- March time/temporal/California two-stage coding/strobe synchronization.
- Field-programmable on panel or on PC, with VeriFire Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.
- Support for SCS Series smoke control system in HVAC mode.

NCA-2 as Primary Display

- Backlit, 640-character display.
- Supports SCS Series smoke control system in FSCS mode when SCS is connected to the NCA-2 used as primary display.
- Supports DVC digital audio loop.
- Printer and CRT EIA-232 ports.
- EIA-485 annunciator and terminal mode ports.
- Alarm, Trouble, Supervisory, and Security relays.

FLASHSCAN® INTELLIGENT FEATURES

- Polls up to 318 devices in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **Ion** – 0.5 to 2.5%/foot obscuration.
  - **Photo** – 0.5 to 2.35%/foot obscuration.
  - **Laser (VIEW®)** – 0.02 to 2.0%/foot obscuration.
  - **Acclimate Plus™** – 0.5 to 4.0%/foot obscuration.
  - **IntelliQuad™** – 1.0 to 4.0%/foot obscuration.
  - **IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the CPU2-640 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the CPU2-640 NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

FSL-751 (VERY INTELLIGENT EARLY WARNING)
SMOKE DETECTION TECHNOLOGY

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

FAPT-851 ACCLIMATE PLUS
LOW-PROFILE INTELLIGENT MULTI-SENSOR

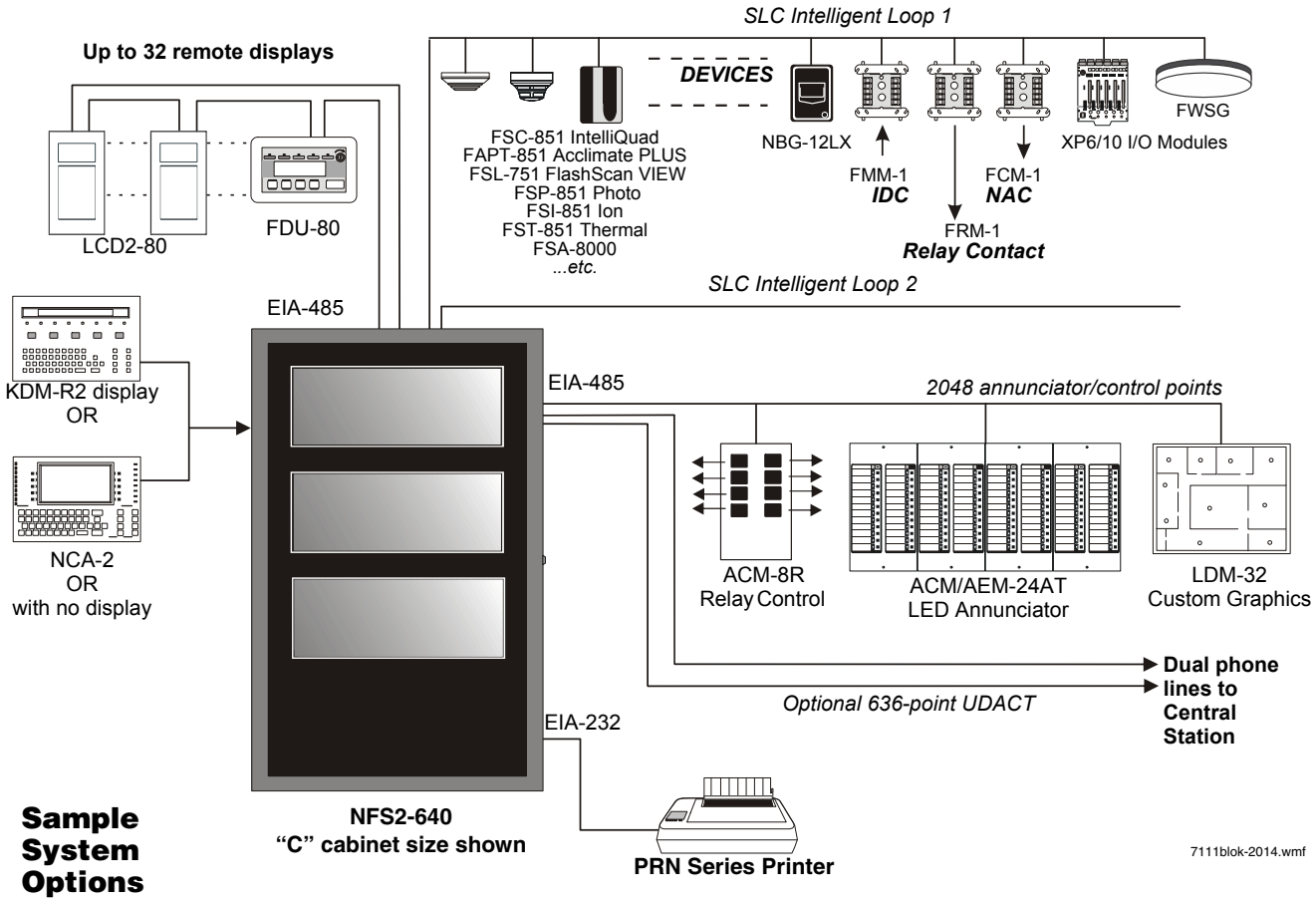
- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD
ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.



Sample System Options

- FSA-20000P covers 28,800 square feet through one to four pipes. Supports addressable pipes to pinpoint location of alarm events

FCO-851 IntelliQuad™ PLUS

Advanced Multi-Criteria Fire/CO Detector

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4 (CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

SWIFT Wireless

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

Releasing Features

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO2 listed.

Digital Voice and Telephone Features

- Up to eight channels of digital audio.
- 35, 50, 75, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series; NCA-2 required as primary display).
- Solid-state digital message generation.
- Firefighter telephone option.
- 30- to 120-watt high-efficiency amplifiers (AA Series).
- Backup tone generator and amplifier option.
- NFS2-640 can also integrate with the FirstCommand Emergency Communications System. *See DN-60772.*

High-Efficiency Offline Switching

3.0 A Power Supply (6.0 A in Alarm)

- 120 VAC (NFS2-640); 240 VAC (NFS2-640E).
- Displays battery current/voltage on panel (with display).

FlashScan, Exclusive World-Leading Detector Protocol

At the heart of the NFS2-640 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-640 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

Intelligent sensing is a set of software algorithms that provides the NFS2-640 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS2-640.

Drift Compensation and Smoothing: Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

Maintenance Warnings: When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust: Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm: Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing: A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit (with KDM-R2) The NFS2-640, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-640 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-640 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-640 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS2-640's flexible system design.

Rows: The first row of equipment in the cabinet mounts in the chassis shipped with the FACP. Mount the second, third, or fourth rows of equipment in a CHS-4 series chassis or, for Digital Voice Command products, in CA-1 or CA-2. (For DVC-EM and DAA2/DAX components see *DVC Manual*; for DS series components see *DS-AMP Manual*; for DVC-AO applications, see *AA Series Installation Manual*). Other options are available; see your panel's installation manual.

Wiring: When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *NFS2-640 Installation Manual*.

Positions: A chassis offers four basic side-by-side positions for components; the number of modules that can be mounted in each position depends on the chassis model and the size of the individual module. There are a variety of standoffs and hardware items available for different combinations and configurations of components.

It is critical that all mounting holes of the NFS2-640 are secured with a screw or standoff to ensure continuity of Earth Ground.

Layers: The control panel's chassis accepts four layers of equipment, including the control panel. The CPU2-640 fills three positions (left to right) in the first-installed layer (the back of the chassis); its integral power supply occupies the center two positions in the next two layers; the optional display occupies (the left) two positions at the front, flush with the door. Some equipment, such as the NCA-2, may be mounted in the dress panel directly in front of the control panel. The NCA-2 can be used as a primary display for the NFS2-640 (use NCA/640-2-KIT) by directly connecting their network ports (required in Canadian stand-alone applications); see NCA-2 data sheet for mounting options *(DN-7047)*.

Expansion: Installing an LEM-320 Loop Expander Module adds a second SLC loop to the control panel. The LEM-320 is mounted onto the CPU2-640, occupying the middle-right, second (back) slot on the chassis.

Networking: If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module. (HS-NCM can support two nodes; see "Networking Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of the network communication modules.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type *(keyboard layout, see figure)*.

12 LED indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On systems with one FACP (one CPU2-640/-640E), display options are the KDM-R2 or the NCA-2. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Other options listed as follows;

KDM-R2: 80-character backlit LCD display with QWERTY programming and control keypad. Order two BMP-1 blank modules and DP-DISP2 mounting plate separately. *Requires top row of a cabinet. Required for each stand-alone 80-character display system. The KDM-R2 may mount in network nodes to display "local" node information as long as at least one NCA-2 or NCS/ONYXWorks network display is on the system to display network information. (Non-English versions also available: KDM-R2C for ULC application, KDM-R2-FR, KDM-R2-PO, KDM-R2-SP.)*

NCA-2: Network Control Annunciator, 640 characters. On single *CPU2-640/-640E* systems, the optional NCA-2 can be used as the Primary Display for the panel and connects directly to the *CPU2-640/-640E*. On network systems (two or more networked fire panel nodes), one network display (either NCA-2 or NCS*/ONYXWorks*) is required for every system. On network systems, the NCA-2 connects to (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP2, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP2 and two BMP-1 blank modules are required for mounting. Required for NFS2-640 applications employing the DVC-EM with DAL devices. Non-English versions are available. NCA-2 are available for ULC applications. For marine applications, order NCA-2-M; for non-English Marine applications, order NCA-2-M and the appropriate KP-KIT-XX. *See DN-7047.*

CPU2-640: Central processing unit (CPU) with integral 3.0 A (6.0 A in alarm) power supply for an NFS2-640 system. Includes control panel factory-mounted on a chassis; one Signaling Line Circuit expandable to two; documentation kit. *Order one per system or as necessary (up to 103 network nodes) on a network system. (Non-English versions also available: CPU2-640-FR, CPU2-640-PO, CPU2-640-SP.)*

CPU2-640E: Same as CPU2-640 but requires 240 VAC, 1.5 A, (3.0 A in alarm). *(Non-English versions also available: CPU2-640E-PO, CPU2-640E-SP.)*

NCA/640-2-KIT: Bracket installation kit required to mount NCA-2 to the CPU2-640/-640E's standard chassis.

DP-DISP2: Dress panel for top row in cabinet with CPU2-640/640E installed.

ADP2-640: Dress panel for middle rows with CPU2-640/640E.

BMP-1: Blank module for unused module positions.

BP2-4: Battery plate, required.

LEM-320: Loop Expander Module. Expands each NFS2-640 to two Signaling Line Circuits. *See DN-6881.*

Networking Options

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861*.

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL-listed graphics PC workstation, software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952.*

FCPS-24S6/S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. NFS2-640 uses two 12 volt, 18 to 200 AH batteries. *See DN-6933.*

AUDIO OPTIONS

NOTE: *For mounting hardware, see "Enclosures, Chassis, and Dress Plates" on page 6 and peripheral data sheets.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. Capable of playing up to eight simultaneous messages when used with Digital Audio Loop (DAL) devices. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045.*

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAX and DAA2 Series amplifiers. *See DN-60633.*

DVC-AO: DVC Analog Output board provides four analog output circuits for use with AA Series amplifiers. Four-channel operation supported. *See DN-7045.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Optional microphone and microphone well assembly used with the CA-1 chassis.

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier provides up to 120 watts of 25 VRMS audio power for the NFS-640. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Switch-mode power. Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. Order the AA-100 for 70.7 VRMS systems and 100 watts of power. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC-EM systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

NFC-25/50: 25 watt, 25 VRMS, emergency Voice Evacuation Control Panel (VECP) with integral commercial microphone, digital message generator, and single-/dual-channel Class A or Class B speaker circuits. *See DN-60772.*

COMPATIBLE DEVICES, EIA-232 PORTS

PRN-7: 80-column printer. *See DN-60897.*

VS4095/5: Printer, 40-column, 24V. Mounted in external backbox. *See DN-3260.*

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

COMPATIBLE DEVICES, EIA-485 PORTS

ACM-24AT: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

ACM-48A: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See DN-6862.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558.*

FDU-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-6820.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-60548.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom graphic driver modules. *See DN-0551.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits (HVAC only). *See DN-4818.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (single-address-style) or in CHS2-M2 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Up to 256 programmable codes. Mounts in **BB-UZC** or other compatible chassis (purchased separately). *See DN-3404.*

COMPATIBLE INTELLIGENT DEVICES

NOTE: "A" suffix indicates ULC-Listed model.

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792.*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6934.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851T(A): FSP-851 plus dual electronic thermistors that add 135°F (57°C) fixed-temperature thermal sensing. *See DN-6935.*

FSP-851R(A): FSP-851, remote-test capable. For use with DNR(W). *See DN-6935.*

FST-851(A): FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus low-profile multi-sensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW laser photo detector. See *DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851R separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. See DN-60054.

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SCOA: Based on B200SA, with added CO detector markings in English/French. For Canadian applications only.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1(A): FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. See DN-6989.

FCM-1(A): FlashScan control module. *See DN-6720.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FRM-1(A): FlashScan relay module. *See DN-6720.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-640 mounts in a standard CAB-4 Series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered seperately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. *See DN-60229. .*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

CHS-4: Chassis for mounting up to four APS-6Rs.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers or one AMG-E and one AA-30.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBBR: Same as above but red.

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts one the left side of DAA2 chassis. See DN-7046.

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted on a half-chassis and one NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

CFFT-1: Chassis to mount firefighter’s telephone and one ACS annunciator in a CAB-4 row. Includes TELH-1 firefighter’s handset for the DVC-EM, chassis, phone well and mounting hardware. Order DP-CFFT dress panel separately.

DP-CFFT: CFFT-1 dress panel. Requires BMP-1 if no ACS annunciator is installed.

ADDR-B4*: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4*: Three-tier-sized door, designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4*: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

*Use ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with NCA-2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows. For additional configuration information, see the DVC application guide on http://esd.notifier.com.

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2B: Dress panel used with CA-2 chassis assembly.

VP-2B: Dress panel, required when CA-2 chassis is installed in the top two cabinet rows.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

BP-CA2: Blank plate for CA-2 chassis.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-640 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

ABF-1B(C) Annunciator Flush Box.

ABF-1DB(C) Annunciator Flush Box with Door.

ABF-2B Annunciator Flush Box

ABF-2DB/C Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

BB-UZC: Backbox for housing the UZC-256 in applications where the UZC-256 will not fit in panel enclosure. Black; for red, order BB-UZC-R.

OTHER OPTIONS

411: Slave digital alarm communicator. See DN-6619.

411UDAC: Digital alarm communicator. See DN-6746.

IPDACT-2/2UD, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order IPENC-B.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. *See DH-60769.*

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

System Capacity

- Intelligent Signaling Line Circuits .....1 expandable to 2
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules..... 159 per loop
- Programmable software zones..... 99
- Special programming zones..... 14
- LCD annunciators per CPU2-640/-640E and NCA-2 *(observe power)*..... 32
- ACS annunciators per CPU2-640/-640E..... 32 addresses x 64 points
- ACS annunciators per NCA-2 .....32 addresses x 64 or 96 points

NOTE: *The NCA-2 supports up to 96 annunciator address points per ACM-24AT/-48A.*

Electrical Specifications

- Primary input power:
  - CPU2-640 board: 120 VAC, 50/60 Hz, 5.0 A.
  - CPU2-640E board: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - CPU2-640(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2: 0.100 A.
  - LEM-320: 0.100 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A. of available power. This is shared by all internal circuits. See Installation Manual for a complete current draw calculation sheet.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

- Systems can be installed in CAB-4 Series cabinets *(four sizes with various door options, see DN-6857)*. Requires BP2-4 Battery Plate.

Shipping Weight

- CPU2-640/-640: 14.3 lb (6.49 kg).
- CPU2-640/-640E: 14.55 lb (6.60 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/ 32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic NFS2-640 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635.
- **ULC Listed:** S527-11
- **FM Approved.**
- **MEA:** 128-07-E.
- **Fire Dept. of New York:** #6212.
- **CSFM:** 7165-0028:0243.
- **City of Chicago.**
- **City and County of Denver.**
- **CCCF listed.**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in "Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/50/0, 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-640 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864, 9th Edition** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-640 version 20 or higher.)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual and Waterflow). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

NFS2-640(E)

Intelligent Addressable Fire Alarm System

NOTIFIER® by Honeywell

Intelligent Fire Alarm Control Panels

General

The NFS2-640 intelligent Fire Alarm Control Panel is part of the ONYX® Series of Fire Alarm Controls from NOTIFIER.

In stand-alone or network configurations, ONYX Series products meet virtually every application requirement.

The NFS2-640's modular design makes system planning easier. The panel can be configured with just a few devices for small building applications, or networked with many devices to protect a large campus or a high-rise office block. Simply add additional peripheral equipment to suit the application.

A host of other options are available, including single- or multi-channel voice; firefighter's telephone; LED, LCD, or PC-based graphic annunciators; networking; advanced detection products for challenging environments; wireless fire protection; and many additional options.

NOTE: *Unless called out with a version-specific "E" at the end of the part number, "NFS2-640" refers to models NFS2-640 and NFS2-640E; similarly, "CPU2-640" refers to models CPU2-640 and CPU2-640E.*

Features

- Certified for seismic applications when used with the appropriate seismic mounting kit.
- Approved for Marine applications when used with listed compatible equipment. *See DN-60688.*
- One, expandable to two, isolated intelligent Signaling Line Circuit (SLC) Style 4, 6 or 7.
- Wireless fire protection using SWIFT Smart Wireless Integrated Fire Technology. See DN-60820.
- Up to 159 detectors and 159 modules per SLC; 318 devices per loop/636 per FACP or network node.
  - Detectors can be any mix of ion, photo, thermal, or multi-sensor; wireless detectors are available for use with the FWSG.
  - Modules include addressable pull stations, normally open contact devices, two-wire smoke detectors, notification, or relay; wireless modules are available for use with the FWSG.
- Standard 80-character display, 640-character large display (NCA-2), or display-less (a node on a network).
- Network options:
  - High-speed network for up to 200 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NFS-3030, NFS-640, and NCA).
  - Standard network for up to 103 nodes (NFS2-3030, NFS2-640, NFS-320(C), NFS-320SYS, NCA-2, DVC-EM, ONYXWorks, NCS, NFS-3030, NFS-640, NCA, AFP-200, AFP-300/400, AFP-1010, and AM2020). Up to 54 nodes when DVC-EM is used in network paging.
- 6.0 A switch mode power supply with four Class A/B built-in Notification Appliance Circuits (NAC). Selectable System Sensor, Wheelock, or Gentex strobe synchronization.
- Built-in Alarm, Trouble, Security, and Supervisory relays.
- VeriFire® Tools online or offline programming utility. Upload/Download, save, store, check, compare, and simulate panel databases. Upgrade panel firmware.
- Autoprogramming and Walk Test reports.
- Multiple central station communication options:
  - Standard UDACT
  - Internet
  - Internet/GSM
- 80-character remote annunciators (up to 32).

NFS2-640-DVC_right.jpg

NFS2-640

- EIA-485 annunciators, including custom graphics.
- Printer interface (80-column and 40-column printers).
- History file with 800-event capacity in nonvolatile memory, plus separate 200-event alarm-only file.
- Alarm Verification selection per point, with automatic counter.
- Presignal/Positive Alarm Sequence (PAS).
- Silence inhibit and Auto Silence timer options.
- March time/temporal/California two-stage coding/strobe synchronization.
- Field-programmable on panel or on PC, with VeriFire Tools program check, compare, simulate.
- Full QWERTY keypad.
- Battery charger supports 18 – 200 AH batteries.
- Non-alarm points for lower priority functions.
- Remote ACK/Signal Silence/System Reset/Drill via monitor modules.
- Automatic time control functions, with holiday exceptions.
- Surface Mount Technology (SMT) electronics.
- Extensive, built-in transient protection.
- Powerful Boolean logic equations.
- Support for SCS Series smoke control system in HVAC mode.

NCA-2 as Primary Display

- Backlit, 640-character display.
- Supports SCS Series smoke control system in FSCS mode when SCS is connected to the NCA-2 used as primary display.
- Supports DVC digital audio loop.
- Printer and CRT EIA-232 ports.
- EIA-485 annunciator and terminal mode ports.
- Alarm, Trouble, Supervisory, and Security relays.

FLASHSCAN® INTELLIGENT FEATURES

- Polls up to 318 devices in less than two seconds.
- Activates up to 159 outputs in less than five seconds.
- Multicolor LEDs blink device address during Walk Test.
- Fully digital, high-precision protocol (U.S. Patent 5,539,389).
- Manual sensitivity adjustment — up to nine levels.
- Pre-alarm ONYX intelligent sensing — up to nine levels.
- Day/Night automatic sensitivity adjustment.
- Sensitivity windows:
  - **Ion** – 0.5 to 2.5%/foot obscuration.
  - **Photo** – 0.5 to 2.35%/foot obscuration.
  - **Laser (VIEW®)** – 0.02 to 2.0%/foot obscuration.
  - **Acclimate Plus™** – 0.5 to 4.0%/foot obscuration.
  - **IntelliQuad™** – 1.0 to 4.0%/foot obscuration.
  - **IntelliQuad™ PLUS –** 1.0 to 4.0%/foot obscuration
- Drift compensation (U.S. Patent 5,764,142).
- Degraded mode — in the unlikely event that the CPU2-640 microprocessor fails, FlashScan detectors revert to degraded operation and can activate the CPU2-640 NAC circuits and alarm relay. Each of the four built-in panel circuits includes a Disable/Enable switch for this feature.
- Multi-detector algorithm involves nearby detectors in alarm decision (U.S. Patent 5,627,515).
- Automatic detector sensitivity testing (NFPA-72 compliant).
- Maintenance alert (two levels).
- Self-optimizing pre-alarm.

FSL-751 (VERY INTELLIGENT EARLY WARNING)
SMOKE DETECTION TECHNOLOGY

- Advanced ONYX intelligent sensing algorithms differentiate between smoke and non-smoke signals (U.S. Patent 5,831,524).
- Addressable operation pinpoints the fire location.
- Early warning performance comparable to the best aspiration systems at a fraction of the lifetime cost.

FAPT-851 ACCLIMATE PLUS
LOW-PROFILE INTELLIGENT MULTI-SENSOR

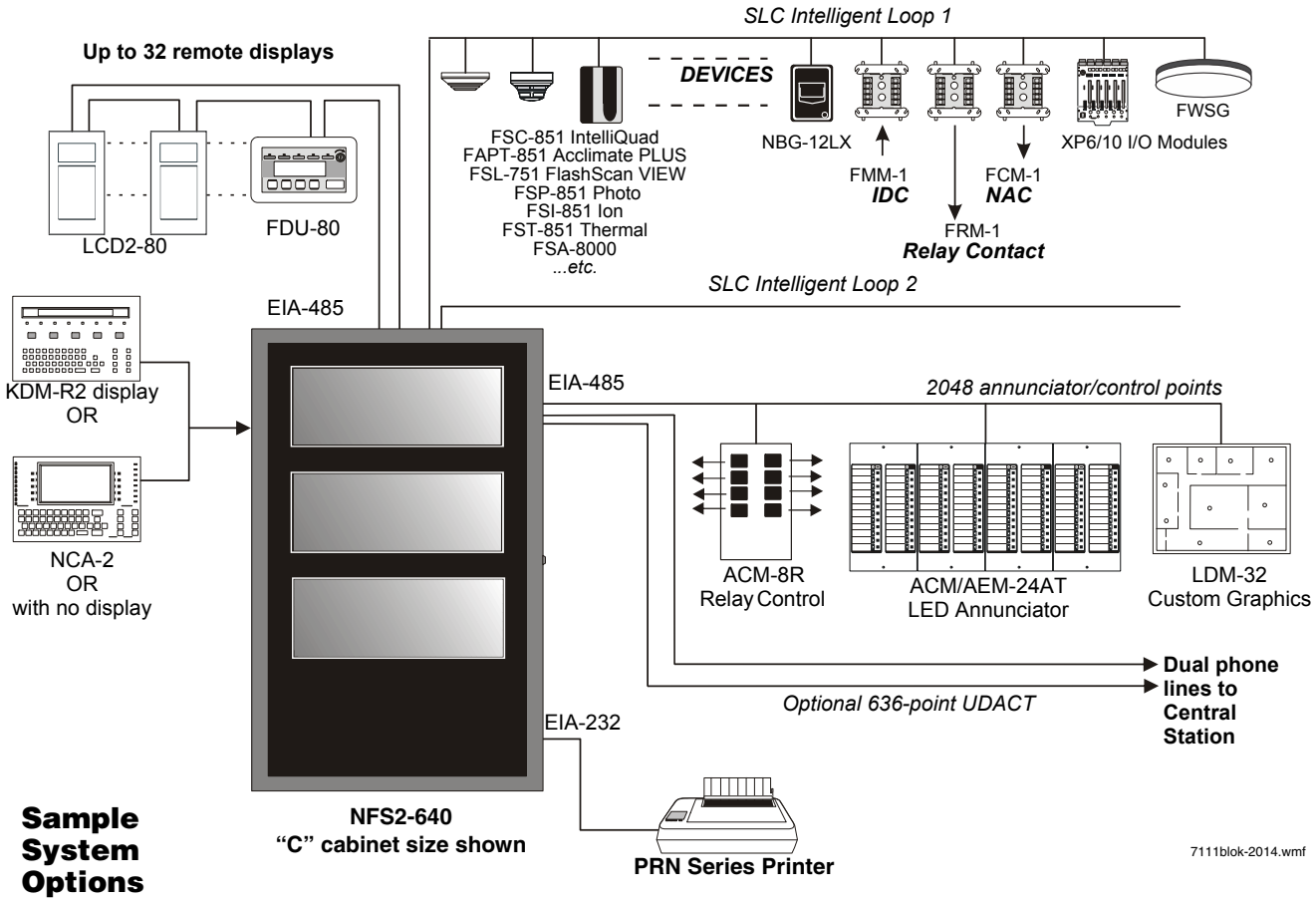
- Detector automatically adjusts sensitivity levels without operator intervention or programming. Sensitivity increases with heat.
- Microprocessor-based technology; combination photo and thermal technology.
- Low-temperature warning signal at 40°F ± 5°F (4.44°C ± 2.77°C).

FSC-851 INTELLIQUAD
ADVANCED MULTI-CRITERIA DETECTOR

- Detects all four major elements of a fire (smoke, heat, CO, and flame).
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

INTELLIGENT FAAST® DETECTORS FSA-5000, FSA-8000, FSA-20000 AND FSA-20000P

- Connects directly to the SLC loop of compatible ONYX series panels.
- Provides five event thresholds that can be individually programmed with descriptive labels for control-by-event programming; uses five detector addresses.
- Uses patented particle separator and field-replaceable filter to remove contaminants.
- Advanced algorithms reject common nuisance conditions
- FSA-5000 covers 5,000 square feet through one pipe.
- FSA-8000 covers 8,000 square feet through one pipe.
- FSA-20000 covers 28,800 square feet through one to four pipes.



Sample System Options

- FSA-20000P covers 28,800 square feet through one to four pipes. Supports addressable pipes to pinpoint location of alarm events

FCO-851 IntelliQuad™ PLUS

Advanced Multi-Criteria Fire/CO Detector

- Detects all four major elements of a fire.
- Separate signal for life-safety CO detection.
- Optional addressable sounder base for Temp-3 (fire) or Temp-4 (CO) tone.
- Automatic drift compensation of smoke sensor and CO cell.
- High nuisance-alarm immunity.

SWIFT Wireless

- Self-healing mesh wireless protocol.
- Each SWIFT Gateway supports up to 50 devices: 1 wireless gateway and up to 49 SWIFT devices.
- Up to 4 wireless gateways can be installed with overlapping network coverage.

Releasing Features

- Ten independent hazards.
- Sophisticated cross-zone (three options).
- Delay timer and Discharge timers (adjustable).
- Abort (four options).
- Low-pressure CO2 listed.

Digital Voice and Telephone Features

- Up to eight channels of digital audio.
- 35, 50, 75, and 100/125 watt digital amplifiers (DAA2/DAX series and DS series; NCA-2 required as primary display).
- Solid-state digital message generation.
- Firefighter telephone option.
- 30- to 120-watt high-efficiency amplifiers (AA Series).
- Backup tone generator and amplifier option.
- NFS2-640 can also integrate with the FirstCommand Emergency Communications System. *See DN-60772.*

High-Efficiency Offline Switching

3.0 A Power Supply (6.0 A in Alarm)

- 120 VAC (NFS2-640); 240 VAC (NFS2-640E).
- Displays battery current/voltage on panel (with display).

FlashScan, Exclusive World-Leading Detector Protocol

At the heart of the NFS2-640 is a set of detection devices and device protocol — FlashScan (U.S. Patent 5,539,389). FlashScan is an all-digital protocol that gives superior precision and high noise immunity.

In addition to providing quick identification of an active input device, this protocol can also activate many output devices in a fraction of the time required by competitive protocols. This high speed also allows the NFS2-640 to have the largest device per loop capacity in the industry — 318 points — yet every input and output device is sampled in less than two seconds. The microprocessor-based FlashScan detectors have bicolor LEDs that can be coded to provide diagnostic information, such as device address during Walk Test.

ONYX Intelligent Sensing

Intelligent sensing is a set of software algorithms that provides the NFS2-640 with industry-leading smoke detection capability. These complex algorithms require many calculations on each reading of each detector, and are made possible by the high-speed microcomputer used by the NFS2-640.

Drift Compensation and Smoothing: Drift compensation allows the detector to retain its original ability to detect actual smoke, and resist false alarms, even as dirt accumulates. It reduces maintenance requirements by allowing the system to automatically perform the periodic sensitivity measurements required by NFPA 72. Smoothing filters are also provided by software to remove transient noise signals, such as those caused by electrical interference.

Maintenance Warnings: When the drift compensation performed for a detector reaches a certain level, the performance of the detector may be compromised, and special warnings are given. There are three warning levels: (1) Low Chamber value; (2) Maintenance Alert, indicative of dust accumulation that is near but below the allowed limit; (3) Maintenance Urgent, indicative of dust accumulation above the allowed limit.

Sensitivity Adjust: Nine sensitivity levels are provided for alarm detection. These levels can be set manually, or can change automatically between day and night. Nine levels of pre-alarm sensitivity can also be selected, based on predetermined levels of alarm. Pre-alarm operation can be latching or self-restoring, and can be used to activate special control functions.

Self-Optimizing Pre-Alarm: Each detector may be set for "Self-Optimizing" pre-alarm. In this special mode, the detector "learns" its normal environment, measuring the peak analog readings over a long period of time, and setting the pre-alarm level just above these normal peaks.

Cooperating Multi-Detector Sensing: A patented feature of ONYX intelligent sensing is the ability of a smoke sensor to consider readings from nearby sensors in making alarm or pre-alarm decisions. Without statistical sacrifice in the ability to resist false alarms, it allows a sensor to increase its sensitivity to actual smoke by a factor of almost two to one.

Field Programming Options

Autoprogram is a timesaving feature. The FACP "learns" what devices are physically connected and automatically loads them in the program with default values for all parameters. Requiring less than one minute to run, this routine allows the user to have almost immediate fire protection in a new installation, even if only a portion of the detectors are installed.

Keypad Program Edit (with KDM-R2) The NFS2-640, like all NOTIFIER intelligent panels, has the exclusive feature of program creation and editing capability from the front panel keypad, while continuing to provide fire protection. The architecture of the NFS2-640 software is such that each point entry carries its own program, including control-by-event links to other points. This allows the program to be entered with independent per-point segments, while the NFS2-640 simultaneously monitors other (already installed) points for alarm conditions.

VeriFire® Tools is an offline programming and test utility that can greatly reduce installation programming time, and increase confidence in the site-specific software. It is Windows®-based and provides technologically advanced capabilities to aid the installer. The installer may create the entire program for the NFS2-640 in the comfort of the office, test it, store a backup file, then bring it to the site and download from a laptop into the panel.

Placement of Equipment in Chassis and Cabinet

The following guidelines outline the NFS2-640's flexible system design.

Rows: The first row of equipment in the cabinet mounts in the chassis shipped with the FACP. Mount the second, third, or fourth rows of equipment in a CHS-4 series chassis or, for Digital Voice Command products, in CA-1 or CA-2. (For DVC-EM and DAA2/DAX components see *DVC Manual*; for DS series components see *DS-AMP Manual*; for DVC-AO applications, see *AA Series Installation Manual*). Other options are available; see your panel's installation manual.

Wiring: When designing the cabinet layout, consider separation of power-limited and non-power-limited wiring as discussed in the *NFS2-640 Installation Manual*.

Positions: A chassis offers four basic side-by-side positions for components; the number of modules that can be mounted in each position depends on the chassis model and the size of the individual module. There are a variety of standoffs and hardware items available for different combinations and configurations of components.

It is critical that all mounting holes of the NFS2-640 are secured with a screw or standoff to ensure continuity of Earth Ground.

Layers: The control panel's chassis accepts four layers of equipment, including the control panel. The CPU2-640 fills three positions (left to right) in the first-installed layer (the back of the chassis); its integral power supply occupies the center two positions in the next two layers; the optional display occupies (the left) two positions at the front, flush with the door. Some equipment, such as the NCA-2, may be mounted in the dress panel directly in front of the control panel. The NCA-2 can be used as a primary display for the NFS2-640 (use NCA/640-2-KIT) by directly connecting their network ports (required in Canadian stand-alone applications); see NCA-2 data sheet for mounting options *(DN-7047)*.

Expansion: Installing an LEM-320 Loop Expander Module adds a second SLC loop to the control panel. The LEM-320 is mounted onto the CPU2-640, occupying the middle-right, second (back) slot on the chassis.

Networking: If networking two or more control panels, each unit requires a Network Communication Module or High-Speed Network Communication Module. (HS-NCM can support two nodes; see "Networking Options" on page 4). These modules can be installed in any option board position (see manual), and additional option boards can be mounted in front of the network communication modules.

KDM-R2 Controls and Indicators

Program Keypad: QWERTY type *(keyboard layout, see figure)*.

12 LED indicators: Power; Fire Alarm; Pre-Alarm; Security; Supervisory; System Trouble; Signals Silenced; Points Disabled; Control Active; Abort; Pre-Discharge; Discharge.

Keypad Switch Controls: Acknowledge/Scroll Display; Signal Silence; Drill; System Reset; Lamp Test.

LCD Display: 80 characters (2 x 40) with long-life LED backlight.

Product Line Information

Configuration Guidelines

Stand-alone and network systems require a main display. On systems with one FACP (one CPU2-640/-640E), display options are the KDM-R2 or the NCA-2. On network systems (two or more networked fire panel nodes), at least one NCA-2, NCS, or ONYXWorks annunciation device is required. Other options listed as follows;

KDM-R2: 80-character backlit LCD display with QWERTY programming and control keypad. Order two BMP-1 blank modules and DP-DISP2 mounting plate separately. *Requires top row of a cabinet. Required for each stand-alone 80-character display system. The KDM-R2 may mount in network nodes to display "local" node information as long as at least one NCA-2 or NCS/ONYXWorks network display is on the system to display network information. (Non-English versions also available: KDM-R2C for ULC application, KDM-R2-FR, KDM-R2-PO, KDM-R2-SP.)*

NCA-2: Network Control Annunciator, 640 characters. On single *CPU2-640/-640E* systems, the optional NCA-2 can be used as the Primary Display for the panel and connects directly to the *CPU2-640/-640E*. On network systems (two or more networked fire panel nodes), one network display (either NCA-2 or NCS*/ONYXWorks*) is required for every system. On network systems, the NCA-2 connects to (and requires) a standard Network Communication Module or High-Speed Network Communication Module. Mounts in a row of FACP node or in two annunciator positions. Mounting options include the DP-DISP2, ADP-4B, or in an annunciator box, such as the ABS-2D. In CAB-4 top-row applications, a DP-DISP2 and two BMP-1 blank modules are required for mounting. Required for NFS2-640 applications employing the DVC-EM with DAL devices. Non-English versions are available. NCA-2 are available for ULC applications. For marine applications, order NCA-2-M; for non-English Marine applications, order NCA-2-M and the appropriate KP-KIT-XX. *See DN-7047.*

CPU2-640: Central processing unit (CPU) with integral 3.0 A (6.0 A in alarm) power supply for an NFS2-640 system. Includes control panel factory-mounted on a chassis; one Signaling Line Circuit expandable to two; documentation kit. *Order one per system or as necessary (up to 103 network nodes) on a network system. (Non-English versions also available: CPU2-640-FR, CPU2-640-PO, CPU2-640-SP.)*

CPU2-640E: Same as CPU2-640 but requires 240 VAC, 1.5 A, (3.0 A in alarm). *(Non-English versions also available: CPU2-640E-PO, CPU2-640E-SP.)*

NCA/640-2-KIT: Bracket installation kit required to mount NCA-2 to the CPU2-640/-640E's standard chassis.

DP-DISP2: Dress panel for top row in cabinet with CPU2-640/640E installed.

ADP2-640: Dress panel for middle rows with CPU2-640/640E.

BMP-1: Blank module for unused module positions.

BP2-4: Battery plate, required.

LEM-320: Loop Expander Module. Expands each NFS2-640 to two Signaling Line Circuits. *See DN-6881.*

Networking Options

NCM-W, NCM-F: Standard Network Communications Modules. Wire and multi-mode fiber versions available. *See DN-6861*.

HS-NCM-W/MF/SF/WMF/WSF/MFSF: High-speed Network Communications Modules that can connect to two nodes. Wire, single-mode fiber, multi-mode fiber, and media conversion models are available. *See DN-60454.*

RPT-W, RPT-F, RPT-WF: Standard-network repeater board with wire connection (RPT-W), multi-mode fiber connection (RPT-F), or allowing a change in media type between wire and fiber (RPT-WF). Not used with high-speed networks. *See DN-6971.*

ONYXWorks: UL-listed graphics PC workstation, software, and computer hardware. *See DN-7048 for specific part numbers.*

NFN-GW-EM-3: NFN Gateway, embedded. (Replaces NFN-GW-EM.) *See DN-60499.*

NWS-3: NOTI•FIRE•NET™ Web Server. *See DN-6928.*

CAP-GW: Common Alerting Protocol Gateway. *See DN-60756.*

VESDA-HLI-GW: VESDAnet high-level interface gateway. *See DN-60753.*

LEDSIGN-GW: UL-listed sign gateway. Interfaces with classic and high-speed NOTI•FIRE•NET networks through the NFN Gateway. *See DN-60679.*

OAX2-24V: UL-listed LED sign, used with LEDSIGN-GW. *See DN-60679.*

Auxiliary Power Supplies and Batteries

ACPS-610: 6.0 A or 10.0 A addressable charging power supply. *See DN-60244.*

APS2-6R: Auxiliary Power Supply. Provides up to 6.0 amperes of power for peripheral devices. Includes battery input and transfer relay, and overcurrent protection. Mounts on two of four positions on a CHS-4L or CHS-4 chassis. *See DN-5952.*

FCPS-24S6/S8: Remote 6 A and 8 A power supplies with battery charger. *See DN-6927.*

BAT Series: Batteries. NFS2-640 uses two 12 volt, 18 to 200 AH batteries. *See DN-6933.*

AUDIO OPTIONS

NOTE: *For mounting hardware, see "Enclosures, Chassis, and Dress Plates" on page 6 and peripheral data sheets.*

DVC-EM: Digital Voice Command, digital audio processor with message storage for up to 32 minutes of standard quality (4 minutes at high quality) digital audio. Capable of playing up to eight simultaneous messages when used with Digital Audio Loop (DAL) devices. *See DN-7045.*

DVC-RPU: Digital Voice Command Remote Paging Unit for use with DVC-EM. Includes the keypad/display. *See DN-60726.*

DS-DB: Digital Series Distribution Board, provides bulk amplification capabilities to the DVC-EM while retaining digital audio distribuition capabilities. Can be configured with up to four DS-AMPs, supplying high-level risers spread throughout an installation. *See DN-60565.*

DVC-KD: DVC-EM keypad for local annunciation and controls; status LEDs and 24 user-programmable buttons. *See DN-7045.*

DS-AMP/E: 125W, 25 VRMS, or 100W, 70VRMS. 70VRMS requires DS-XF70V step-up transformer. Digital Series Amplifier, part of the DS-DB system. *See DN-60663.*

DS-RFM, DS-FM, DS-SFM: Fiber conversion modules for DVC-EM, DS-DB distribution board, and DAX and DAA2 Series amplifiers. *See DN-60633.*

DVC-AO: DVC Analog Output board provides four analog output circuits for use with AA Series amplifiers. Four-channel operation supported. *See DN-7045.*

DAA2-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAA2-7525(E): 75W, 25 Vrms digital audio amplifier assembly with power supply; includes chassis. *See DN-60556.*

DAX-3525(E): 35W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-3570(E): 35W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5025(E): 50W, 25 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

DAX-5070(E): 50W, 70.7 Vrms Digital Audio Amplifier assembly with power supply, includes chassis. *See DN-60561.*

TELH-1: Firefighter's Telephone Handset for use with the DVC-EM when mounted in the CA-2 chassis. *See DN-7045.*

CMIC-1: Optional microphone and microphone well assembly used with the CA-1 chassis.

RM-1/RM-1SA: Remote microphone assemblies, mount on ADP-4 (RM-1) dress panel or CAB-RM/-RMR (RM-1SA) stand-alone cabinets. *See DN-6728.*

AA-30: Audio Amplifier, 30 watts, 25 Vrms. Includes amplifier and audio input supervision, backup input, and automatic switchover, power supply, cables. *See DN-3224.*

AA-120/AA-100: Audio Amplifier provides up to 120 watts of 25 VRMS audio power for the NFS-640. The amplifier contains an integral chassis for mounting to a CAB-B4, -C4, or -D4 backbox (consumes one row). Switch-mode power. Includes audio input and amplified output supervision, backup input, and automatic switchover to backup tone. Order the AA-100 for 70.7 VRMS systems and 100 watts of power. *See DN-3224.*

DAA Series Digital Audio Amplifiers: Legacy DAA Series amplifiers are compatible with DVC-EM systems running SR4.0. For specific information on DAA-50 series amplifiers, refer to DN-7046. For information on DAA-7525 Series, refer to DN-60257.

NFC-25/50: 25 watt, 25 VRMS, emergency Voice Evacuation Control Panel (VECP) with integral commercial microphone, digital message generator, and single-/dual-channel Class A or Class B speaker circuits. *See DN-60772.*

COMPATIBLE DEVICES, EIA-232 PORTS

PRN-7: 80-column printer. *See DN-60897.*

VS4095/5: Printer, 40-column, 24V. Mounted in external backbox. *See DN-3260.*

DPI-232: Direct Panel Interface, specialized modem for extending serial data links to remotely located FACPs and/or peripherals. *See DN-6870.*

COMPATIBLE DEVICES, EIA-485 PORTS

ACM-24AT: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED, Trouble LED, and switch per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) by point to be red, green, or yellow; the Trouble LED is always yellow. *See DN-6862.*

AEM-24AT: Same LED and switch capabilities as ACM-24AT, expands the ACM-24AT to 48, 72, or 96 points. *See DN-6862.*

ACM-48A: ONYX Series ACS annunciator – up to 96 points of annunciation with Alarm or Active LED per circuit. Active/Alarm LEDs can be programmed (by powered-up switch selection) in groups of 24 to be red, green, or yellow. Expandable to 96 points with one AEM-48A. *See DN-6862.*

AEM-48A: Same LED capabilities as ACM-48A, expands the ACM-48A to 96 points. *See DN-6862.*

ACM-8R: Remote Relay Module with eight Form-C contacts. Can be located up to 6,000 ft. (1828.8 m) from panel on four wires. *See DN-3558.*

FDU-80: Terminal mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-6820.*

LCD2-80: Terminal and ACS mode. 80-character, backlit LCD display. Mounts up to 6,000 ft. (1828.8 m) from panel. Up to 32 per FACP. *See DN-60548.*

LDM: Lamp Driver Modules LDM-32, LDM-E32, and LDM-R32; remote custom graphic driver modules. *See DN-0551.*

SCS: Smoke control stations SCS-8, SCE-8, with lamp drivers SCS-8L, SCE-8L; eight (expandable to 16) circuits (HVAC only). *See DN-4818.*

TM-4: Transmitter Module. Includes three reverse-polarity circuits and one municipal box circuit. Mounts in panel module position (single-address-style) or in CHS2-M2 position. *See DN-6860.*

UDACT-2: Universal Digital Alarm Communicator Transmitter, 636 channel. *See DN-60686.*

UZC-256: Programmable Universal Zone Coder provides positive non-interfering successive zone coding. Microprocessor-controlled, field-programmable from IBM®-compatible PCs (requires optional programming kit). Up to 256 programmable codes. Mounts in **BB-UZC** or other compatible chassis (purchased separately). *See DN-3404.*

COMPATIBLE INTELLIGENT DEVICES

NOTE: "A" suffix indicates ULC-Listed model.

FWSG Wireless SWIFT Gateway: Addressable gateway supports wireless SLC devices. Not appropriate for ULC applications. *See DN-60820.*

FSA-5000: Intelligent FAAST® XS Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 5,000 sq.ft. For Canadian applications, order FSA-5000A.

FSA-8000: Intelligent FAAST® XM Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 8,000 sq.ft. For Canadian applications, order FSA-8000A. *See DN-60792.*

FSA-20000: Intelligent FAAST® XT Fire Alarm Aspiration Sensing Technology. Intelligent aspirating smoke detector for applications up to 28,800 sq.ft. For Canadian applications, order FSA-20000A. *See DN-60849.*

FSA-20000P FAAST® XT PRO Intelligent Aspiration Detector For applications up to 28,800 sq. ft. (2601 sq. m.) through one to four addressable pipes. *See DN-60792*

FSB-200(A): Intelligent beam smoke detector. *See DN-6985.*

FSB-200S(A): Intelligent beam smoke detector with integral sensitivity test. *See DN-6985.*

FSC-851(A): FlashScan IntelliQuad Advanced Multi-Criteria Detector. *See DN-60412.*

FCO-851(A): FlashScan IntelliQuad PLUS Advanced Multi-Criteria Fire/CO Detector. *See DN-60689.*

FSI-851(A): Low-profile FlashScan ionization detector. *See DN-6934.*

FSP-851(A): Low-profile FlashScan photoelectric detector. *See DN-6935.*

FSP-851T(A): FSP-851 plus dual electronic thermistors that add 135°F (57°C) fixed-temperature thermal sensing. *See DN-6935.*

FSP-851R(A): FSP-851, remote-test capable. For use with DNR(W). *See DN-6935.*

FST-851(A): FlashScan thermal detector 135°F (57°C). *See DN-6936.*

FST-851R(A): FlashScan thermal detector 135°F (57°C) with rate-of-rise. *See DN-6936.*

FST-851H(A): FlashScan 190°F (88°C) high-temperature thermal detector. *See DN-6936.*

FAPT-851(A): FlashScan Acclimate Plus low-profile multi-sensor detector. *See DN-6937.*

FSL-751(A): FlashScan VIEW laser photo detector. See *DN-6886.*

DNR(A): InnovairFlex low-flow non-relay duct-detector housing (order FSP-851R separately). Replaces FSD-751PL/FSD-751RPL. *See DN-60429.*

DNRW(A): Same as above with NEMA-4 rating, watertight. *See DN-60429.*

B224RB: Low-profile relay base. *See DN-60054.*

B224BI: Isolator base for low-profile detectors. *See DN-60054.*

B210LP: Low-profile base. Standard U.S. style. Replaces B710LP. *See DN-60054.*

B501(A): European-style, 4" (10.16 cm) base. *See DN-60054.*

B200S: Intelligent programmable sounder base, capable of producing a variety of tone patterns including ANSI Temporal 3. Compatible with sychronization protocol. See DN-60054.

B200S-LF: Low-frequency version of B200S. See DN-60054.

B200SCOA: Based on B200SA, with added CO detector markings in English/French. For Canadian applications only.

B200SR: Sounder base, Temporal 3 or Continuous tone. *See DN-60054.*

B200SR-LF: Low-frequency version of B200SR. *See DN-60054.*

FMM-1(A): FlashScan monitor module. *See DN-6720.*

FDM-1(A): FlashScan dual monitor module. *See DN-6720.*

FZM-1(A): FlashScan two-wire detector monitor module. *See DN-6720.*

FMM-101(A): FlashScan miniature monitor module. *See DN-6720.*

FTM-1(A): Firephone Telephone Module connects a remote firefighter telephone to a centralized telephone console. Reports status to panel. Wiring to jacks and handsets is supervised. See DN-6989.

FCM-1(A): FlashScan control module. *See DN-6720.*

FCM-1-REL(A): FlashScan releasing control module. *See DN-60390.*

FRM-1(A): FlashScan relay module. *See DN-6720.*

FDRM-1(A): FlashScan dual monitor/dual relay module. *See DN-60709.*

NBG-12LX: Manual pull station, addressable. *See DN-6726.*

ISO-X: Isolator module. *See DN-2243.*

ISO-6: Six Fault isolator module. For Canadian applications order ISO-6A. *See DN-60844.*

XP6-C(A): FlashScan six-circuit supervised control module. *See DN-6924.*

XP6-MA(A): FlashScan six-zone interface module; connects intelligent alarm system to two-wire conventional detection zone. *See DN-6925.*

XP6-R(A): FlashScan six-relay (Form-C) control module. *See DN-6926.*

XP10-M(A): FlashScan ten-input monitor module. *See DN-6923.*

SLC-IM: SLC integration module, for VESDAnet detectors. *See DN-60755.*

Enclosures, Chassis, and Dress Plates

CAB-4 Series Enclosure: NFS2-640 mounts in a standard CAB-4 Series enclosure (available in four sizes, “A” through “D”). Backbox and door ordered seperately; requires BP2-4 battery plate. A trim ring option is available for semi-flush mounting. *See DN-6857.*

EQ Series Cabinets: EQ series cabinets will house amplifiers, power supplies, battery chargers and control modules. EQ cabinets are available in three sizes, “B” through “D”. *See DN-60229. .*

CAB-BM Marine System: Protects equipment in shipboard and waterfront applications. Also order **BB-MB** for systems using 100 AH batteries. For a full list of required and optional equipment, see *DN-60688.*

CHS-4: Chassis for mounting up to four APS-6Rs.

CHS-4L: Low-profile four-position Chassis. Mounts two AA-30 amplifiers or one AMG-E and one AA-30.

DP-1B: Blank dress panel. Provides dead-front panel for unused tiers; covers DAA2/DAX series or AA-series amplifier.

NFS-LBB: Battery Box (required for batteries larger than 26 AH).

NFS-LBBR: Same as above but red.

CHS-BH1: Battery chassis; holds two 12.0 AH batteries. Mounts one the left side of DAA2 chassis. See DN-7046.

CA-1: Chassis, occupies one tier of a CAB-4 Series enclosure. The left side accommodates one DVC-EM and a DVC-KD (optional); and the right side houses a CMIC-1 microphone and its well (optional). *See DN-7045.*

CA-2: Chassis assembly, occupies two tiers of a CAB-4 Series enclosure. The left side accommodates one DVC-EM mounted on a half-chassis and one NCA-2 mounted on a half-chassis. The right side houses a microphone/handset well. The CA-2 assembly includes CMIC-1 microphone. ADDR Series doors with two-tier visibility are available for use with the CA-2 configuration: ADDR-B4, ADDR-C4, ADDR-D4 (below).

CFFT-1: Chassis to mount firefighter’s telephone and one ACS annunciator in a CAB-4 row. Includes TELH-1 firefighter’s handset for the DVC-EM, chassis, phone well and mounting hardware. Order DP-CFFT dress panel separately.

DP-CFFT: CFFT-1 dress panel. Requires BMP-1 if no ACS annunciator is installed.

ADDR-B4*: Two-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-B4 backbox with the ADDR-B4. *See DN-7045, DN-6857.*

ADDR-C4*: Three-tier-sized door, designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-C4 backbox with the ADDR-C4. *See DN-7045, DN-6857.*

ADDR-D4*: Four-tier-sized door designed for use with the CA-2 chassis configuration. ADDR Series doors are similar to CAB-4 Series “DR” doors, but a clear window space exposes the top two tiers of the CAB-4 enclosure. Use an SBB-D4 backbox with the ADDR-D4. *See DN-7045, DN-6857.*

*Use ADDR-B4/C4/D4 when CA-2 chassis is installed in top two rows with NCA-2 or BP-CA2. Use standard door when CA-2 is not installed in top two rows. For additional configuration information, see the DVC application guide on http://esd.notifier.com.

DPA-1: Dress panel, used with the CA-1 chassis when configured with a DVC-EM, DVC-KD, and CMIC-1. *See DN-7045.*

DPA-2B: Dress panel used with CA-2 chassis assembly.

VP-2B: Dress panel, required when CA-2 chassis is installed in the top two cabinet rows.

DPA-1A4: Dress panel, used with the CA-1 chassis when the CMIC-1 is not used. Provides mounting options on right two bays for two ACS annunciators, or for blank plates. *See DN-7045.*

BP-CA2: Blank plate for CA-2 chassis.

SEISKIT-CAB: Seismic mounting kit. Required for seismic-certified applications with NFS2-640 and other equipment mounted in CAB-4 Series Enclosures. Includes battery bracket for two 26 AH batteries.

SEISKIT-LBB: Seismic kit for the NFS-LBB. Includes battery bracket for two 55 AH batteries.

BACKBOXES

NOTE: "C" suffix indicates ULC-Listed model.

ABF-1B(C) Annunciator Flush Box.

ABF-1DB(C) Annunciator Flush Box with Door.

ABF-2B Annunciator Flush Box

ABF-2DB/C Annunciator Flush Box with Door

ABF-4B Annunciator Flush Box

ABS-1TB(C) Annunciator Surface Box

ABS-1B(C) Annunciator Surface Box

ABS-2B Annunciator Surface Box

ABS-2D(C) Annunciator Surface Box

ABS-4D(C) Annunciator Surface Box

BB-UZC: Backbox for housing the UZC-256 in applications where the UZC-256 will not fit in panel enclosure. Black; for red, order BB-UZC-R.

OTHER OPTIONS

411: Slave digital alarm communicator. See DN-6619.

411UDAC: Digital alarm communicator. See DN-6746.

IPDACT-2/2UD, IPDACT Internet Monitoring Module: Connects to primary and secondary DACT telephone output ports for internet communications over customer-provided Ethernet connection. Requires compatible Teldat VisorALARM Central Station Receiver. Can use DHCP or static IP. *See DN-60408.*

IPCHSKIT: IP Communicator Chassis Mounting Kit. For mounting an IPDACT-2/2UD onto the panel chassis or CHS-4 series chassis. Use IPENC for external mounting applications.

IPSPLT: Y-adapter option allow connection of both panel dialer outputs to one IPDACT-2/2UD cable input.

IPENC: External enclosure for IPDACT, includes IPBRKT mounting bracket; Red. For Black order IPENC-B.

IPGSM-4G: Internet and Digital Cellular Fire Alarm Communicator. Provides selectable configurable paths: cellular only, IP only, or IP primary with cellular backup. Connects to the primary and secondary ports of a DACT. For Canadian applications order IPGSM-4GC. *See DH-60769.*

NOTE: *For other options including compatibility with retrofit equipment, refer to the panel's installation manual, the SLC manual, and the Device Compatibility Document.*

System Specifications

System Capacity

- Intelligent Signaling Line Circuits .....1 expandable to 2
- Intelligent detectors ..... 159 per loop
- Addressable monitor/control modules..... 159 per loop
- Programmable software zones..... 99
- Special programming zones..... 14
- LCD annunciators per CPU2-640/-640E and NCA-2 *(observe power)*..... 32
- ACS annunciators per CPU2-640/-640E..... 32 addresses x 64 points
- ACS annunciators per NCA-2 .....32 addresses x 64 or 96 points

NOTE: *The NCA-2 supports up to 96 annunciator address points per ACM-24AT/-48A.*

Electrical Specifications

- Primary input power:
  - CPU2-640 board: 120 VAC, 50/60 Hz, 5.0 A.
  - CPU2-640E board: 220/240 VAC, 50/60 Hz, 2.5 A.
- Current draw (standby/alarm):
  - CPU2-640(E) board: 0.250 A. Add 0.035 A for each NAC in use.
  - KDM-R2: 0.100 A.
  - LEM-320: 0.100 A.
- Total output 24 V power: 6.0 A in alarm.

NOTE: *The power supply has a total of 6.0 A. of available power. This is shared by all internal circuits. See Installation Manual for a complete current draw calculation sheet.*

- Standard notification circuits (4): 1.5 A each.
- Resettable regulated 24V power: 1.25 A.
- Two non-resettable regulated 24V power outputs:
  - 1.25 A.
  - 0.50 A.
- Non-resettable 5V power: 0.15 A.
- Battery charger range: 18 AH – 200 AH. Use separate cabinet for batteries over 26 AH.
- Float rate: 27.6 V.

Cabinet Specifications

- Systems can be installed in CAB-4 Series cabinets *(four sizes with various door options, see DN-6857)*. Requires BP2-4 Battery Plate.

Shipping Weight

- CPU2-640/-640: 14.3 lb (6.49 kg).
- CPU2-640/-640E: 14.55 lb (6.60 kg).

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/ 32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic NFS2-640 control panel. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC Listed:** S635.
- **ULC Listed:** S527-11
- **FM Approved.**
- **MEA:** 128-07-E.
- **Fire Dept. of New York:** #6212.
- **CSFM:** 7165-0028:0243.
- **City of Chicago.**
- **City and County of Denver.**
- **CCCF listed.**

Marine Applications: Marine approved systems must be configured using components itemized in this document. (See Main System Components, in "Product Line Information.) Specific connections and requirements for those components are described in the installation document, PN 54756. When these requirements are followed, systems are approved by the following agencies:

- **US Coast Guard** 161.002/50/0, 161.002/55/0 (Standard 46 CFR and 161.002).
- **Lloyd's Register** 11/600013 (ENV 3 category).
- **American Bureau of Shipping** (ABS) Type Approval.

NOTE: *For information on marine applications, see DN-60688.*

Standards

The NFS2-640 complies with the following UL Standards and NFPA 72, International Building Code (IBC), and California Building Code (CBC) Fire Alarm Systems requirements:

- **UL 864, 9th Edition** (Fire).
- **UL 1076** (Burglary).
- **UL 2572** (Mass Notification Systems). (NFS2-640 version 20 or higher.)
- **ULC-S527-11** Standard for the Installation of Fire Alarm Systems.
- **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).
- **AUXILIARY** (Automatic, Manual and Waterflow) (requires TM-4).
- **REMOTE STATION** (Automatic, Manual, Waterflow and Sprinkler Supervisory) (requires TM-4).
- **PROPRIETARY** (Automatic, Manual and Waterflow). *Not applicable for FM.*
- **EMERGENCY VOICE/ALARM**.
- **OT, PSDN** (Other Technologies, Packet-switched Data Network).
- **IBC 2012, IBC 2009, IBC 2006, IBC 2003, IBC 2000** (Seismic).
- **CBC 2007** (Seismic).

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QUALITY SYSTEMS

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Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

N-NCS/V4

Network Control Station

NOTIFIER® by Honeywell

DC-201808-N

Network Systems

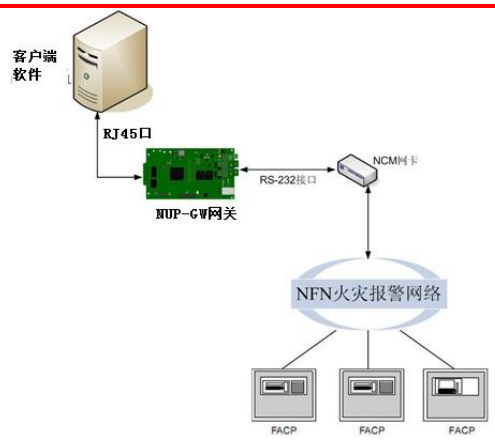
Description

The N-NCS/V4 Network Control Stations Software is a high-performance desktop interface with text and color graphics display capability for all network events and nodes. It can be connected to either NOTIFIER NFS2-3030 series or N-6000 series Fire Alarm Control System. The N-NCS/V4 runs under the user-friendly Windows® environment. The N-NCS/V4 is an ideal platform when network monitoring and control are required.

Features & Environmental Requirements

- Compatible with NFS2-3030 Series and N-6000 Series FACPs
- Separately NUP-GW gateway and NFN network are needed to connect with NFS2-3030 Series FACP
- Real-time graphic and text alarm notification
- User authorization group
- Ability to activate, deactivate, enable and disable devices
- Full screen
- Cross zone Control by Event(CBE)
- Compatible with Windows 7
- Temperature 0°C to 49°C (32°F - 120°F)
- Relative Humidity 93%, no condensing

System Diagram



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LCD-160

Liquid Crystal Display

NOTIFIER® by Honeywell

Annunciator Control Systems

General

The LCD-160 is a 640-character Liquid Crystal Display (LCD) annunciator and remote control for the NOTIFIER NFS-3030/ NFS2-3030 Fire Alarm Control Panel (FACP). The LCD-160 will mimic the top portion (160 characters) of the NFS-3030/ NFS2-3030's 640-character display. This provides the event and preprogrammed custom messages as displayed on the main panel. The full screen contains soft key functions, and can display other panel information.

LCD-160 Features

- 640-character Liquid Crystal Display with backlit control.
- On-board input, output, and status indicators to support diagnostics.
- Software upgrades and foreign-languages character sets via serial port from a panel or other device using the Remote Data Port (RDP) interface. Upgrades do not require the replacement of any programmable devices.
- Rubberized keypad.
- Input for AKS-1B key switch.
- Fits in two ACS annunciator module locations.
- Display and Control Center (DCC) participation/indication.

RDP Interface

Any communication between the control panel and any RDP device, such as the LCD-160, occurs over an RDP interface.

- RDP interface communication is supervised by the FACP and the LCD-160.
- RDP bus can drive up to 32 RDP devices. The FACP must be at one end of the bus; the last RDP device on the circuit must have an enabled end-of-line resistor.
- Each LCD-160 on the bus requires a non-resettable 24 VDC power connection. The power circuit is inherently supervised and a loss of power registers as a communication failure at the control panel.
- The LCD-160 can be powered by a regulated remote power supply listed for fire-protective signaling use. If the 24 VDC power comes from a non-power-limited source, it must remain separate from the power-limited RDP bus.

Specifications

Input supply voltage (TB2): Regulated, filtered 24 VDC via non-resettable power supply interface listed for fire-protective signaling use. Sources can be: panels with integrated power supplies, main power supplies (AMPS-24, etc.), auxiliary power supplies (APS2-6R, etc.); or a compatible accessories output. If RDP devices are to be powered by separate power supplies, a common reference connection must be established.

Data communications port (TB1): Power-limited RDP interface.

Current draw: ***Standby current:*** 0.300 A with backlight on, 0.075 A with backlight off. ***Alarm current:*** 0.325 A with backlight on, all LEDs active.

RDP BUS WIRING SPECIFICATIONS

Wiring distance: 4000 feet (1219.2 m) at 18 AWG (0.78 mm²) between the panel and the last device on the RDP bus (subject to system's power restrictions).

Wiring size: 18 to 12 AWG (0.78 to 3.1 mm²) twisted-pair cable, with characteristic impedance of 120 ohms ± 20%.

Wire resistance: Limit total wire resistance to 100 ohms on the RDP bus, and 10 ohms on the RDP device power circuit. Unloaded resistance between RDP connectors must be greater than 1K ohm. A remote power supply is required if total power wiring resistance exceeds 10 ohms.

***NOTE: 1) DO NOT RUN CABLE** adjacent to, or in the same conduit as: 120 VAC service; "noisy" electrical circuits that are powering mechanical bells or horns; audio circuits above 25 Vrms; motor control circuits; SCR power circuits; or non-power-limited circuits. 2) Refer to LCD-160 Manual, document no. 51850, if RDP devices are to be mounted in **SEPARATE CABINETS** or powered by **REMOTE POWER SUPPLIES**.*

PHYSICAL SPECIFICATIONS

Temperature/humidity range: This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Shipping weight: 2.50 lb. (1.134 kg)

LCD-160 Interface and Indicators

The liquid crystal display is 40 characters wide and 16 lines deep, and displays all programming screens and other information. The keypad is functional only when an entry is requested by the system. Enter or change fields and issue commands on the display by using the two types of keys on the keypad: fixed function and soft keys.

Fixed function keys are the ten keys labeled on the front of the LCD-160, operating at all times on all screens unless otherwise noted. With both an active command center and DCC enabled at the panel, Acknowledge, Signal Silence, System Reset, and Drill require permission before they can be processed.

Acknowledge: Press to respond to any event or trouble signal. If enabled, silences the LCD-160 piezo sounder. Sends an acknowledge message to the panel.

Signal Silence: Press to send a system silence command to the panel, with the particular silencing action information stored at the FACP. Verification screen appears on networked displays.

System Reset: Press to send a system reset command to the panel, with the particular reset action information stored at the FACP. Verification screen appears on networked displays.

Drill: Press (hold for two seconds) to activate all silenceable fire output circuits.

Lamp Test: Press to test the LED indicators and the piezo, or display firmware version numbers.

Fire Alarm: Scroll/display a list of associated events.

Security: Scroll/display a list of associated events.

Supervisory: Scroll/display a list of associated events.

Trouble: Scroll/display a list of associated events.

Other Event: Scroll between prealarm and disabled events.

For complete information on key functions and effects on different panels, refer to the ***LCD-160 Manual*** and panel manuals.

Soft keys are the six keys to the right and left of the display. Use them to select commands that appear on the display for each different screen. Refer to the screens in the ***LCD-160 Manual*** for descriptions of the applicable soft keys.

STATUS LED INDICATORS

Power ***(green)*** illuminates when AC power is within normal operating limits.

Fire Alarm ***(red)*** illuminates when at least one fire alarm event exists. It will flash if any of these events are unacknowledged.

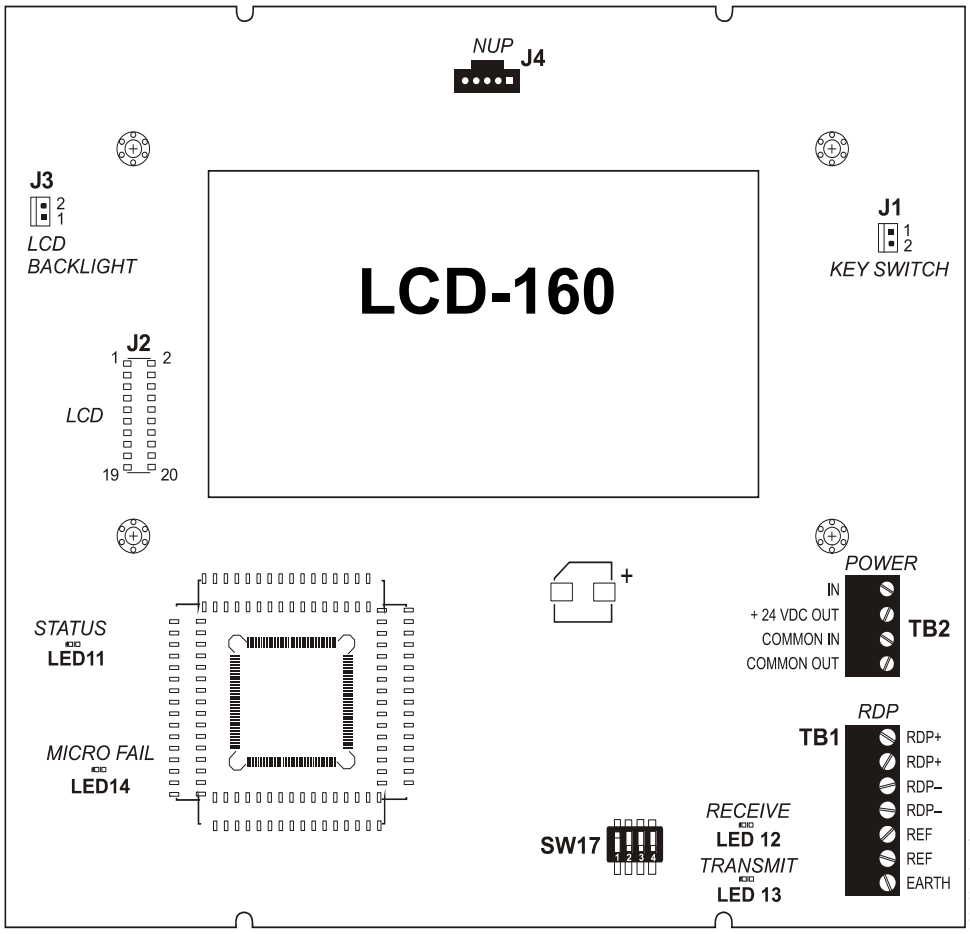
Pre-Alarm ***(red)*** illuminates when at least one pre-alarm event exists. It will flash if any of these events are unacknowledged.

Security ***(blue)*** illuminates when at least one security event exists. It will flash if any of these events are unacknowledged.

Supervisory ***(yellow)*** illuminates when at least one supervisory event exists. It will flash if any of these events are unacknowledged.

System Trouble ***(yellow)*** illuminates when at least one trouble event exists. It will flash if any of these events are unacknowledged.

Other Event ***(yellow)*** (future release).



Signals Silenced ***(yellow)*** illuminates if notification appliances have been silenced. It flashes if some, but not all, of the NACs have been silenced.

Point Disabled ***(yellow)*** illuminates when at least one device has been disabled. It will flash until all disabled points have been acknowledged.

Controls Active ***(green)*** illuminates when the LCD-160 assumes control of the node as a primary display.

DIAGNOSTIC LED INDICATORS

Status, LED11 ***(green)***, blinks when the LCD-160 is on. Visible to the installer/troubleshooter only.

Receive, LED12 ***(green)***, blinks when data is received from the panel. Visible to the installer/troubleshooter only.

Transmit, LED13 ***(green)***, blinks when data is transmitted to the panel. Visible to the installer/troubleshooter only.

Microfail, LED14 ***(yellow)***, illuminates if the microcontroller fails. Visible to the installer/troubleshooter only.

Event Handling and the Display and Control Center

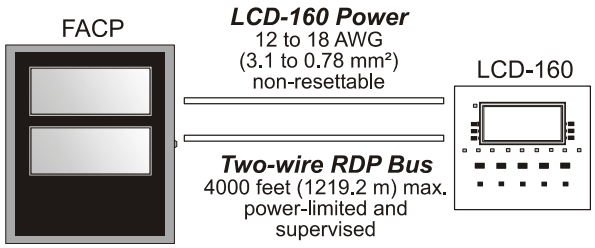
UL and ULC require that when multiple command and control centers are installed, only one operator at any location can be in control at any given time for functions such as acknowledge, silence, and reset. This is called the Display and Control Center (DCC). DCC operation provides a mechanism to pass network control to alternate network control centers. This protocol allows for a "request for control" from another networked panel, which will be accepted or rejected from the current DCC. A 15-second time-out allowance provides for an automatic passing of control in the event there is no response from the original DCC. If the NFS-3030/NFS2-3030 panel associated with an LCD-160 has been programmed to participate in DCC, all remote displays with Local Control ON will automatically participate.

Agency Listings and Approvals

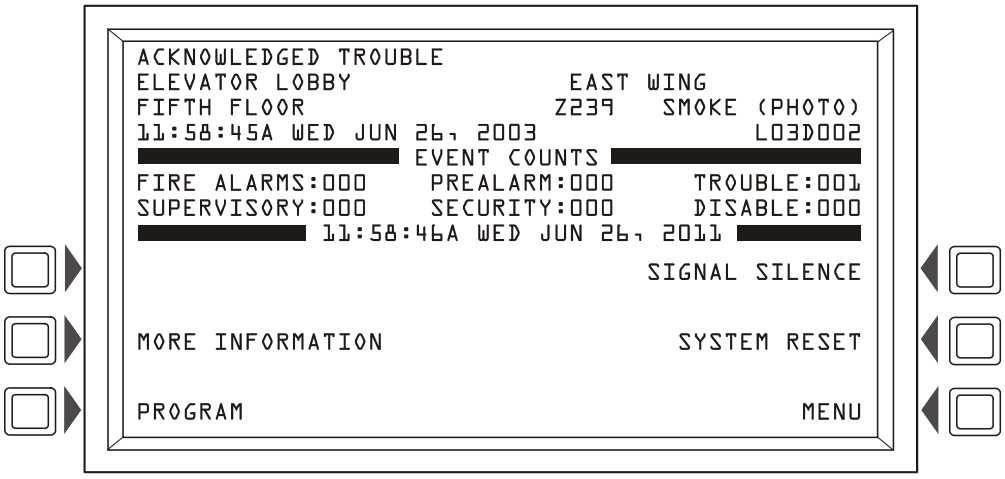
These listings and approvals apply to the LCD-160. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S527-11.
- **MEA:** 8-04-E (annunciator only)
- **FDNY:** COA#6211 (with NFS2-3030)
- **CSFM:** 7120-0028:0227, 7165-0028:0224
- **FM Approved**

RDP Bus Wire Runs



Sample Screen: Point Event Display



Product Line Information

LCD-160: 640-character Liquid Crystal Display annunciator. LCD-160C for ULC applications.

Backboxes

"C" suffix indicates ULC-Listed model.

The following backboxes can be surface- or semi-flush-mounted to provide an enclosure for remote mounting. Use with 1/2" (1.27 cm) conduit in the provided knockouts.

ABS-2D(C) (black) and ABS-2DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's hinged dress plate. The ABS-2D and ABS-2DR do NOT support the installation of the AKS-1B key-switch. Not for use in Canadian applications. Optional trim ring **TR-ABS2D** for semi-flush mounting. ***Dimensions, box:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 3.797" (9.644 cm) D (NOTE: The black ABS-2D is slightly deeper). ***Dimensions, door:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 1.250" (3.175 cm) D.

ABS-4D(C) (black) and ABS-4DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 and two annunciators directly to the enclosure's hinged dress plate. The ABS-4D and ABS-4DR do NOT support the installation of the AKS-1B key-switch. ***Dimensions, box:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 3.5" (8.89 cm) D. ***Dimensions, door:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 1.250" (3.175 cm) D.

ABF-2B: Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Not for use in Canadian applications. Includes a painted black metal trim plate [11" (27.94 cm) high x 10.625" (26.99 cm) wide] and adhesive-backed annunciator label. 9.938" (25.24 cm) high x 9.188" (23.34 cm) wide x 3.75" (9.525 cm) deep.

ABF-2DB(C): Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Does not support the installation of AKS-1B. Box dimensions: 9.938" (25.24 cm) high x 9.188" (23.24 cm) wide x 3.75" (9.525 cm) deep.Door dimensions: 11" (29.94 cm) high x 10.375" (26.35 cm) wide x 0.75" (1.9 cm) deep.

ABF-4B: Black flush enclosure for remote mounting of one LCD-160 and two annunciator modules directly to the enclosure's dress plate. Knockouts are provided for use with 1/2" (1.27 cm) conduit. Includes a painted black metal trim plate [11" (27.94 cm) high x 19.375" (49.21 cm) wide] and an annunciator label. 9.938" (25.24 cm) high x 17.75" (45.09 cm) wide x 2.5" (6.35 cm) deep.

ABF-1DB(C): Semi-flush box with alternative smoked-glass door, any keylock.

ABF-1B(C): Annunciator flush box, 9.938" (25.24 cm) high, 4.625" (11.75 cm) wide, and 2.5" (6.35 cm) deep. Order AKS-1B key switch and APJ-1B phone jack if desired. Can also be mounted in ABF-2B or ABF-4B annunciator backboxes.

ABS-1TB(C): Deep surface backbox (mounts one LCD2-80).

ABS-1B(C): The Annunciator Surface Box-1B (black) provides for the remote mounting of one annunciator module in a surface-mount enclosure. Knockouts are provided for use with 1/2" (1.27 cm) conduit. The annunciator mounts directly to the ABS-1B/C without a dress plate. 8.5" (21.59 cm) high x 4.5" (11.43 cm) wide x 2" (5.08 cm) deep. ***NOTE:*** *The ABS-1B will not support the installation of the AKS-1B Annunciator Key Switch.*

CAB-4 Series cabinets: Surface- or semi-flush-mounted, in sizes to accommodate one to four rows of equipment plus batteries (up to two 26 AH batteries). Four sizes are available. Doors are ordered separately, and feature reversible hinges to mount doors on the left or right side. Doors also open a full 180°. Keylocks are included. For dimensions and further information, see datasheet DN-6857.

ACCESSORIES

DP-DISP: Dress Panel Display for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the top tier of a CAB-4 Series backbox.

ADP-4B: Annunciator Dress Panel-4B (black) for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the tier of a CAB-4 Series backbox.

TR-ABS2D: Optional trim ring for semi-flush mounting ABS-2D(R).

VP-2B: Vented Dress Panel for use with the ADP-4B dress panel installed in the top tier of a NOTIFIER cabinet. It covers the gap between the dress panel and top of the cabinet.

AKS-1B: Annunciator Key Switch provides access security for the control switches on the LCD-160. Key-switch kit includes key, hardware, and an annunciator label.

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LCD-160

Liquid Crystal Display

NOTIFIER® by Honeywell

Annunciator Control Systems

General

The LCD-160 is a 640-character Liquid Crystal Display (LCD) annunciator and remote control for the NOTIFIER NFS-3030/ NFS2-3030 Fire Alarm Control Panel (FACP). The LCD-160 will mimic the top portion (160 characters) of the NFS-3030/ NFS2-3030's 640-character display. This provides the event and preprogrammed custom messages as displayed on the main panel. The full screen contains soft key functions, and can display other panel information.

LCD-160 Features

- 640-character Liquid Crystal Display with backlit control.
- On-board input, output, and status indicators to support diagnostics.
- Software upgrades and foreign-languages character sets via serial port from a panel or other device using the Remote Data Port (RDP) interface. Upgrades do not require the replacement of any programmable devices.
- Rubberized keypad.
- Input for AKS-1B key switch.
- Fits in two ACS annunciator module locations.
- Display and Control Center (DCC) participation/indication.

RDP Interface

Any communication between the control panel and any RDP device, such as the LCD-160, occurs over an RDP interface.

- RDP interface communication is supervised by the FACP and the LCD-160.
- RDP bus can drive up to 32 RDP devices. The FACP must be at one end of the bus; the last RDP device on the circuit must have an enabled end-of-line resistor.
- Each LCD-160 on the bus requires a non-resettable 24 VDC power connection. The power circuit is inherently supervised and a loss of power registers as a communication failure at the control panel.
- The LCD-160 can be powered by a regulated remote power supply listed for fire-protective signaling use. If the 24 VDC power comes from a non-power-limited source, it must remain separate from the power-limited RDP bus.

Specifications

Input supply voltage (TB2): Regulated, filtered 24 VDC via non-resettable power supply interface listed for fire-protective signaling use. Sources can be: panels with integrated power supplies, main power supplies (AMPS-24, etc.), auxiliary power supplies (APS2-6R, etc.); or a compatible accessories output. If RDP devices are to be powered by separate power supplies, a common reference connection must be established.

Data communications port (TB1): Power-limited RDP interface.

Current draw: ***Standby current:*** 0.300 A with backlight on, 0.075 A with backlight off. ***Alarm current:*** 0.325 A with backlight on, all LEDs active.

RDP BUS WIRING SPECIFICATIONS

Wiring distance: 4000 feet (1219.2 m) at 18 AWG (0.78 mm²) between the panel and the last device on the RDP bus (subject to system's power restrictions).

Wiring size: 18 to 12 AWG (0.78 to 3.1 mm²) twisted-pair cable, with characteristic impedance of 120 ohms ± 20%.

Wire resistance: Limit total wire resistance to 100 ohms on the RDP bus, and 10 ohms on the RDP device power circuit. Unloaded resistance between RDP connectors must be greater than 1K ohm. A remote power supply is required if total power wiring resistance exceeds 10 ohms.

***NOTE: 1) DO NOT RUN CABLE** adjacent to, or in the same conduit as: 120 VAC service; "noisy" electrical circuits that are powering mechanical bells or horns; audio circuits above 25 Vrms; motor control circuits; SCR power circuits; or non-power-limited circuits. 2) Refer to LCD-160 Manual, document no. 51850, if RDP devices are to be mounted in **SEPARATE CABINETS** or powered by **REMOTE POWER SUPPLIES**.*

PHYSICAL SPECIFICATIONS

Temperature/humidity range: This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Shipping weight: 2.50 lb. (1.134 kg)

LCD-160 Interface and Indicators

The liquid crystal display is 40 characters wide and 16 lines deep, and displays all programming screens and other information. The keypad is functional only when an entry is requested by the system. Enter or change fields and issue commands on the display by using the two types of keys on the keypad: fixed function and soft keys.

Fixed function keys are the ten keys labeled on the front of the LCD-160, operating at all times on all screens unless otherwise noted. With both an active command center and DCC enabled at the panel, Acknowledge, Signal Silence, System Reset, and Drill require permission before they can be processed.

Acknowledge: Press to respond to any event or trouble signal. If enabled, silences the LCD-160 piezo sounder. Sends an acknowledge message to the panel.

Signal Silence: Press to send a system silence command to the panel, with the particular silencing action information stored at the FACP. Verification screen appears on networked displays.

System Reset: Press to send a system reset command to the panel, with the particular reset action information stored at the FACP. Verification screen appears on networked displays.

Drill: Press (hold for two seconds) to activate all silenceable fire output circuits.

Lamp Test: Press to test the LED indicators and the piezo, or display firmware version numbers.

Fire Alarm: Scroll/display a list of associated events.

Security: Scroll/display a list of associated events.

Supervisory: Scroll/display a list of associated events.

Trouble: Scroll/display a list of associated events.

Other Event: Scroll between prealarm and disabled events.

For complete information on key functions and effects on different panels, refer to the ***LCD-160 Manual*** and panel manuals.

Soft keys are the six keys to the right and left of the display. Use them to select commands that appear on the display for each different screen. Refer to the screens in the ***LCD-160 Manual*** for descriptions of the applicable soft keys.

STATUS LED INDICATORS

Power ***(green)*** illuminates when AC power is within normal operating limits.

Fire Alarm ***(red)*** illuminates when at least one fire alarm event exists. It will flash if any of these events are unacknowledged.

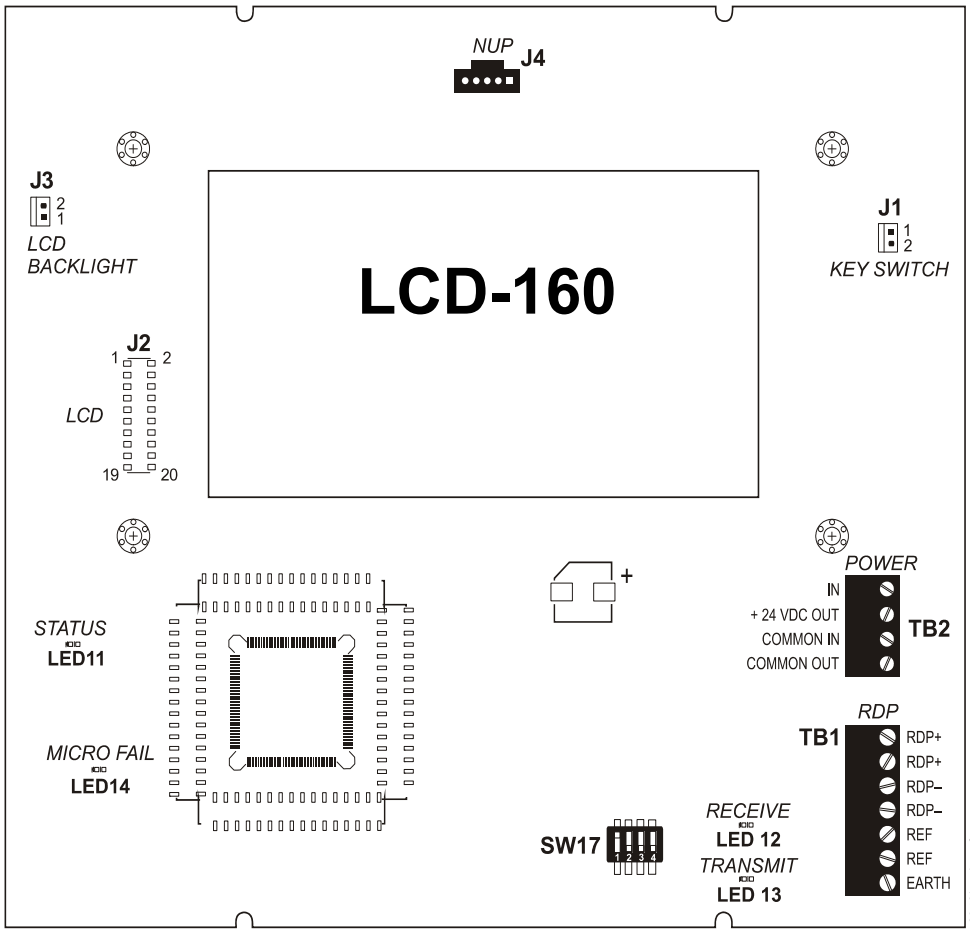
Pre-Alarm ***(red)*** illuminates when at least one pre-alarm event exists. It will flash if any of these events are unacknowledged.

Security ***(blue)*** illuminates when at least one security event exists. It will flash if any of these events are unacknowledged.

Supervisory ***(yellow)*** illuminates when at least one supervisory event exists. It will flash if any of these events are unacknowledged.

System Trouble ***(yellow)*** illuminates when at least one trouble event exists. It will flash if any of these events are unacknowledged.

Other Event ***(yellow)*** (future release).



Signals Silenced ***(yellow)*** illuminates if notification appliances have been silenced. It flashes if some, but not all, of the NACs have been silenced.

Point Disabled ***(yellow)*** illuminates when at least one device has been disabled. It will flash until all disabled points have been acknowledged.

Controls Active ***(green)*** illuminates when the LCD-160 assumes control of the node as a primary display.

DIAGNOSTIC LED INDICATORS

Status, LED11 ***(green)***, blinks when the LCD-160 is on. Visible to the installer/troubleshooter only.

Receive, LED12 ***(green)***, blinks when data is received from the panel. Visible to the installer/troubleshooter only.

Transmit, LED13 ***(green)***, blinks when data is transmitted to the panel. Visible to the installer/troubleshooter only.

Microfail, LED14 ***(yellow)***, illuminates if the microcontroller fails. Visible to the installer/troubleshooter only.

Event Handling and the Display and Control Center

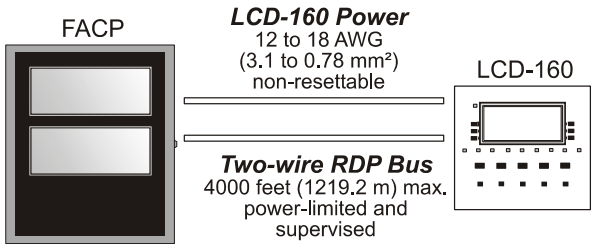
UL and ULC require that when multiple command and control centers are installed, only one operator at any location can be in control at any given time for functions such as acknowledge, silence, and reset. This is called the Display and Control Center (DCC). DCC operation provides a mechanism to pass network control to alternate network control centers. This protocol allows for a "request for control" from another networked panel, which will be accepted or rejected from the current DCC. A 15-second time-out allowance provides for an automatic passing of control in the event there is no response from the original DCC. If the NFS-3030/NFS2-3030 panel associated with an LCD-160 has been programmed to participate in DCC, all remote displays with Local Control ON will automatically participate.

Agency Listings and Approvals

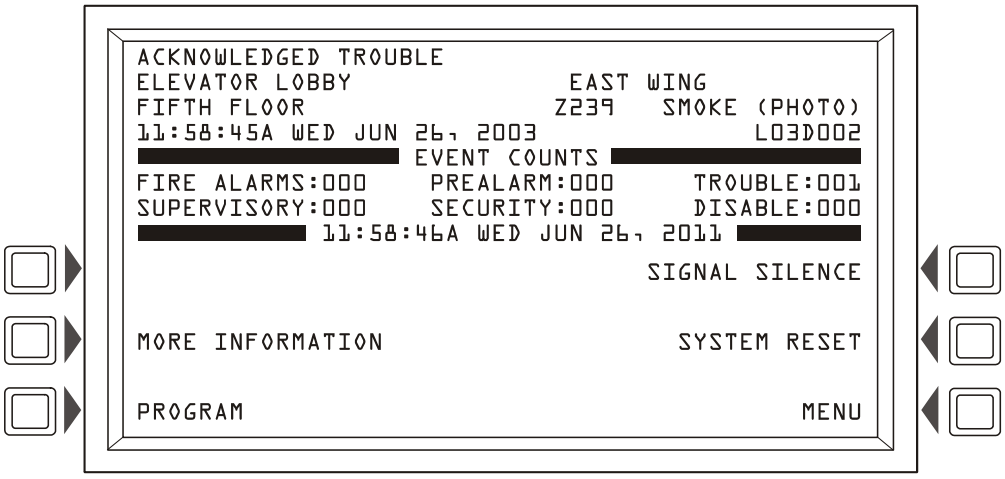
These listings and approvals apply to the LCD-160. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S527-11.
- **MEA:** 8-04-E (annunciator only)
- **FDNY:** COA#6211 (with NFS2-3030)
- **CSFM:** 7120-0028:0227, 7165-0028:0224
- **FM Approved**

RDP Bus Wire Runs



Sample Screen: Point Event Display



Product Line Information

LCD-160: 640-character Liquid Crystal Display annunciator. LCD-160C for ULC applications.

Backboxes

"C" suffix indicates ULC-Listed model.

The following backboxes can be surface- or semi-flush-mounted to provide an enclosure for remote mounting. Use with 1/2" (1.27 cm) conduit in the provided knockouts.

ABS-2D(C) (black) and ABS-2DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's hinged dress plate. The ABS-2D and ABS-2DR do NOT support the installation of the AKS-1B key-switch. Not for use in Canadian applications. Optional trim ring **TR-ABS2D** for semi-flush mounting. ***Dimensions, box:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 3.797" (9.644 cm) D (NOTE: The black ABS-2D is slightly deeper). ***Dimensions, door:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 1.250" (3.175 cm) D.

ABS-4D(C) (black) and ABS-4DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 and two annunciators directly to the enclosure's hinged dress plate. The ABS-4D and ABS-4DR do NOT support the installation of the AKS-1B key-switch. ***Dimensions, box:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 3.5" (8.89 cm) D. ***Dimensions, door:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 1.250" (3.175 cm) D.

ABF-2B: Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Not for use in Canadian applications. Includes a painted black metal trim plate [11" (27.94 cm) high x 10.625" (26.99 cm) wide] and adhesive-backed annunciator label. 9.938" (25.24 cm) high x 9.188" (23.34 cm) wide x 3.75" (9.525 cm) deep.

ABF-2DB(C): Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Does not support the installation of AKS-1B. Box dimensions: 9.938" (25.24 cm) high x 9.188" (23.24 cm) wide x 3.75" (9.525 cm) deep.Door dimensions: 11" (29.94 cm) high x 10.375" (26.35 cm) wide x 0.75" (1.9 cm) deep.

ABF-4B: Black flush enclosure for remote mounting of one LCD-160 and two annunciator modules directly to the enclosure's dress plate. Knockouts are provided for use with 1/2" (1.27 cm) conduit. Includes a painted black metal trim plate [11" (27.94 cm) high x 19.375" (49.21 cm) wide] and an annunciator label. 9.938" (25.24 cm) high x 17.75" (45.09 cm) wide x 2.5" (6.35 cm) deep.

ABF-1DB(C): Semi-flush box with alternative smoked-glass door, any keylock.

ABF-1B(C): Annunciator flush box, 9.938" (25.24 cm) high, 4.625" (11.75 cm) wide, and 2.5" (6.35 cm) deep. Order AKS-1B key switch and APJ-1B phone jack if desired. Can also be mounted in ABF-2B or ABF-4B annunciator backboxes.

ABS-1TB(C): Deep surface backbox (mounts one LCD2-80).

ABS-1B(C): The Annunciator Surface Box-1B (black) provides for the remote mounting of one annunciator module in a surface-mount enclosure. Knockouts are provided for use with 1/2" (1.27 cm) conduit. The annunciator mounts directly to the ABS-1B/C without a dress plate. 8.5" (21.59 cm) high x 4.5" (11.43 cm) wide x 2" (5.08 cm) deep. ***NOTE:*** *The ABS-1B will not support the installation of the AKS-1B Annunciator Key Switch.*

CAB-4 Series cabinets: Surface- or semi-flush-mounted, in sizes to accommodate one to four rows of equipment plus batteries (up to two 26 AH batteries). Four sizes are available. Doors are ordered separately, and feature reversible hinges to mount doors on the left or right side. Doors also open a full 180°. Keylocks are included. For dimensions and further information, see datasheet DN-6857.

ACCESSORIES

DP-DISP: Dress Panel Display for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the top tier of a CAB-4 Series backbox.

ADP-4B: Annunciator Dress Panel-4B (black) for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the tier of a CAB-4 Series backbox.

TR-ABS2D: Optional trim ring for semi-flush mounting ABS-2D(R).

VP-2B: Vented Dress Panel for use with the ADP-4B dress panel installed in the top tier of a NOTIFIER cabinet. It covers the gap between the dress panel and top of the cabinet.

AKS-1B: Annunciator Key Switch provides access security for the control switches on the LCD-160. Key-switch kit includes key, hardware, and an annunciator label.

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ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

LCD-160

Liquid Crystal Display

NOTIFIER® by Honeywell

Annunciator Control Systems

General

The LCD-160 is a 640-character Liquid Crystal Display (LCD) annunciator and remote control for the NOTIFIER NFS-3030/ NFS2-3030 Fire Alarm Control Panel (FACP). The LCD-160 will mimic the top portion (160 characters) of the NFS-3030/ NFS2-3030's 640-character display. This provides the event and preprogrammed custom messages as displayed on the main panel. The full screen contains soft key functions, and can display other panel information.

LCD-160 Features

- 640-character Liquid Crystal Display with backlit control.
- On-board input, output, and status indicators to support diagnostics.
- Software upgrades and foreign-languages character sets via serial port from a panel or other device using the Remote Data Port (RDP) interface. Upgrades do not require the replacement of any programmable devices.
- Rubberized keypad.
- Input for AKS-1B key switch.
- Fits in two ACS annunciator module locations.
- Display and Control Center (DCC) participation/indication.

RDP Interface

Any communication between the control panel and any RDP device, such as the LCD-160, occurs over an RDP interface.

- RDP interface communication is supervised by the FACP and the LCD-160.
- RDP bus can drive up to 32 RDP devices. The FACP must be at one end of the bus; the last RDP device on the circuit must have an enabled end-of-line resistor.
- Each LCD-160 on the bus requires a non-resettable 24 VDC power connection. The power circuit is inherently supervised and a loss of power registers as a communication failure at the control panel.
- The LCD-160 can be powered by a regulated remote power supply listed for fire-protective signaling use. If the 24 VDC power comes from a non-power-limited source, it must remain separate from the power-limited RDP bus.

Specifications

Input supply voltage (TB2): Regulated, filtered 24 VDC via non-resettable power supply interface listed for fire-protective signaling use. Sources can be: panels with integrated power supplies, main power supplies (AMPS-24, etc.), auxiliary power supplies (APS2-6R, etc.); or a compatible accessories output. If RDP devices are to be powered by separate power supplies, a common reference connection must be established.

Data communications port (TB1): Power-limited RDP interface.

Current draw: ***Standby current:*** 0.300 A with backlight on, 0.075 A with backlight off. ***Alarm current:*** 0.325 A with backlight on, all LEDs active.

RDP BUS WIRING SPECIFICATIONS

Wiring distance: 4000 feet (1219.2 m) at 18 AWG (0.78 mm²) between the panel and the last device on the RDP bus (subject to system's power restrictions).

Wiring size: 18 to 12 AWG (0.78 to 3.1 mm²) twisted-pair cable, with characteristic impedance of 120 ohms ± 20%.

Wire resistance: Limit total wire resistance to 100 ohms on the RDP bus, and 10 ohms on the RDP device power circuit. Unloaded resistance between RDP connectors must be greater than 1K ohm. A remote power supply is required if total power wiring resistance exceeds 10 ohms.

***NOTE: 1) DO NOT RUN CABLE** adjacent to, or in the same conduit as: 120 VAC service; "noisy" electrical circuits that are powering mechanical bells or horns; audio circuits above 25 Vrms; motor control circuits; SCR power circuits; or non-power-limited circuits. 2) Refer to LCD-160 Manual, document no. 51850, if RDP devices are to be mounted in **SEPARATE CABINETS** or powered by **REMOTE POWER SUPPLIES**.*

PHYSICAL SPECIFICATIONS

Temperature/humidity range: This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Shipping weight: 2.50 lb. (1.134 kg)

LCD-160 Interface and Indicators

The liquid crystal display is 40 characters wide and 16 lines deep, and displays all programming screens and other information. The keypad is functional only when an entry is requested by the system. Enter or change fields and issue commands on the display by using the two types of keys on the keypad: fixed function and soft keys.

Fixed function keys are the ten keys labeled on the front of the LCD-160, operating at all times on all screens unless otherwise noted. With both an active command center and DCC enabled at the panel, Acknowledge, Signal Silence, System Reset, and Drill require permission before they can be processed.

Acknowledge: Press to respond to any event or trouble signal. If enabled, silences the LCD-160 piezo sounder. Sends an acknowledge message to the panel.

Signal Silence: Press to send a system silence command to the panel, with the particular silencing action information stored at the FACP. Verification screen appears on networked displays.

System Reset: Press to send a system reset command to the panel, with the particular reset action information stored at the FACP. Verification screen appears on networked displays.

Drill: Press (hold for two seconds) to activate all silenceable fire output circuits.

Lamp Test: Press to test the LED indicators and the piezo, or display firmware version numbers.

Fire Alarm: Scroll/display a list of associated events.

Security: Scroll/display a list of associated events.

Supervisory: Scroll/display a list of associated events.

Trouble: Scroll/display a list of associated events.

Other Event: Scroll between prealarm and disabled events.

For complete information on key functions and effects on different panels, refer to the ***LCD-160 Manual*** and panel manuals.

Soft keys are the six keys to the right and left of the display. Use them to select commands that appear on the display for each different screen. Refer to the screens in the ***LCD-160 Manual*** for descriptions of the applicable soft keys.

STATUS LED INDICATORS

Power ***(green)*** illuminates when AC power is within normal operating limits.

Fire Alarm ***(red)*** illuminates when at least one fire alarm event exists. It will flash if any of these events are unacknowledged.

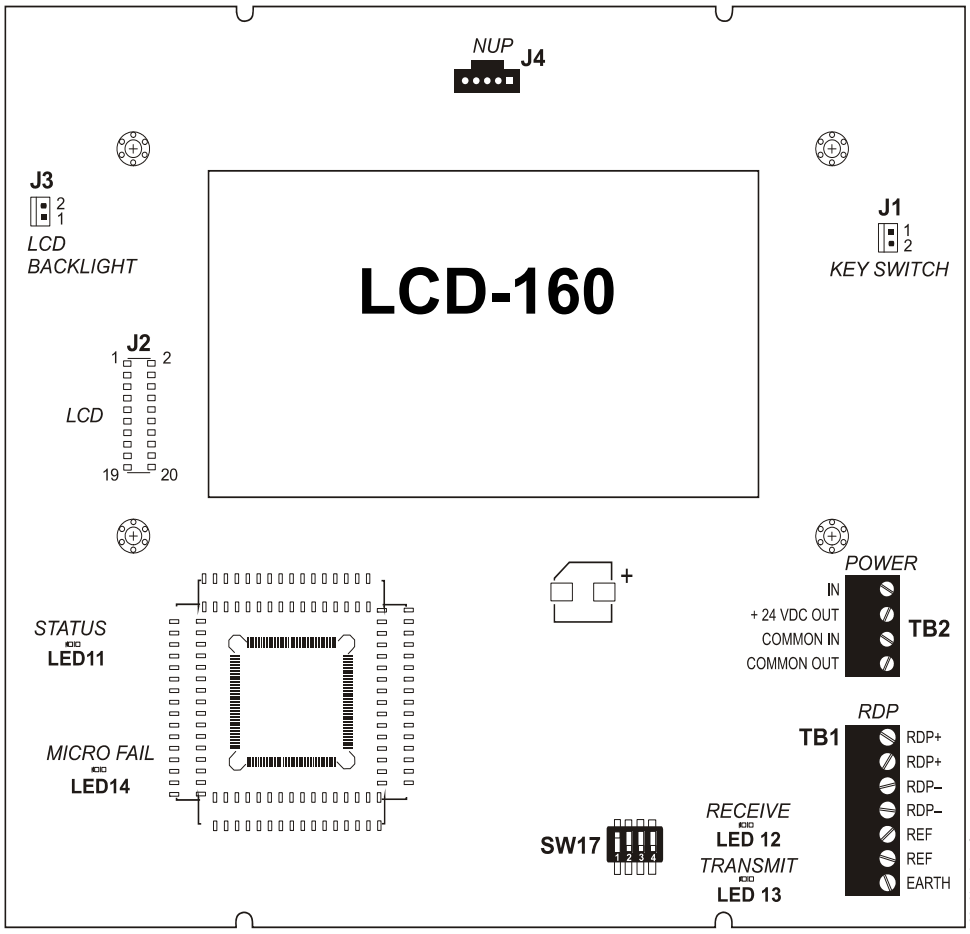
Pre-Alarm ***(red)*** illuminates when at least one pre-alarm event exists. It will flash if any of these events are unacknowledged.

Security ***(blue)*** illuminates when at least one security event exists. It will flash if any of these events are unacknowledged.

Supervisory ***(yellow)*** illuminates when at least one supervisory event exists. It will flash if any of these events are unacknowledged.

System Trouble ***(yellow)*** illuminates when at least one trouble event exists. It will flash if any of these events are unacknowledged.

Other Event ***(yellow)*** (future release).



Signals Silenced ***(yellow)*** illuminates if notification appliances have been silenced. It flashes if some, but not all, of the NACs have been silenced.

Point Disabled ***(yellow)*** illuminates when at least one device has been disabled. It will flash until all disabled points have been acknowledged.

Controls Active ***(green)*** illuminates when the LCD-160 assumes control of the node as a primary display.

DIAGNOSTIC LED INDICATORS

Status, LED11 ***(green)***, blinks when the LCD-160 is on. Visible to the installer/troubleshooter only.

Receive, LED12 ***(green)***, blinks when data is received from the panel. Visible to the installer/troubleshooter only.

Transmit, LED13 ***(green)***, blinks when data is transmitted to the panel. Visible to the installer/troubleshooter only.

Microfail, LED14 ***(yellow)***, illuminates if the microcontroller fails. Visible to the installer/troubleshooter only.

Event Handling and the Display and Control Center

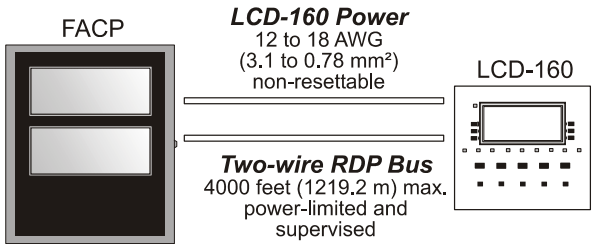
UL and ULC require that when multiple command and control centers are installed, only one operator at any location can be in control at any given time for functions such as acknowledge, silence, and reset. This is called the Display and Control Center (DCC). DCC operation provides a mechanism to pass network control to alternate network control centers. This protocol allows for a "request for control" from another networked panel, which will be accepted or rejected from the current DCC. A 15-second time-out allowance provides for an automatic passing of control in the event there is no response from the original DCC. If the NFS-3030/NFS2-3030 panel associated with an LCD-160 has been programmed to participate in DCC, all remote displays with Local Control ON will automatically participate.

Agency Listings and Approvals

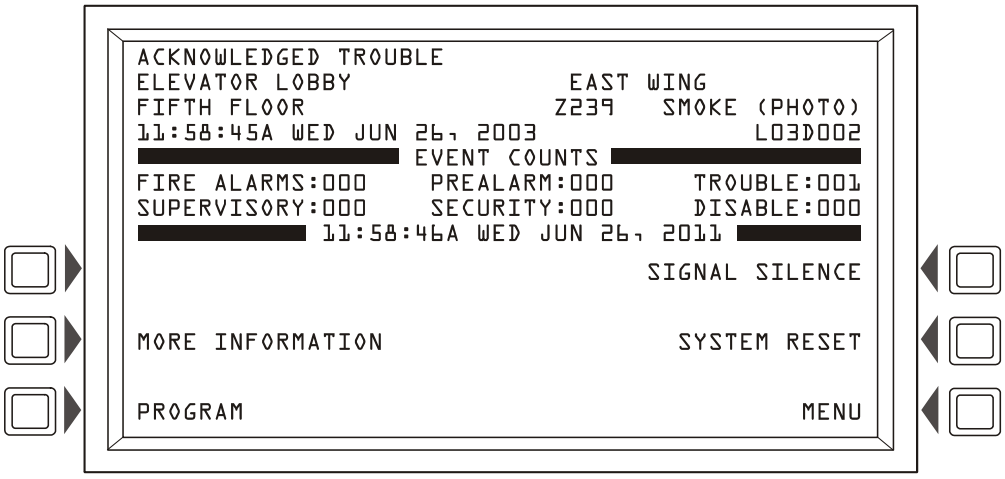
These listings and approvals apply to the LCD-160. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S527-11.
- **MEA:** 8-04-E (annunciator only)
- **FDNY:** COA#6211 (with NFS2-3030)
- **CSFM:** 7120-0028:0227, 7165-0028:0224
- **FM Approved**

RDP Bus Wire Runs



Sample Screen: Point Event Display



Product Line Information

LCD-160: 640-character Liquid Crystal Display annunciator. LCD-160C for ULC applications.

Backboxes

"C" suffix indicates ULC-Listed model.

The following backboxes can be surface- or semi-flush-mounted to provide an enclosure for remote mounting. Use with 1/2" (1.27 cm) conduit in the provided knockouts.

ABS-2D(C) (black) and ABS-2DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's hinged dress plate. The ABS-2D and ABS-2DR do NOT support the installation of the AKS-1B key-switch. Not for use in Canadian applications. Optional trim ring **TR-ABS2D** for semi-flush mounting. ***Dimensions, box:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 3.797" (9.644 cm) D (NOTE: The black ABS-2D is slightly deeper). ***Dimensions, door:*** 12.0" (30.480 cm) H x 12.0" (30.480 cm) W x 1.250" (3.175 cm) D.

ABS-4D(C) (black) and ABS-4DR (red): Surface- or semi-flush enclosure for remote mounting. Mounts an LCD-160 and two annunciators directly to the enclosure's hinged dress plate. The ABS-4D and ABS-4DR do NOT support the installation of the AKS-1B key-switch. ***Dimensions, box:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 3.5" (8.89 cm) D. ***Dimensions, door:*** 11.97" (30.40 cm) H x 19.87" (50.47 cm) W x 1.250" (3.175 cm) D.

ABF-2B: Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Not for use in Canadian applications. Includes a painted black metal trim plate [11" (27.94 cm) high x 10.625" (26.99 cm) wide] and adhesive-backed annunciator label. 9.938" (25.24 cm) high x 9.188" (23.34 cm) wide x 3.75" (9.525 cm) deep.

ABF-2DB(C): Black flush enclosure for remote mounting. Mounts an LCD-160 directly to the enclosure's dress plate. Does not support the installation of AKS-1B. Box dimensions: 9.938" (25.24 cm) high x 9.188" (23.24 cm) wide x 3.75" (9.525 cm) deep.Door dimensions: 11" (29.94 cm) high x 10.375" (26.35 cm) wide x 0.75" (1.9 cm) deep.

ABF-4B: Black flush enclosure for remote mounting of one LCD-160 and two annunciator modules directly to the enclosure's dress plate. Knockouts are provided for use with 1/2" (1.27 cm) conduit. Includes a painted black metal trim plate [11" (27.94 cm) high x 19.375" (49.21 cm) wide] and an annunciator label. 9.938" (25.24 cm) high x 17.75" (45.09 cm) wide x 2.5" (6.35 cm) deep.

ABF-1DB(C): Semi-flush box with alternative smoked-glass door, any keylock.

ABF-1B(C): Annunciator flush box, 9.938" (25.24 cm) high, 4.625" (11.75 cm) wide, and 2.5" (6.35 cm) deep. Order AKS-1B key switch and APJ-1B phone jack if desired. Can also be mounted in ABF-2B or ABF-4B annunciator backboxes.

ABS-1TB(C): Deep surface backbox (mounts one LCD2-80).

ABS-1B(C): The Annunciator Surface Box-1B (black) provides for the remote mounting of one annunciator module in a surface-mount enclosure. Knockouts are provided for use with 1/2" (1.27 cm) conduit. The annunciator mounts directly to the ABS-1B/C without a dress plate. 8.5" (21.59 cm) high x 4.5" (11.43 cm) wide x 2" (5.08 cm) deep. ***NOTE:*** *The ABS-1B will not support the installation of the AKS-1B Annunciator Key Switch.*

CAB-4 Series cabinets: Surface- or semi-flush-mounted, in sizes to accommodate one to four rows of equipment plus batteries (up to two 26 AH batteries). Four sizes are available. Doors are ordered separately, and feature reversible hinges to mount doors on the left or right side. Doors also open a full 180°. Keylocks are included. For dimensions and further information, see datasheet DN-6857.

ACCESSORIES

DP-DISP: Dress Panel Display for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the top tier of a CAB-4 Series backbox.

ADP-4B: Annunciator Dress Panel-4B (black) for cabinet mounting of an LCD-160. LCD-160 mounts directly to the dress panel, which hinge-mounts to the tier of a CAB-4 Series backbox.

TR-ABS2D: Optional trim ring for semi-flush mounting ABS-2D(R).

VP-2B: Vented Dress Panel for use with the ADP-4B dress panel installed in the top tier of a NOTIFIER cabinet. It covers the gap between the dress panel and top of the cabinet.

AKS-1B: Annunciator Key Switch provides access security for the control switches on the LCD-160. Key-switch kit includes key, hardware, and an annunciator label.

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Country of Origin: USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

ISO-X(A)

Fault Isolator Module

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier ISO-X(A) Fault Isolator Module is used with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs) to protect the system against wire-to-wire short circuits on the SLC loops.

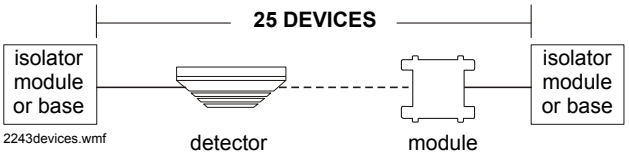
Features

- Powered by SLC loop directly, no external power required.
- Base mounts on standard junction boxes (4.0"/10.16 cm square by 2.125"/5.398 cm deep).
- Integral LED blinks to indicate normal condition. Illuminates steady when short circuit condition is detected.
- High noise (EMF/RFI) immunity.
- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

Applications

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The ISO-X(A) supports a maximum of 25 devices in-between isolators, except when using relay bases or legacy IPX multisensors.

NOTE: *ON LOADS PER RELAY BASE AND* LEGACY *MULTISENSOR DETECTORS/ISOLATORS/ISOLATOR BASES:* the maximum number of addressable devices between isolators (or B224BI isolator bases) is 25 devices.



2243devices.wmf

B224RB relay bases and legacy IPX-751 multisensor detectors draw more current than all other intelligent devices. When calculating the 25-device maximum: B224RB.

- B224RB represents 2.5 devices.
- IPX-751 in a standard base represents 12 devices.
- IPX-751 in a relay base represents 14.5 devices.
- All other addressable devices represent 1 device.

See examples on page 2.

NOTE: *ON MAXIMUM NUMBER OF DEVICES:* See the SLC Manual (PN 51253) for information on loss of addresses due to current limitations. Each module or base added reduces the capacity of address positions in an SLC. All SLC field devices must have been purchased after February 1995 to meet the aforementioned requirements. If the SLC field devices were purchased prior to February 1995, each ISO-X(A) used reduces the capacity of an SLC by two address positions. Requirements differ as applied to relay bases (see note above).

ISO-X_left_rgb.jpg

ISO-X(A)

Construction

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

Operation

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the ISO-X(A) is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The ISO-X(A) Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

Installation

- Mount on a standard junction box (4.0"/10.16 cm square) which is at least 2.125"/5.398 cm deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

Specifications

Normal operating voltage: 15 – 32 VDC (peak).

Standby current: 450 µA (not isolating) .

Maximum current draw: 17 mA (device in isolation, LED latched in alarm).

Temperature range: 32°F to 120°F (0°C to 49°C).

Relative humidity: 10% to 93% (non-condensing).

Weight: 5 oz. (150 grams).

Dimensions: 4.5"H x 4.5"W x 0.25" D (11.43 cm H x 11.43 cm W x 0.635 cm D).

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635 (UOXX); BP6480 (AMCX, APOU).
- **ULC:** S635 (OUOXXC, ISO-XA).
- **FM Approved.**
- **CSFM:** 7165-0028:0214; 7165-0028:0224; 7165-0028:0243.
- **MEA:** 17-96-E; 104-93-E Vol. VI; 290-91-E Vol. V; 317-01-E; 447-99-E.
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **BSA:** 578-81-SA.

Architectual/Engineering Specifications

Fault Isolator Modules shall be provided to automatically isolate wire-to-wire short circuits on an SLC loop. The Fault Isolator Module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC Loop. If a wire-to-wire short occurs, the Fault Isolator Module shall automatically open-circuit (disconnect) the SLC loop. When the short circuit condition is corrected, the Fault Isolator Module shall automatically reconnect the isolated section of the SLC loop. The Fault Isolator Module shall not require any address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset an Fault Isolator Module after its normal operation. The Fault Isolator Module shall mount in a standard 4.0" (10.16 cm) deep electrical box, in a surface-mounted backbox, or in the Fire Alarm Control Panel. It shall provide a single LED which shall flash to indicate that the Isolator is operational and shall illuminate steadily to indicate that a short circuit condition has been detected and isolated.

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

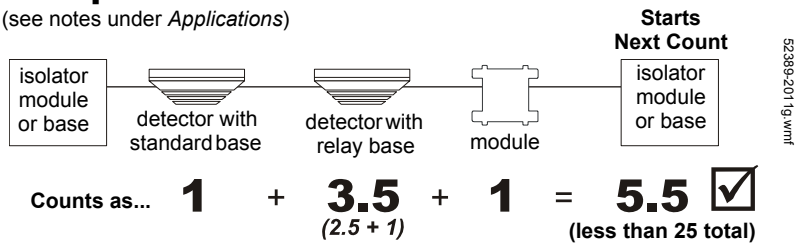
ISO-X: Isolator Module.

ISO-XA: Isolator Module. Canadian (ULC) version.

SMB500: Surface Mount Backbox

Examples of Device Counts

(see notes under *Applications*)



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www.notifier.com

Made in the U.S. A.

ISO-X(A)

Fault Isolator Module

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

The Notifier ISO-X(A) Fault Isolator Module is used with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs) to protect the system against wire-to-wire short circuits on the SLC loops.

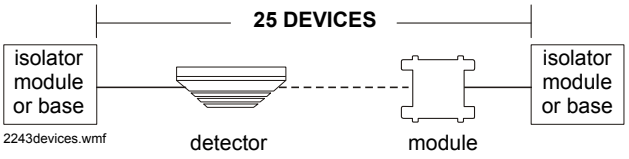
Features

- Powered by SLC loop directly, no external power required.
- Base mounts on standard junction boxes (4.0"/10.16 cm square by 2.125"/5.398 cm deep).
- Integral LED blinks to indicate normal condition. Illuminates steady when short circuit condition is detected.
- High noise (EMF/RFI) immunity.
- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

Applications

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The ISO-X(A) supports a maximum of 25 devices in-between isolators, except when using relay bases or legacy IPX multisensors.

NOTE: *ON LOADS PER RELAY BASE AND* LEGACY *MULTISENSOR DETECTORS/ISOLATORS/ISOLATOR BASES:* the maximum number of addressable devices between isolators (or B224BI isolator bases) is 25 devices.



2243devices.wmf

B224RB relay bases and legacy IPX-751 multisensor detectors draw more current than all other intelligent devices. When calculating the 25-device maximum: B224RB.

- B224RB represents 2.5 devices.
- IPX-751 in a standard base represents 12 devices.
- IPX-751 in a relay base represents 14.5 devices.
- All other addressable devices represent 1 device.

See examples on page 2.

NOTE: *ON MAXIMUM NUMBER OF DEVICES:* See the SLC Manual (PN 51253) for information on loss of addresses due to current limitations. Each module or base added reduces the capacity of address positions in an SLC. All SLC field devices must have been purchased after February 1995 to meet the aforementioned requirements. If the SLC field devices were purchased prior to February 1995, each ISO-X(A) used reduces the capacity of an SLC by two address positions. Requirements differ as applied to relay bases (see note above).

ISO-X_left_rgb.jpg

ISO-X(A)

Construction

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

Operation

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the ISO-X(A) is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The ISO-X(A) Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

Installation

- Mount on a standard junction box (4.0"/10.16 cm square) which is at least 2.125"/5.398 cm deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

Specifications

Normal operating voltage: 15 – 32 VDC (peak).

Standby current: 450 µA (not isolating) .

Maximum current draw: 17 mA (device in isolation, LED latched in alarm).

Temperature range: 32°F to 120°F (0°C to 49°C).

Relative humidity: 10% to 93% (non-condensing).

Weight: 5 oz. (150 grams).

Dimensions: 4.5"H x 4.5"W x 0.25" D (11.43 cm H x 11.43 cm W x 0.635 cm D).

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635 (UOXX); BP6480 (AMCX, APOU).
- **ULC:** S635 (OUOXXC, ISO-XA).
- **FM Approved.**
- **CSFM:** 7165-0028:0214; 7165-0028:0224; 7165-0028:0243.
- **MEA:** 17-96-E; 104-93-E Vol. VI; 290-91-E Vol. V; 317-01-E; 447-99-E.
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **BSA:** 578-81-SA.

Architectual/Engineering Specifications

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Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

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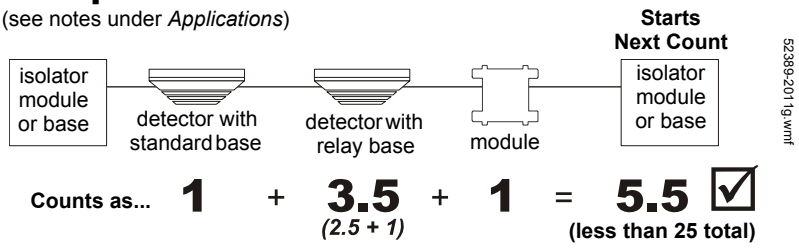
SMB500: Surface Mount Backbox

Examples of Device Counts

(see notes under *Applications*)



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ISO-X(A)

Fault Isolator Module

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Features

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- Wide viewing angle of LED.
- SEMS screws with clamping plates for ease of wiring.
- Opens SLC loop automatically on detection of short, preventing the short from causing failure of the entire loop.
- Automatically resets on correction of short.
- Supports Style 4, 6, or 7 wiring.

Applications

The Fault Isolator Modules should be spaced between groups of sensors in a loop to protect the rest of the loop. Use to isolate short circuit problems within a section of a loop so that other sections can continue to operate normally. The ISO-X(A) supports a maximum of 25 devices in-between isolators, except when using relay bases or legacy IPX multisensors.

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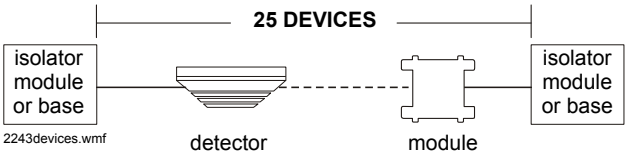

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ISO-X_left_rgb.jpg

ISO-X(A)

Construction

The face plate is made of off-white plastic. Includes yellow LED indicator that pulses when normal and illuminates steady when a short is detected.

Operation

Automatically opens circuit when the line voltage drops below four volts. Fault Isolator Modules should be spaced between groups of addressable devices (maximum 25, see notes on page 1) in a loop to protect the rest of the loop. If a short occurs between any two isolators, then both isolators immediately switch to an open circuit state and isolate the groups of sensors between them. The remaining units on the loop continue to fully operate.

In Style 4 loops, the ISO-X(A) is generally used at each T-tap branch, to limit the effect of short circuits on a branch to the devices on that branch. The LED indicator is on continuously during a short circuit condition.

The ISO-X(A) Fault Isolator Module automatically restores the shorted portion of the communications loop to normal condition when the short circuit condition is removed.

Installation

- Mount on a standard junction box (4.0"/10.16 cm square) which is at least 2.125"/5.398 cm deep.
- Terminal screws are provided for “in and out” wiring.
- Installation instructions are provided with each module.
- Surface-mount box is available as an option.

Specifications

Normal operating voltage: 15 – 32 VDC (peak).

Standby current: 450 µA (not isolating) .

Maximum current draw: 17 mA (device in isolation, LED latched in alarm).

Temperature range: 32°F to 120°F (0°C to 49°C).

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Weight: 5 oz. (150 grams).

Dimensions: 4.5"H x 4.5"W x 0.25" D (11.43 cm H x 11.43 cm W x 0.635 cm D).

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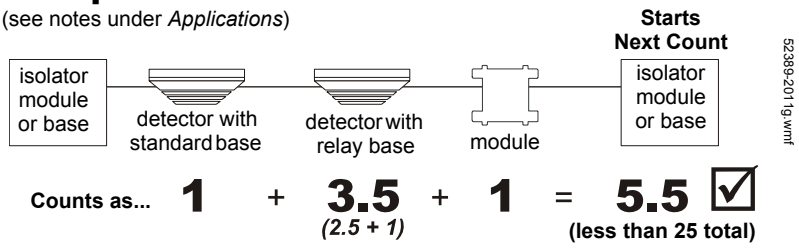

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Made in the U.S. A.

NBG-12 Series

Non-Coded Conventional Manual Fire Alarm Pull Stations

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The NOTIFIER **NBG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The NBG-12 Series features a variety of models including single- and dual-action versions.

The NBG-12 Series provides an alarm initiating input signal to conventional fire alarm control panels (FACPs) such as the SFP Series, and to XP Transponders. Its innovative design, durable construction, and multiple mounting options make the NBG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word “ACTIVATED” appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words “NORMAL” and “ACTIVATED” are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions *(FUEGO)* available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.

6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor’s popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word “ACTIVATED” appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station’s front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station’s front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

pull station		SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

6643dim2.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: **The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.*

Pre-Signal Models

The **NBG-12LPS** and **NBG-12LPSP** pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. *See diagram at right.*

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved *(except NBG-12LPS, NBG-12LPSP).*
- **MEA** approved: file 67-02-E *(NBG-12, NBG-12L, NBG-12LOB, NBG-12LA).*
- **Lloyd's Register** type approved: file 93/60141 (E3) *(NBG-12, NBG-12L, NBG-12LA, NBG-12LOB, NBG-12S).*
- **U.S. Coast Guard** approved: files 161.002/23/3 *(AFP-200 with NBG-12, NBG-12L, NBG-12S)*; 161.002/42/1 *(NFS-640 with NBG-12, NBG-12L, NBG-12S)*; 161.002/27/3 *(AFP1010/AM2020 with NBG-12, NBG-12L, NBG-12S).*
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

NBG-12S: Single-action pull station with pigtail connections, hex lock.

NBG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, ***hex lock***.

NBG-12L: Dual-action pull station with SPST N/O switch, screw terminal connections, ***key lock***.

NBG-12LSP: Same as NBG-12L with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LPS: Dual-action pull station with pre-signal option.

NBG-12LPSP: Same as NBG-12LPS with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (**NBG-12LO**), and backbox. Includes **SB-I/O** indoor/outdoor backbox, and sealing gasket. Model will also mount to **WP-10** weatherproof backbox in retrofit applications.

NOTE: *NBG-12LO not available separately;*
NBG-12LO + approved backbox = NBG-12LOB.
Outdoor applications listings apply to NBG-12LOB combination.

NBG-12LA: Dual-action pull station with key lock and annunciator contacts.

SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. *(Included with NBG-12LOB.)*

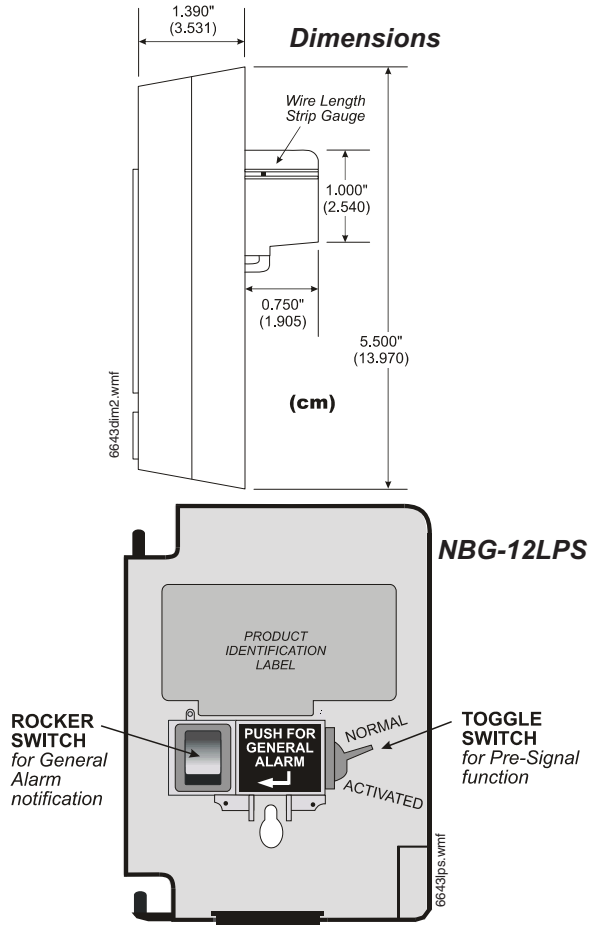
BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

17021: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex key, 9/64". (Included with hex-lock pull stations.)

NOTE: *For addressable NBG-12LX models, see data sheet DN-6726.*



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- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word “ACTIVATED” appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words “NORMAL” and “ACTIVATED” are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions *(FUEGO)* available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.

6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor’s popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word “ACTIVATED” appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station’s front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station’s front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

pull station		SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

6643dim2.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: **The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.*

Pre-Signal Models

The **NBG-12LPS** and **NBG-12LPSP** pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. *See diagram at right.*

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved *(except NBG-12LPS, NBG-12LPSP).*
- **MEA** approved: file 67-02-E *(NBG-12, NBG-12L, NBG-12LOB, NBG-12LA).*
- **Lloyd's Register** type approved: file 93/60141 (E3) *(NBG-12, NBG-12L, NBG-12LA, NBG-12LOB, NBG-12S).*
- **U.S. Coast Guard** approved: files 161.002/23/3 *(AFP-200 with NBG-12, NBG-12L, NBG-12S)*; 161.002/42/1 *(NFS-640 with NBG-12, NBG-12L, NBG-12S)*; 161.002/27/3 *(AFP1010/AM2020 with NBG-12, NBG-12L, NBG-12S).*
- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

NBG-12S: Single-action pull station with pigtail connections, hex lock.

NBG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, ***hex lock***.

NBG-12L: Dual-action pull station with SPST N/O switch, screw terminal connections, ***key lock***.

NBG-12LSP: Same as NBG-12L with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LPS: Dual-action pull station with pre-signal option.

NBG-12LPSP: Same as NBG-12LPS with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (**NBG-12LO**), and backbox. Includes **SB-I/O** indoor/outdoor backbox, and sealing gasket. Model will also mount to **WP-10** weatherproof backbox in retrofit applications.

NOTE: *NBG-12LO not available separately;*
NBG-12LO + approved backbox = NBG-12LOB.
Outdoor applications listings apply to NBG-12LOB combination.

NBG-12LA: Dual-action pull station with key lock and annunciator contacts.

SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. *(Included with NBG-12LOB.)*

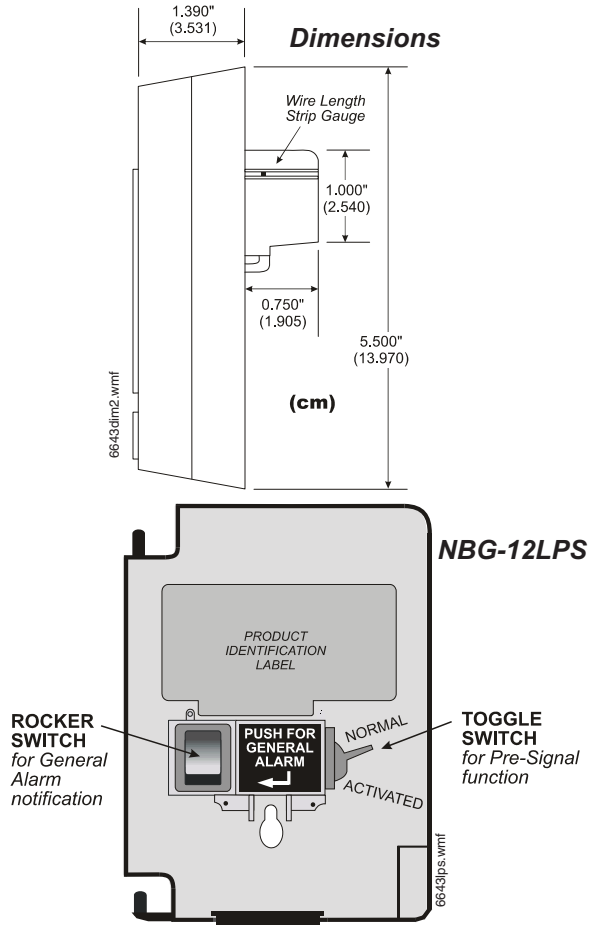
BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

17021: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex key, 9/64". (Included with hex-lock pull stations.)

NOTE: *For addressable NBG-12LX models, see data sheet DN-6726.*



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www.notifier.com

FDU-80

80 Character Liquid Crystal Display

NOTIFIER® by Honeywell

Annunciators

General

The FDU-80 is a compact, cost-effective, 80-character, backlit LCD remote Fire Annunciator for use with the NOTIFIER Fire-Warden-100-2, NFS2-640, and NFS-320 Fire Alarm Control Panels (FACPs). The FDU-80 mimics the display of the control panel and displays complete system point status information.

Up to 32 FDU-80s may be connected onto the EIA-485 terminal port of each FACP. The FDU-80 requires no programming, which saves time during system commissioning.

Features

- 80-character Liquid Crystal Display.
- Mimics all display information from the host panel.
- Control switches for System Acknowledge, Signal Silence, Drill and Reset with enable key.
- System status LEDs for Power, Alarm, Trouble, Supervisory and Alarm Silenced.
- No programming necessary — FDU-80 connects to the terminal porton the FACP.
- Displays device type identifiers, individual point alarm, trouble or supervisory, zone and custom alpha labels.
- Time-and-date display field.
- Aesthetically pleasing design.
- May be powered from the host FACP or by remote power supply (requires 24 VDC).
- Up to 32 FDU-80 annunciators per FACP.
- Plug-in terminal blocks for ease of installation and service.
- Can be remotely located up to 6,000 feet (1828.8 m) from the FACP.
- Local piezo sounder with alarm and trouble resound.
- Semi-flush mounts to 2.188" (5.556 cm) minimum deep, three-gang electrical box (NOTIFIER PN **10103**) or three-gangable electrical switchbox.
- Surface-mounts to NOTIFIER PN **SBB-3** surface backbox.

Operation

The FDU-80 annunciator provides the FACP with point annunciation with full display text on an 80-character LCD display. The FDU-80 also provides an array of LEDs to indicate system status, and includes control switches for remote control of critical system functions.

The FDU-80 provides the FACP with up to 32 remote serially connected annunciators. All field-wiring terminations on the FDU-80 use removable, compression-type terminal blocks for ease of wiring and circuit testing.

Communication between the FACP and the annunciators is accomplished over an EIA-485 serial interface, which greatly reduces wire and installation cost over traditional systems.

Installation

The FDU-80 can be semi-flush mounted to a 2.188" (5.556 cm) minimum deep, three-gang electrical box or three-gangable electrical switchboxes. Alternately, an SBB-3 surface backbox is available for surface-mount applications.

6820fdu8.jpg

Ordering Information

FDU-80: 80 character, backlit, LCD Fire Annunciator with control switches for remote control of system functions, and key-switch lock.

FDU-80C: ULC-listed version; see DN-60573 for details.

10103: Three-gang electrical box, minimum 2.188" (5.556 cm) deep, for semi-flush mount applications.

SBB-3: Three-gang surface backbox for surface-mount applications.

Agency Listings And Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **MEA Listed:** 245-00-E
- **FDNY:** COA#6038
- **CSFM: 7120-0028:209**
- **FM Approved**

NOTE: For ULC-listed version, see DN-60573.

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80 Character Liquid Crystal Display

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General

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Up to 32 FDU-80s may be connected onto the EIA-485 terminal port of each FACP. The FDU-80 requires no programming, which saves time during system commissioning.

Features

- 80-character Liquid Crystal Display.
- Mimics all display information from the host panel.
- Control switches for System Acknowledge, Signal Silence, Drill and Reset with enable key.
- System status LEDs for Power, Alarm, Trouble, Supervisory and Alarm Silenced.
- No programming necessary — FDU-80 connects to the terminal porton the FACP.
- Displays device type identifiers, individual point alarm, trouble or supervisory, zone and custom alpha labels.
- Time-and-date display field.
- Aesthetically pleasing design.
- May be powered from the host FACP or by remote power supply (requires 24 VDC).
- Up to 32 FDU-80 annunciators per FACP.
- Plug-in terminal blocks for ease of installation and service.
- Can be remotely located up to 6,000 feet (1828.8 m) from the FACP.
- Local piezo sounder with alarm and trouble resound.
- Semi-flush mounts to 2.188" (5.556 cm) minimum deep, three-gang electrical box (NOTIFIER PN **10103**) or three-gangable electrical switchbox.
- Surface-mounts to NOTIFIER PN **SBB-3** surface backbox.

Operation

The FDU-80 annunciator provides the FACP with point annunciation with full display text on an 80-character LCD display. The FDU-80 also provides an array of LEDs to indicate system status, and includes control switches for remote control of critical system functions.

The FDU-80 provides the FACP with up to 32 remote serially connected annunciators. All field-wiring terminations on the FDU-80 use removable, compression-type terminal blocks for ease of wiring and circuit testing.

Communication between the FACP and the annunciators is accomplished over an EIA-485 serial interface, which greatly reduces wire and installation cost over traditional systems.

Installation

The FDU-80 can be semi-flush mounted to a 2.188" (5.556 cm) minimum deep, three-gang electrical box or three-gangable electrical switchboxes. Alternately, an SBB-3 surface backbox is available for surface-mount applications.

6820fdu8.jpg

Ordering Information

FDU-80: 80 character, backlit, LCD Fire Annunciator with control switches for remote control of system functions, and key-switch lock.

FDU-80C: ULC-listed version; see DN-60573 for details.

10103: Three-gang electrical box, minimum 2.188" (5.556 cm) deep, for semi-flush mount applications.

SBB-3: Three-gang surface backbox for surface-mount applications.

Agency Listings And Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **MEA Listed:** 245-00-E
- **FDNY:** COA#6038
- **CSFM: 7120-0028:209**
- **FM Approved**

NOTE: For ULC-listed version, see DN-60573.

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NCM-W, NCM-F

ONYX® Series
Network Communications Modules

NOTIFIER® by Honeywell

Network Systems

General

The **Network Communications Module** (**NCM**) provides NOTIFIER Intelligent Fire Alarm Control Panels, and **NCA** and **NCA-2** Network Control Annunciators with a means to connect to **NOTI•FIRE•NET**™. Two types of NCM are available: **NCM-W** for connecting nodes with twisted-pair wire, and **NCM-F** for connecting nodes with fiber-optic cable.

NOTE: *Do not mix NCM and High Speed (HS) NCM on the same system.*

NCM-W Features

- Supports twisted-pair wire medium.
- NFPA Style 4 (Class B) operation or NFPA Style 7 (Class A) operation.
- Two programmable data thresholds.
- Transformer coupling provides electrical isolation between nodes.
- Pluggable terminal wiring with strain relief.
- Pluggable service connector (feeds signal directly through) in the event that power must be removed from a node.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

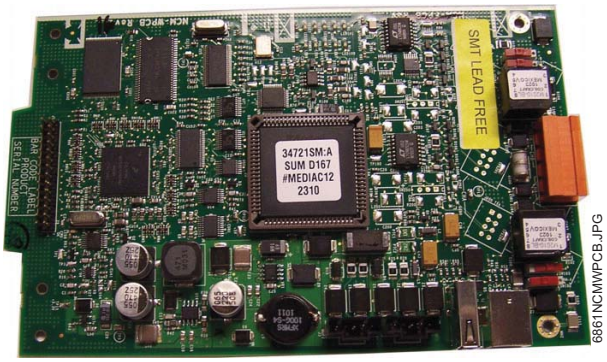
NCM-W Interconnections: When wiring consecutive NCM-W boards, wiring may enter or exit at Port A or Port B. NCM-W port-to-port wiring is not polarity sensitive; use of Port A or Port B is arbitrary. An NCM-W may be connected to any of the following devices: **MIB-W**, **MIB-WF**, **NAM-232W**, **NCM-W** (in another panel), **NCS-W** network connection, **RPT-W**, **RPT-WF**.

NCM-W Switch Functions: The NCM-W provides two sets of switches to simplify network setup. Enable ***ground fault detection*** by setting "ON" switch SW103 (Channel A); switch SW101 (Channel B). Activate ***on-board end-of-line resistors*** by setting "ON" switch SW100 (Channel A); switch 102 (Channel B). ***NOTE:*** *Correct configuration is dependent on network design; refer to the* **NOTI•FIRE•NET**™ *manual.*

For further information and diagrams, refer to the *NCM Installation Document*, 51533.

NCM-F Features

- Supports fiber-optic medium.
- NFPA Style 4 (Class B) or Style 7 (Class A) operation.
- Data is immune to all environmental noise.
- Optical isolation prevents ground loops.
- **NOTI•FIRE•NET**™ fiber-optic medium.
- Fiber type: 62.5/125 micrometers (multimode); or 50/125 micrometers (multimode).



NCM-W

- Maximum attenuation is 8 dB with 62.5/125 µm fiber and 4.2 dB with 50/125 µm fiber.
- Wavelength (1): 820 nanometers (use standard 850 nm fiber).
- Connectors: ST® style.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-F Interconnections: When wiring consecutive nodes/repeaters, fiber cable must exit one board on Transmit (TX) and enter the next node/repeater on Receive (RX). The fiber-optic pair (RX, TX) from Port A of one node/repeater may be connected to either Port A or Port B of another node/repeater. An NCM-F may be connected to any of the following devices: **MIB-F**, **MIB-WF**, **NAM-232F**, another **NCM-F**, **NCS-F** network connection, **RPT-F**, **RPT-WF**.

Common Specifications

Temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Power supply: 24 VDC @ 110 mA.

Mixing Wire and Fiber on the Same Network

In some networks, it may be necessary to mix twisted-pair wire and fiber-optic cable. There are two solutions:

- ***In any network***, an RPT-WF may be used as an interface between wire and fiber.
- ***In a network that uses an AFP1010 or AM2020***, a MIB-WF may be used as the interface between wire and fiber.

Mounting

Both NCM-W and NCM-F can be installed in any standard chassis such as the CHS-4L, CHS-M2, CHS-M3 or CHS-4N *(see panel sheets)*. Additionally, the NCM-W can be door-mounted on the ADP-4B dress panel on a single-space blank plate (BMP-1) for mounting in an CAB-4 Series cabinet.

Agency Listings and Approvals

The following listings and approvals apply to the NCM. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **CSFM:** 7165-0028:0214, 7165-0028:0224, 7165-0028:0243
- **FM approved**
- **MEA** approved
- **FDNY:** COA#6061, COA#6065

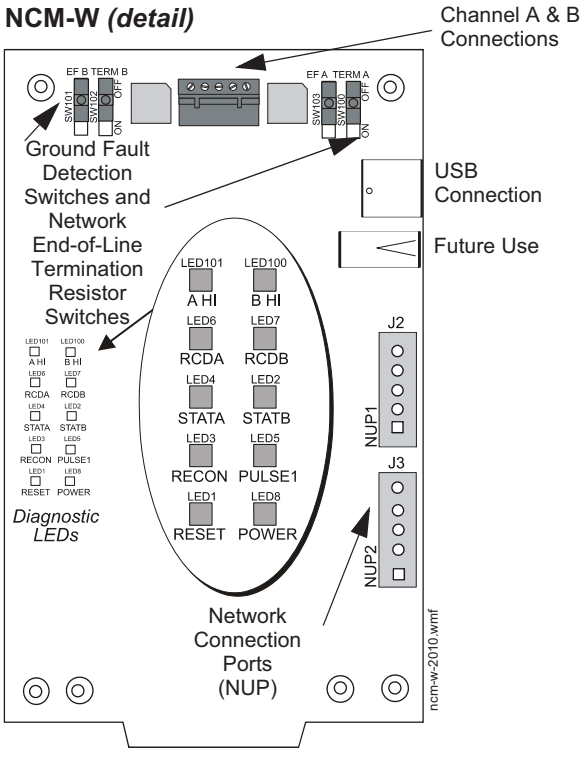
Product Line Information

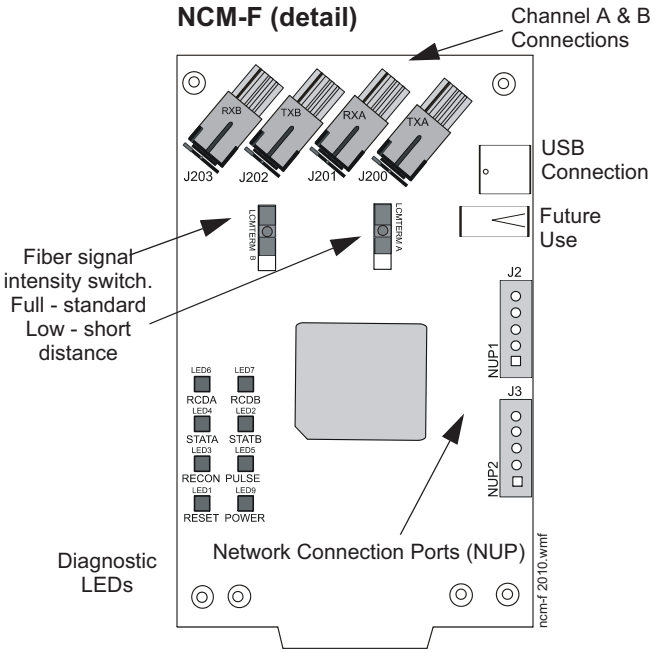
NCM-W: Network Communications Module, twisted-pair wire interface.

NCM-F: Network Communications Module, fiber-optic cable interface.

Diagnostic LED Indicators

A HI *(green):* Illuminates to indicate the NCM-W Port A is set for high threshold *(NCM-W only)*. **B HI** *(green):* Illuminates to indicate the NCM-W Port B is set for high threshold *(NCM-W only)*. **RCD A** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET**™ on Port A. **RCD B** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET**™ on Port B. **STATA** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET**™ on Port A for at least 16 seconds. **STATB** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET**™ on Port B for at least 16 seconds. **RECON** *(yellow)*: Illuminates when a reconfiguration on **NOTI•FIRE•NET**™ is in progress. **PULSE** *(green)*: Illuminates when the NCM is transmitting **NOTI•FIRE•NET**™ is in progress. **RESET** *(yellow)*: Illuminates when the microcontroller fails. **POWER** *(green)*: Illuminates when +5 VDC is available.





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General

The **Network Communications Module** (**NCM**) provides NOTIFIER Intelligent Fire Alarm Control Panels, and **NCA** and **NCA-2** Network Control Annunciators with a means to connect to **NOTI•FIRE•NET**™. Two types of NCM are available: **NCM-W** for connecting nodes with twisted-pair wire, and **NCM-F** for connecting nodes with fiber-optic cable.

NOTE: *Do not mix NCM and High Speed (HS) NCM on the same system.*

NCM-W Features

- Supports twisted-pair wire medium.
- NFPA Style 4 (Class B) operation or NFPA Style 7 (Class A) operation.
- Two programmable data thresholds.
- Transformer coupling provides electrical isolation between nodes.
- Pluggable terminal wiring with strain relief.
- Pluggable service connector (feeds signal directly through) in the event that power must be removed from a node.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

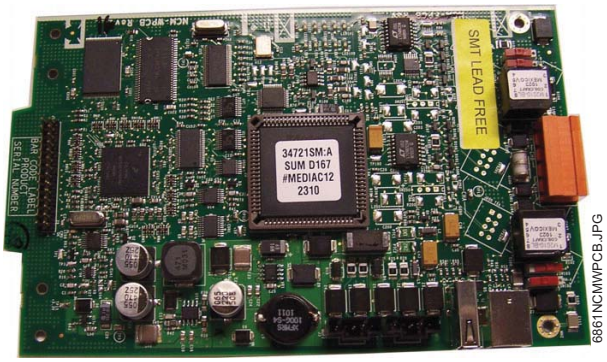
NCM-W Interconnections: When wiring consecutive NCM-W boards, wiring may enter or exit at Port A or Port B. NCM-W port-to-port wiring is not polarity sensitive; use of Port A or Port B is arbitrary. An NCM-W may be connected to any of the following devices: **MIB-W**, **MIB-WF**, **NAM-232W**, **NCM-W** (in another panel), **NCS-W** network connection, **RPT-W**, **RPT-WF**.

NCM-W Switch Functions: The NCM-W provides two sets of switches to simplify network setup. Enable ***ground fault detection*** by setting "ON" switch SW103 (Channel A); switch SW101 (Channel B). Activate ***on-board end-of-line resistors*** by setting "ON" switch SW100 (Channel A); switch 102 (Channel B). ***NOTE:*** *Correct configuration is dependent on network design; refer to the* **NOTI•FIRE•NET**™ *manual.*

For further information and diagrams, refer to the *NCM Installation Document*, 51533.

NCM-F Features

- Supports fiber-optic medium.
- NFPA Style 4 (Class B) or Style 7 (Class A) operation.
- Data is immune to all environmental noise.
- Optical isolation prevents ground loops.
- **NOTI•FIRE•NET**™ fiber-optic medium.
- Fiber type: 62.5/125 micrometers (multimode); or 50/125 micrometers (multimode).



NCM-W

- Maximum attenuation is 8 dB with 62.5/125 µm fiber and 4.2 dB with 50/125 µm fiber.
- Wavelength (1): 820 nanometers (use standard 850 nm fiber).
- Connectors: ST® style.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-F Interconnections: When wiring consecutive nodes/repeaters, fiber cable must exit one board on Transmit (TX) and enter the next node/repeater on Receive (RX). The fiber-optic pair (RX, TX) from Port A of one node/repeater may be connected to either Port A or Port B of another node/repeater. An NCM-F may be connected to any of the following devices: **MIB-F**, **MIB-WF**, **NAM-232F**, another **NCM-F**, **NCS-F** network connection, **RPT-F**, **RPT-WF**.

Common Specifications

Temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Power supply: 24 VDC @ 110 mA.

Mixing Wire and Fiber on the Same Network

In some networks, it may be necessary to mix twisted-pair wire and fiber-optic cable. There are two solutions:

- ***In any network***, an RPT-WF may be used as an interface between wire and fiber.
- ***In a network that uses an AFP1010 or AM2020***, a MIB-WF may be used as the interface between wire and fiber.

Mounting

Both NCM-W and NCM-F can be installed in any standard chassis such as the CHS-4L, CHS-M2, CHS-M3 or CHS-4N *(see panel sheets)*. Additionally, the NCM-W can be door-mounted on the ADP-4B dress panel on a single-space blank plate (BMP-1) for mounting in an CAB-4 Series cabinet.

Agency Listings and Approvals

The following listings and approvals apply to the NCM. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635
- **ULC Listed:** S635
- **CSFM:** 7165-0028:0214, 7165-0028:0224, 7165-0028:0243
- **FM approved**
- **MEA** approved
- **FDNY:** COA#6061, COA#6065

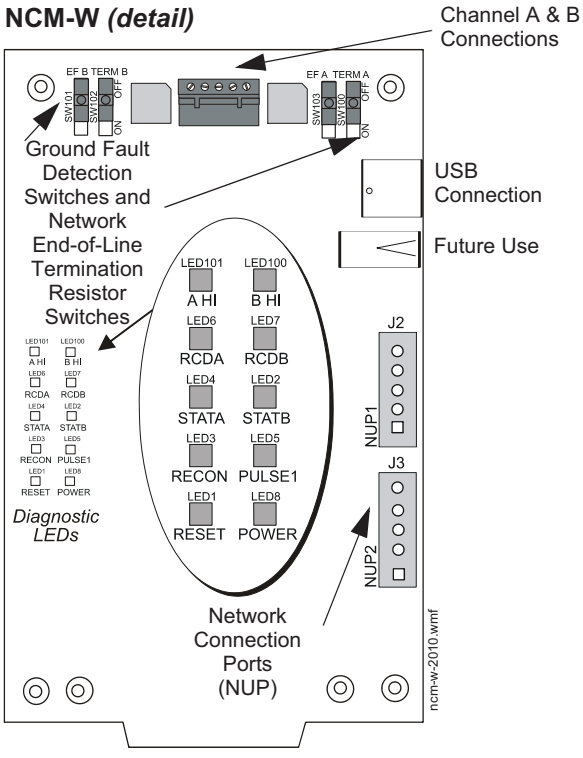
Product Line Information

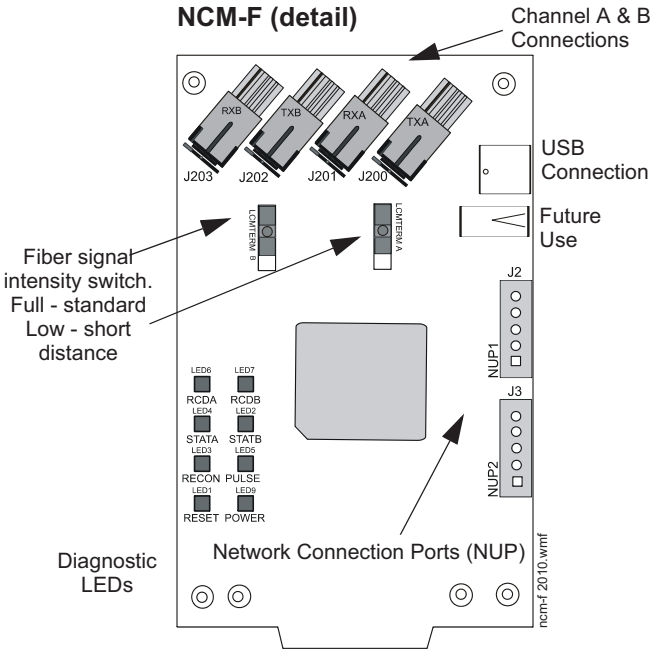
NCM-W: Network Communications Module, twisted-pair wire interface.

NCM-F: Network Communications Module, fiber-optic cable interface.

Diagnostic LED Indicators

A HI *(green):* Illuminates to indicate the NCM-W Port A is set for high threshold *(NCM-W only)*. **B HI** *(green):* Illuminates to indicate the NCM-W Port B is set for high threshold *(NCM-W only)*. **RCD A** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET**™ on Port A. **RCD B** *(green)*: Illuminates when the NCM is receiving data from **NOTI•FIRE•NET**™ on Port B. **STATA** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET**™ on Port A for at least 16 seconds. **STATB** *(yellow)*: Illuminates when the NCM has not received valid data from **NOTI•FIRE•NET**™ on Port B for at least 16 seconds. **RECON** *(yellow)*: Illuminates when a reconfiguration on **NOTI•FIRE•NET**™ is in progress. **PULSE** *(green)*: Illuminates when the NCM is transmitting **NOTI•FIRE•NET**™ is in progress. **RESET** *(yellow)*: Illuminates when the microcontroller fails. **POWER** *(green)*: Illuminates when +5 VDC is available.





ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Made in the U.S. A.

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www.notifier.com

NCM-W, NCM-F

ONYX® Series
Network Communications Modules

NOTIFIER® by Honeywell

Network Systems

General

The **Network Communications Module** (**NCM**) provides NOTIFIER Intelligent Fire Alarm Control Panels, and **NCA** and **NCA-2** Network Control Annunciators with a means to connect to **NOTI•FIRE•NET**™. Two types of NCM are available: **NCM-W** for connecting nodes with twisted-pair wire, and **NCM-F** for connecting nodes with fiber-optic cable.

NOTE: *Do not mix NCM and High Speed (HS) NCM on the same system.*

NCM-W Features

- Supports twisted-pair wire medium.
- NFPA Style 4 (Class B) operation or NFPA Style 7 (Class A) operation.
- Two programmable data thresholds.
- Transformer coupling provides electrical isolation between nodes.
- Pluggable terminal wiring with strain relief.
- Pluggable service connector (feeds signal directly through) in the event that power must be removed from a node.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

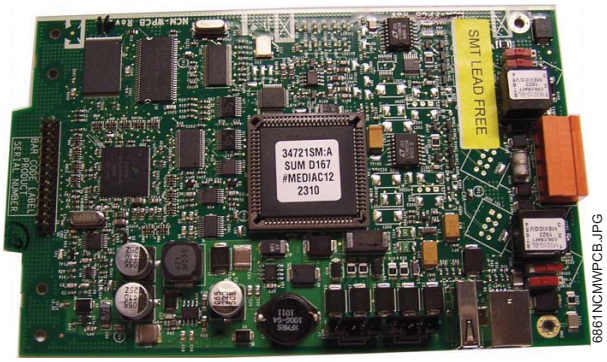
NCM-W Interconnections: When wiring consecutive NCM-W boards, wiring may enter or exit at Port A or Port B. NCM-W port-to-port wiring is not polarity sensitive; use of Port A or Port B is arbitrary. An NCM-W may be connected to any of the following devices: **MIB-W**, **MIB-WF**, **NAM-232W**, **NCM-W** (in another panel), **NCS-W** network connection, **RPT-W**, **RPT-WF**.

NCM-W Switch Functions: The NCM-W provides two sets of switches to simplify network setup. Enable ***ground fault detection*** by setting "ON" switch SW103 (Channel A); switch SW101 (Channel B). Activate ***on-board end-of-line resistors*** by setting "ON" switch SW100 (Channel A); switch 102 (Channel B). ***NOTE:*** *Correct configuration is dependent on network design; refer to the* **NOTI•FIRE•NET**™ *manual.*

For further information and diagrams, refer to the *NCM Installation Document*, 51533.

NCM-F Features

- Supports fiber-optic medium.
- NFPA Style 4 (Class B) or Style 7 (Class A) operation.
- Data is immune to all environmental noise.
- Optical isolation prevents ground loops.
- **NOTI•FIRE•NET**™ fiber-optic medium.
- Fiber type: 62.5/125 micrometers (multimode); or 50/125 micrometers (multimode).



NCM-W

- Maximum attenuation is 8 dB with 62.5/125 µm fiber and 4.2 dB with 50/125 µm fiber.
- Wavelength (1): 820 nanometers (use standard 850 nm fiber).
- Connectors: ST® style.
- 312.5 Kbaud transmission rate.
- Data is regenerated at each node.
- Two network ports to allow simultaneous connection to fire alarm control panel and to programming computer.
- Enables software and database upload/download over **NOTI•FIRE•NET**™.
- Repeaters are available to increase signal.
- Repeaters may be utilized to switch media type.
- Up to 3,000 feet (914.4 m) between nodes in a point-to-point fashion (actual distance varies with wire quality).

NCM-F Interconnections: When wiring consecutive nodes/repeaters, fiber cable must exit one board on Transmit (TX) and enter the next node/repeater on Receive (RX). The fiber-optic pair (RX, TX) from Port A of one node/repeater may be connected to either Port A or Port B of another node/repeater. An NCM-F may be connected to any of the following devices: **MIB-F**, **MIB-WF**, **NAM-232F**, another **NCM-F**, **NCS-F** network connection, **RPT-F**, **RPT-WF**.

Common Specifications

Temperature and humidity ranges: This system meets NFPA requirements for operation at 0°C to 49°C (32°F to 120°F); and at a relative humidity (noncondensing) of 85% at 30°C (86°F) per NFPA, and 93% ± 2% at 32°C ± 2°C (89.6°F ± 1.1°F) per ULC. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and all peripherals be installed in an environment with a nominal room temperature of 15°C to 27°C (60°F to 80°F).

Power supply: 24 VDC @ 110 mA.

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Mounting

Both NCM-W and NCM-F can be installed in any standard chassis such as the CHS-4L, CHS-M2, CHS-M3 or CHS-4N *(see panel sheets)*. Additionally, the NCM-W can be door-mounted on the ADP-4B dress panel on a single-space blank plate (BMP-1) for mounting in an CAB-4 Series cabinet.

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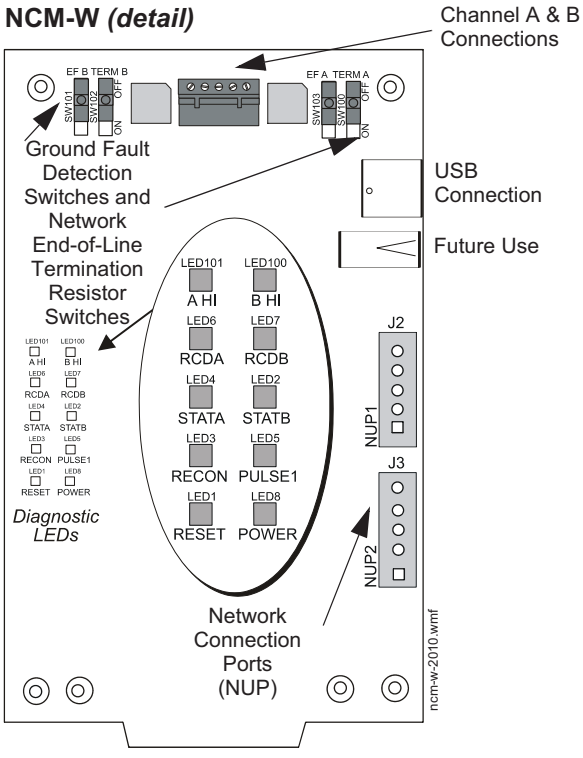

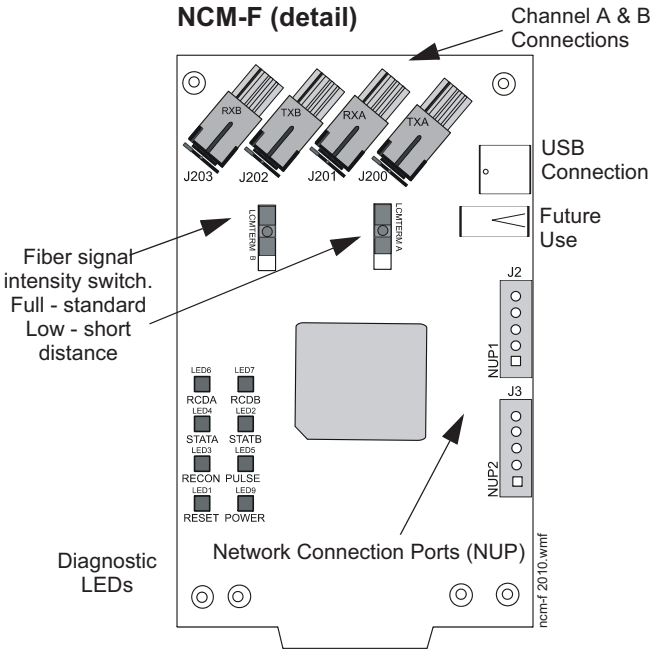

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www.notifier.com

SSM Series

Alarm Bells

NOTIFIER® by Honeywell

Audio/Visual Appliances

General

System Sensor's SSM Series alarm bells are low-current, high-decibel notification appliances for use in fire and burglary systems or other signaling applications. They come pre-wired to reduce installation time, and also incorporate a polarized electrical design for use with supervision circuitry.

With reliable performance, SSM Series alarm bells provide loud, resonant tones. They operate on 24 VDC and are motor-driven.

SSM Series alarm bells offer simplified installation. For indoor use, SSM Series alarm bells mount to a standard 4" (10.16 cm) square electrical box. For outdoor applications, a WBB weatherproof backbox is used.

6910pho1.jpg

Features

- Approved for indoor or outdoor (with WBB backbox) use.
- Low current draw.
- High dB output.
- Three sizes available: 6" (15.24 cm), 8" (20.32 cm), and 10" (25.40 cm) diameter.
- 24 VDC models; polarized for use with supervision circuitry.
- Bells mount directly to standard 4" (10.16 cm) square electrical box.

Specifications

Regulated voltage: 24 VDC.

Operating voltage range: 116 to 33 VDC.

Maximum Current: DC 31.1 mA/FWR - 53.5 mA.

Operating temperature range: –31°F (–35°C) to +150°F (+66°C).

Termination: provided with two sets of leads for in/out wiring.

Service use: Fire Alarm, General Signaling, Burglar Alarm.

Engineering and Architectural Specifications

Model shall be a SSM Series alarm bell. Bells shall have underdome strikers and operating mechanisms. Gongs on said bell shall be no smaller than nominal 6" (15.24 cm), 8" (20.32 cm), or 10" (25.40 cm) (specify size) with an operating voltage of 24 VDC. Bells shall be suitable for surface or semi-flush mounting. Outdoor surface-mounted installations shall be weatherproof (using optional WBB weatherproof backbox); otherwise, bells shall mount to a standard 4" (10.16 cm) square electrical box having a minimum projection of 2.5" (6.35 cm). Bells shall be located as shown on the installation drawings or as determined by the Authority Having Jurisdiction. Bells shall be Listed for indoor/outdoor use by Underwriters Laboratories, ULC (Canada), and the California State Fire Marshal, and approved by Factory Mutual and MEA.

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- **UL Listed:** S4011
- **ULC Listed:** CS549
- **MEA Listed:** 331-01-E
- **FM Approved**
- **CSFM:** 7135-1653:125

Ordering Information

SSM24-6: 6" (15.24 cm) bell, 24 VDC, polarized, 82 dBA.

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SSM24-8A: Canadian model of 8" bell above.

SSM24-10: 10" (25.40 cm) bell, 24 VDC, polarized, 81 dBA.

WBB: Weatherproof backbox.

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- **FM Approved**
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Made in the U.S. A.

FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

NOTIFIER® by Honeywell

Power Supplies

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.

- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option module.

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

NOTIFIER® by Honeywell

Power Supplies

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.

- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option module.

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

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FCPS-24S6(C/E) & FCPS-24S8(C/E)

6- & 8-Amp 24-Volt Remote Power Supplies

NOTIFIER® by Honeywell

Power Supplies

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.

- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

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- **UL Listed:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option module.

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

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Power Supplies

General

The FCPS-24S6E (6-amp) and FCPS-24S8E (8-amp) are remote power supplies with battery charger. The FCPS-24S6/-24S8 may be connected to any 12 or 24 volt fire alarm control panel (FACP) or may be used as stand-alone supplies. Primary applications include notification appliance circuit (NAC) expansion (to support ADA requirements and NAC synchronization) or auxiliary power to support 24 volt system accessories. The FCPS-24S6/-24S8 provides regulated and filtered 24 VDC power to four notification appliance circuits configured as either four Class B (Style Y) or Class A (Style Z, with ZNAC-4 option module). Alternately, the four outputs may be configured as all non-resettable, all resettable or two non-resettable and two resettable. The FCPS-24S6/-24S8 also contains a battery charger capable of charging up to 18 AH batteries. FCPS-24S6C & FCPS-24S8C are ULC-listed.

NOTE: *Unless otherwise specified, the terms FCPS-24S6 and FCPS-24S8 used in this document refers to the standard FCPS-24S6 and FCPS-24S8, FCPS-24S6C and FCPS-24S8C, the FCPS-24S6E and FCPS-24S8E*

Features

- UL-Listed NAC synchronization using System Sensor, Wheelock, or Gentex "Commander^2" appliances.
- Operates as a "sync-follower" or as a "sync-generator" (default). *See note on page 2.*
- Contains two fully-isolated input/control circuits - triggered from FACP NAC (NAC expander mode) or jumped permanently "ON" (stand-alone mode).
- Four Class B (Style Y) or four Class A (Style Z, with ZNAC-4 module) NACs.
- 6-amp (FCPS-24S6) or 8-amp (FCPS-24S8) full load output, with 3 amps maximum/circuit, in NAC expander mode (UL 864).
- 4-amp (FCPS-24S6) or 6-amp (FCPS-24S8) continuous output in stand-alone mode (UL 1481).
- Compatible with coded inputs; signals passed through.
- Optional power-supervision relay (EOLR-1).
- In stand-alone mode, output power circuits may be configured as: resettable, (reset line from FACP required), non-resettable, or a mix of two and two.
- Fully regulated and filtered power output - optimal for powering four-wire smoke detectors, annunciators, and other system peripherals requiring regulated/filtered power.
- Power-limiting technology meets UL power-limiting requirements.
- Form-C normally-closed trouble relay.
- Fully supervised power supply, battery, and NACs.
- Selectable earth fault detection.
- AC trouble report selectable for immediate 2-hour delay.
- Works with virtually any UL 864 fire alarm control which utilizes an industry-standard reverse-polarity notification circuit (including unfiltered and unregulated NAC power).
- Requires input trigger voltage of 9 - 32 VDC.
- Self-contained in compact, locking cabinet - 15"H x 14.5"W x 2.75"D (cm: 38.1H x 36.83W x 6.985D).
- Includes integral battery charger capable of charging up to 18 AH batteries. Cabinet capable of housing 7.0 AH batteries.
- Battery charger may be disabled via DIP switch for applications requiring larger batteries.
- Fixed, clamp-type terminal blocks accommodate up to 12 AWG (3.1mm^2) wire.

Specifications

Primary (AC) Power:

- FCPS-24S6C/-24S8C: 120 VAC, 60 Hz, 3.2A maximum.
- FCPS-24S6E/-24S8E: 240 VAC, 50 Hz, 1.6A maximum.
- Wire Size: minimum #14 AWG (2.0mm^2) with 600 V insulation.

Control Input Circuit:

- **Trigger Input Voltage:** 9 to 32 VDC.
- **Trigger Current:** 2.0 mA (16 - 32 V); Per Input: 1.0 mA (9 - 16 V).

Trouble Contact Rating: 5 A at 24 VDC.

Auxiliary Power Output: Specific application power 500 mA maximum.

Output Circuits:

- +24 VDC filtered, regulated.
- 3.0 A maximum for any one circuit.
- Total continuous current for all outputs (stand-alone mode):
  - FCPS-24S6: 4.0 A maximum.
  - FCPS-24S8: 6.0 A maximum.
- Total short-term current for all outputs (NAC expander mode):
  - FCPS-24S6: 6.0 A maximum.
  - FCPS-24S8: 8.0 A maximum.

Secondary Power (Battery) Charging Circuit:

- Supports lead-acid batteries only.

- Float-charge voltage: 27.6 VDC.
- Maximum current charge: 1.5 A.
- Maximum battery capacity: 18 AH.

Applications

Example 1: Expand notification appliance power an additional 6.0 A (FCPS-24S6) or 8.0 A (FCPS-24S8). Use up to four Class B (Style Y) outputs or four Class A (Style Z) outputs (using ZNAC-4). For example, the FACP notification appliance circuits will activate the FCPS when reverse-polarity activation occurs. Trouble conditions on the FCPS are sensed by the FACP through the notification appliance circuit.

Example 2: Use the FCPS to expand auxiliary regulated 24-volt system power up to 4.0 A (FCPS-24S6) or up to 6.0 A (FCPS-24S8). Both resettable and non-resettable power options are available. Resettable outputs are created by connecting the resettable output from the FACP to one or both of the FCPS inputs.

Example 3: Use addressable control modules to activate the FCPS instead of activating it through the FACP notification appliance circuits. This typically allows for mounting the FCPS at greater distances* away from the FACP while expanding system architecture in various applications.

For example, an addressable control module is used to activate the FCPS, and an addressable monitor module is used to sense FCPS trouble conditions. Local auxiliary power output from the FCPS provides power to the addressable control module.

***NOTE:** Addressable FACPs are capable of locating control and monitor modules at distances of up to 12,500 feet (3,810 meters).*

Sync Follower/Generator Note

In some installations, it is necessary to synchronize the flash timing of all strobes in the system for ADA compliance. Strobes accomplish this by monitoring very short timing pulses on the NAC power which are created by the FACP. When installed at the end of a NAC wire run, the FCPS-24S6/-24S8 can track (i.e. "follow") the strobe synchronization timing pulses on the existing NAC wire run. This maintains the overall system flash timing of the additional strobes attaches to the FCPS.

When the FCPS-24S6/-24S8 is configured (via DIP switch settings) as a "sync follower," the FCPS's NAC outputs track the strobe synchronization pulses present at the FCPS's sync input terminal. The pulses originate from an upstream FACP or other power supply.

When the FCPS-24S6/-24S8 are configured (via DIP switch settings) as a "sync generator," the FCPS's sync input terminals are not used. Rather, the FCPS is the originator of the strobe synchronization pulses on the FCPS's NAC outputs. In "sync generator" mode, the sync type (System Sensor, Wheelock, or Gentex) is selectable via DIP switch settings.

Standards and Codes

The FCPS-24S6 and FCPS-24S8 comply with the following standards:

- **NFPA 72** National Fire Alarm Code.
- **UL 864** Standard for Control Units for Fire Alarm Systems (NAC expander mode).
- **UL 1481** Power Supplies for Fire Alarm Systems.

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S635, S674
- **ULC Listed:** S635 (FCPS-24S6C & FCPS-24S8C)
- **CSFM Approved:** 7315-0028:225
- **MEA:** 299-02-E
- **FM Approved**

Ordering Information

FCPS-24S6: 6.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S6C: Same as above, ULC-listed.

FCPS-24S6R: Same as FCPS-24S6 with red enclosure.

FCPS-24S6E: 6.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8: 8.0 A, 120 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

FCPS-24S8C Same as above, ULC-listed.

FCPS-24S8R: Same as FCPS-24S8 with red enclosure.

FCPS-24S8E: 8.0 A, 240 VAC remote charger power supply. Includes main printed circuit board, transformers, enclosure (15"H x 14.5"W x 2.75"D [cm: 38.1H x 36.83W x 6.985D]), and installation instructions.

ZNAC-4: Class A (Style Y) NAC option module.

EOLR-1: 12/24 VDC end-of-line relay for monitoring four-wire smoke detector power.

BAT-1270: Battery, 12-volt, 7.0 AH (two required, see BAT Series data sheet DN-6933).

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

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www.notifier.com

RP-2002(E)

Agent Release Control Panel

NOTIFIER® by Honeywell

Conventional Releasing Panels

General

The RP-2002 is a six-zone FACP for single and dual hazard agent releasing applications. The RP-2002 provides reliable fire detection, signaling and protection for commercial, industrial and institutional buildings requiring agent-based releasing. The RP-2002 is compatible with System Sensor's i^3 detectors which are conventional smoke detectors that can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory 'freeze' signal when the ambient temperature falls below the detector rating of approximately 45°F (7.22°C). In addition, the control panel is compatible with conventional input devices such as two-wire smoke detectors, four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. Refer to the Notifier Device Compatibility Document for a complete listing of compatible devices.

Four outputs are programmable as NACs (Notification Appliance Circuits) or releasing circuits. Three programmable Form-C relays (factory programmed for Alarm, Trouble and Supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board. The RP-2002 supervises all wiring, AC voltage, battery charger and battery level.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The RP-2002E offers the same features as the RP-2002 but allows connection to 220/240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and 220/240 VAC versions of the panels.

RP2002.jpg

Features

- Listed to UL Standard 864, 9th edition.
- FM Approved.
- Designed for agent releasing standards NFPA 12, 12A, 12B, and 2001.
- Meets International Building Code (IBC) seismic requirements.
- Disable/Enable control per input zone and output zone.
- Extensive transient protection.
- Dual hazard operation.
- Adjustable pre-discharge, discharge and waterflow delay timers.
- Cross-zone (double-interlock) capability.
- Six programmable Style B (Class B) IDCs (Initiating Device Circuit).
- System Sensor i^3 series detector compatible.
- Four programmable Style Y (Class B) output circuits - (special application power).
- Strobe synchronization:
  - System Sensor
  - Wheelock
  - Gentex
  - Faraday
  - Amseco
- Three programmable Form-C relays.
- 7.0 amps total 24 VDC output current.
- Resettable and non-resettable output power.
- Built-in Programmer.
- ANN-BUS connector for communication with optional devices (up to 8 total of any of the following):
  - N-ANN-80 Remote LCD Annunciator
  - N-ANN-I/O LED Driver
  - N-ANN-S/PG Printer Modules
  - N-ANN-RLY Relay Module
  - N-ANN-LED Annunciator Module
- 80-character LCD display (backlit).
- Real-time clock/calendar with daylight savings time control.
- History log with 256 event storage.
- Piezo sounder for alarm, trouble and supervisory.
- 24 volt operation.
- Low AC voltage sense.
- Outputs Programmable for:
  - Releasing Circuits or NACS
- NACs programmable for:
  - Silence Inhibit
  - Auto-Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
  - Temporal or Steady Signal
  - Silenceable or Non-silenceable
  - Release Stage Sounder

- Automatic battery charger with charger supervision.
- Optional Dress Panel DP-51050 (red).
- Optional Trim Ring TR-CE (red) for semi-flush mounting the cabinet.
- Optional N-CAC-5X Class A Converter Module for Outputs and IDCs.
- Optional 4XTM Municipal Box Transmitter Module.
- Optional Digital Alarm Communicators (411, 411UD, 411UDAC).
- Optional ANN-SEC card for a secondary ANN-BUS.

PROGRAMMING AND SOFTWARE:

- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Programmable Abort operation.
- Three programmable Form-C relay outputs.
- Pre-programmed and custom application templates.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.

USER INTERFACE:

- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-Bus for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)
- DISCHARGED (red)
- PRE-DISCHARGE (red indicator)
- ABORT (yellow indicator)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

AC Power – TB1

- **RP-2002:** 120 VAC, 60 Hz, 3.66 amps.
- **RP-2002E:** 240 VAC, 50/60 Hz, 2.085 amps.
- **Wire size:** minimum #14 AWG (2.0 mm^2) with 600V insulation.
- Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- **Maximum Charging Circuit - Normal Flat Charge:** 27.6 VDC @ 1.4 amp. Supervised, nonpower-limited.
- **Maximum Charger Capacity:** 26 Amp Hour battery (two 18 Amp Hour batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBBR).
- **Minimum Battery Size:** 7 Amp Hour.

Initiating Device Circuits - TB4 and TB6

- Zones 1 - 5 on TB4.
- Zone 6 on TB6.
- Supervised and power-limited circuitry.
- Style B (Class B) wiring with Style D (Class A) option.
- Normal Operating Voltage: Nominal 20 VDC.
- Alarm Current: 15 mA minimum.
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 Ohms.
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Standby Current: 4 mA.

Refer to the Notifier Device Compatibility Document for listed compatible devices.

Notification Appliance and Releasing Circuit(s) - TB5 and TB7

- Four Output Circuits.
- Style Y (Class B) or Style Z (Class A) with optional converter module.
- Special Application power.
- Supervised and power-limited circuitry.
- Normal Operating Voltage: Nominal 24 VDC.
- Maximum Signaling Current: 7.0 amps (3.0 amps special application, 300 mA regulated maximum per NAC).
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Max. Wiring Voltage Drop: 2 VDC.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Form-C Relays - Programmable - TB8

- Relay 1 (factory default programmed as Alarm Relay)
- Relay 2 (factory default programmed as fail-safe Trouble Relay)
- Relay 3 (factory default programmed as Supervisory Relay)
- Relay Contact Ratings:
  - **–** 2 amps @ 30 VDC (resistive)
  - **–** 0.5 amps @ 30 VAC (resistive)

Auxiliary Trouble Input – J6

The Auxiliary Trouble Input is an open collector circuit which can be used to monitor external devices for trouble conditions. It can be connected to the trouble bus of a peripheral, such as a power supply, which is compatible with open collector circuits.

Special Application Resettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA - appropriate for powering 4-wire smoke detectors (see note).
- Power-limited Circuitry.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

NOTE: *Total current for resettable power, nonresettable power and Output Circuits must not exceed 7.0 amps.*

Special Application Resettable or Nonresettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA (see note 1).
- Power-limited Circuitry.
- Jumper selectable by JP31 for resettable or nonresettable power.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Product Line Information

RP-2002: Six-zone, 24 volt Agent Release Control Panel (includes backbox, power supply, technical manual, and a frame & post operating instruction sheet) for single and dual hazard agent releasing applications.

RP-2002E: Same as above but allows connection to 220/240 VAC.

N-CAC-5X: Class A Converter Module can be used to convert the Style B (Class B) Initiating Device Circuits to Style D (Class A) and Style Y (Class B) Output Circuits to Style Z (Class A).

NOTE: *Two Class A Converter modules are required to convert all four Output Circuits and six Initiating Device Circuits.*

4XTM: Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.

N-ANN-80(-W): LCD Annunciator is a remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is black; order -W version for white; s*ee DN-7114.)*

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervisory. Ships with red or black enclosure (see DN-60242).

N-ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242).

N-ANN-RLY: Relay Module, which can be mounted inside or outside the cabinet, provides 10 programmable Form-C relays. (See *DN-7107*).

N-ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See *DN-7103*).

N-ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See *DN-7105*).

ANN-SEC: Optional card for a secondary ANN-BUS. *See #53944.*

NBG-12LR: Agent Release Pull Stations designed for use with Notifier Fire Alarm Control Panels with releasing capabilities.

DP-51050: Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.

TR-CE: Trim-ring (red) is available as an option. The trim-ring allows semi-flushing mounting of the cabinet.

BB-26: Battery box, holds up to two 26 Amp Hour batteries and CHG-75.

NFS-LBBR: Battery box, houses two 55 Amp Hour batteries, red.

SEISKIT-COMMENC: Seismic mounting kit; required for seismic-certified installations.

BAT Series Batteries: Refer to DN-6933.

PRN-6: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRN-7: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRT-PK-CABLE: Programming cable. Used to update the FACP's flash firmware. (Also requires an RS485 to RS232 converter).

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **RP-2002 (FLPS-7 Power Supply):** 120 VAC, 60 Hz, 3.66 amps
- **RP-2002E (FLPS-7 Power Supply):** 240 VAC, 50/60 Hz, 2.085 amps
- **Wire size:** minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR- CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 24.05 lbs. (10.9 kg)

Dimensions:

- Height 20.00" (50.80cm)
- Width 22.50" (57.15cm)
- Depth 8.50" (21.59cm)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

The RP-2002(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

- **NFPA 12** CO_2 Extinguishing Systems
- **NFPA 12A** Halon 1301 Extinguishing Systems
- **NFPA 12B** Halon 1211 Extinguishing Systems
- **NFPA 72** National Fire Alarm Code for Local Fire Alarm Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)
- **NFPA 2001** Clean Agent Fire Extinguishing Systems

Agency Listings and Approvals

The listings and approvals below apply to the basic RP-2002(E) control panels. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7165-0028:0245
- **MEA:** 333-07-E
- ***Seismic Listing:*** *Reference certificiate of compliance VMA - 45894-01 by the VMC Group*

NOTE: *For ULC-listed model, see DN-60444.*

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Assembled in the USA

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RP-2002(E)

Agent Release Control Panel

NOTIFIER® by Honeywell

Conventional Releasing Panels

General

The RP-2002 is a six-zone FACP for single and dual hazard agent releasing applications. The RP-2002 provides reliable fire detection, signaling and protection for commercial, industrial and institutional buildings requiring agent-based releasing. The RP-2002 is compatible with System Sensor's i^3 detectors which are conventional smoke detectors that can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory 'freeze' signal when the ambient temperature falls below the detector rating of approximately 45°F (7.22°C). In addition, the control panel is compatible with conventional input devices such as two-wire smoke detectors, four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. Refer to the Notifier Device Compatibility Document for a complete listing of compatible devices.

Four outputs are programmable as NACs (Notification Appliance Circuits) or releasing circuits. Three programmable Form-C relays (factory programmed for Alarm, Trouble and Supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board. The RP-2002 supervises all wiring, AC voltage, battery charger and battery level.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The RP-2002E offers the same features as the RP-2002 but allows connection to 220/240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and 220/240 VAC versions of the panels.

RP2002.jpg

Features

- Listed to UL Standard 864, 9th edition.
- FM Approved.
- Designed for agent releasing standards NFPA 12, 12A, 12B, and 2001.
- Meets International Building Code (IBC) seismic requirements.
- Disable/Enable control per input zone and output zone.
- Extensive transient protection.
- Dual hazard operation.
- Adjustable pre-discharge, discharge and waterflow delay timers.
- Cross-zone (double-interlock) capability.
- Six programmable Style B (Class B) IDCs (Initiating Device Circuit).
- System Sensor i^3 series detector compatible.
- Four programmable Style Y (Class B) output circuits - (special application power).
- Strobe synchronization:
  - System Sensor
  - Wheelock
  - Gentex
  - Faraday
  - Amseco
- Three programmable Form-C relays.
- 7.0 amps total 24 VDC output current.
- Resettable and non-resettable output power.
- Built-in Programmer.
- ANN-BUS connector for communication with optional devices (up to 8 total of any of the following):
  - N-ANN-80 Remote LCD Annunciator
  - N-ANN-I/O LED Driver
  - N-ANN-S/PG Printer Modules
  - N-ANN-RLY Relay Module
  - N-ANN-LED Annunciator Module
- 80-character LCD display (backlit).
- Real-time clock/calendar with daylight savings time control.
- History log with 256 event storage.
- Piezo sounder for alarm, trouble and supervisory.
- 24 volt operation.
- Low AC voltage sense.
- Outputs Programmable for:
  - Releasing Circuits or NACS
- NACs programmable for:
  - Silence Inhibit
  - Auto-Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
  - Temporal or Steady Signal
  - Silenceable or Non-silenceable
  - Release Stage Sounder

- Automatic battery charger with charger supervision.
- Optional Dress Panel DP-51050 (red).
- Optional Trim Ring TR-CE (red) for semi-flush mounting the cabinet.
- Optional N-CAC-5X Class A Converter Module for Outputs and IDCs.
- Optional 4XTM Municipal Box Transmitter Module.
- Optional Digital Alarm Communicators (411, 411UD, 411UDAC).
- Optional ANN-SEC card for a secondary ANN-BUS.

PROGRAMMING AND SOFTWARE:

- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Programmable Abort operation.
- Three programmable Form-C relay outputs.
- Pre-programmed and custom application templates.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.

USER INTERFACE:

- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-Bus for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)
- DISCHARGED (red)
- PRE-DISCHARGE (red indicator)
- ABORT (yellow indicator)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

AC Power – TB1

- **RP-2002:** 120 VAC, 60 Hz, 3.66 amps.
- **RP-2002E:** 240 VAC, 50/60 Hz, 2.085 amps.
- **Wire size:** minimum #14 AWG (2.0 mm^2) with 600V insulation.
- Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- **Maximum Charging Circuit - Normal Flat Charge:** 27.6 VDC @ 1.4 amp. Supervised, nonpower-limited.
- **Maximum Charger Capacity:** 26 Amp Hour battery (two 18 Amp Hour batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBBR).
- **Minimum Battery Size:** 7 Amp Hour.

Initiating Device Circuits - TB4 and TB6

- Zones 1 - 5 on TB4.
- Zone 6 on TB6.
- Supervised and power-limited circuitry.
- Style B (Class B) wiring with Style D (Class A) option.
- Normal Operating Voltage: Nominal 20 VDC.
- Alarm Current: 15 mA minimum.
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 Ohms.
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Standby Current: 4 mA.

Refer to the Notifier Device Compatibility Document for listed compatible devices.

Notification Appliance and Releasing Circuit(s) - TB5 and TB7

- Four Output Circuits.
- Style Y (Class B) or Style Z (Class A) with optional converter module.
- Special Application power.
- Supervised and power-limited circuitry.
- Normal Operating Voltage: Nominal 24 VDC.
- Maximum Signaling Current: 7.0 amps (3.0 amps special application, 300 mA regulated maximum per NAC).
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Max. Wiring Voltage Drop: 2 VDC.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Form-C Relays - Programmable - TB8

- Relay 1 (factory default programmed as Alarm Relay)
- Relay 2 (factory default programmed as fail-safe Trouble Relay)
- Relay 3 (factory default programmed as Supervisory Relay)
- Relay Contact Ratings:
  - **–** 2 amps @ 30 VDC (resistive)
  - **–** 0.5 amps @ 30 VAC (resistive)

Auxiliary Trouble Input – J6

The Auxiliary Trouble Input is an open collector circuit which can be used to monitor external devices for trouble conditions. It can be connected to the trouble bus of a peripheral, such as a power supply, which is compatible with open collector circuits.

Special Application Resettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA - appropriate for powering 4-wire smoke detectors (see note).
- Power-limited Circuitry.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

NOTE: *Total current for resettable power, nonresettable power and Output Circuits must not exceed 7.0 amps.*

Special Application Resettable or Nonresettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA (see note 1).
- Power-limited Circuitry.
- Jumper selectable by JP31 for resettable or nonresettable power.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Product Line Information

RP-2002: Six-zone, 24 volt Agent Release Control Panel (includes backbox, power supply, technical manual, and a frame & post operating instruction sheet) for single and dual hazard agent releasing applications.

RP-2002E: Same as above but allows connection to 220/240 VAC.

N-CAC-5X: Class A Converter Module can be used to convert the Style B (Class B) Initiating Device Circuits to Style D (Class A) and Style Y (Class B) Output Circuits to Style Z (Class A).

NOTE: *Two Class A Converter modules are required to convert all four Output Circuits and six Initiating Device Circuits.*

4XTM: Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.

N-ANN-80(-W): LCD Annunciator is a remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is black; order -W version for white; s*ee DN-7114.)*

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervisory. Ships with red or black enclosure (see DN-60242).

N-ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242).

N-ANN-RLY: Relay Module, which can be mounted inside or outside the cabinet, provides 10 programmable Form-C relays. (See *DN-7107*).

N-ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See *DN-7103*).

N-ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See *DN-7105*).

ANN-SEC: Optional card for a secondary ANN-BUS. *See #53944.*

NBG-12LR: Agent Release Pull Stations designed for use with Notifier Fire Alarm Control Panels with releasing capabilities.

DP-51050: Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.

TR-CE: Trim-ring (red) is available as an option. The trim-ring allows semi-flushing mounting of the cabinet.

BB-26: Battery box, holds up to two 26 Amp Hour batteries and CHG-75.

NFS-LBBR: Battery box, houses two 55 Amp Hour batteries, red.

SEISKIT-COMMENC: Seismic mounting kit; required for seismic-certified installations.

BAT Series Batteries: Refer to DN-6933.

PRN-6: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRN-7: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRT-PK-CABLE: Programming cable. Used to update the FACP's flash firmware. (Also requires an RS485 to RS232 converter).

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **RP-2002 (FLPS-7 Power Supply):** 120 VAC, 60 Hz, 3.66 amps
- **RP-2002E (FLPS-7 Power Supply):** 240 VAC, 50/60 Hz, 2.085 amps
- **Wire size:** minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR- CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 24.05 lbs. (10.9 kg)

Dimensions:

- Height 20.00" (50.80cm)
- Width 22.50" (57.15cm)
- Depth 8.50" (21.59cm)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

The RP-2002(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

- **NFPA 12** CO_2 Extinguishing Systems
- **NFPA 12A** Halon 1301 Extinguishing Systems
- **NFPA 12B** Halon 1211 Extinguishing Systems
- **NFPA 72** National Fire Alarm Code for Local Fire Alarm Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)
- **NFPA 2001** Clean Agent Fire Extinguishing Systems

Agency Listings and Approvals

The listings and approvals below apply to the basic RP-2002(E) control panels. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7165-0028:0245
- **MEA:** 333-07-E
- ***Seismic Listing:*** *Reference certificiate of compliance VMA - 45894-01 by the VMC Group*

NOTE: *For ULC-listed model, see DN-60444.*

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Assembled in the USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

Indoor Selectable-Output Horns, Strobes, and Horn Strobes for Wall Applications

NOTIFIER® by Honeywell

Audio/Visual Devices

General

The L-Series offers the most versatile and easy-to-use line of horns, strobes, and horn strobes in the industry with lower current draws and modern aesthetics. With white and red plastic housings, standard and small footprint devices, and plain, FIRE-printed devices, L-Series can meet virtually any application requirement.

The L-Series product line of wall-mount horns, strobes, and horn strobes include a variety of features that increase their application versatility while simplifying installation. All devices feature plug-in designs with minimal intrusion into the back box, making installations fast and foolproof while virtually eliminating costly and time-consuming ground faults.

To further simplify installation and protect devices from construction damage, L-Series utilizes a universal mounting plate for all standard and compact models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

P2RL

P2GWL

SGWL

HWL

Features

- Updated modern aesthetics.
- Small profile devices for Horns and Horn Strobes.
- Plug-in design with minimal intrusion into the back box.
- Tamper-resistant construction.
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela.
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185.
- Horn rated at 88+ dBA at 16 volts.
- Rotary switch for horn tone and two volume selections.
- Universal mounting plate for all standard and all compact wall units.
- Mounting plate shorting spring checks wiring continuity. before device installation.
- Electrically Compatible with legacy SpectrAlert® and SpectrAlert Advance devices.
- Compatible with MDL3 sync module.
- Listed for wall mounting only.

Architectural/Engineering Specifications

General: L-Series standard horns, strobes, and horn strobes shall mount to a standard 2" x 4" x $1^{7}/_{8}$" back box, 4" × 4" × 1½" back box, 4" octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2" × 4" × $1^{7}/_{8}$" back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard-size models and a separate universal mounting plate shall be used for mounting compact wall models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated c appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unaltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

Strobe. The strobe shall be a L-Series Model listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination. The horn strobe shall be a L-Series Model listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module. The module shall be a Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a $4^{11}/_{6}$" × $4^{11}/_{16}$" × $2^{1}/_{8}$" back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

PHYSICAL/ELECTRICAL SPECIFICATIONS

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C).
- **Humidity Range:** 10 to 93% non-condensing.
- **Strobe Flash Rate:** 1 flash per second.
- **Nominal Voltage:** Regulated 12 DC or regulated 24 DC/FWR[1] (full wave rectified).
- **Operating Voltage Range[2]:** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal).
- **Operating Voltage Range:** MDL3 Sync Module 8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal).
- **Input Terminal Wire Gauge:** 12 to 18 AWG.
- **Wall-Mount Dimensions (including lens):** 5.6" L × 4.7" W × 1.25" D (143 mm L × 119 mm W × 32 mm D).
- **Compact Wall-Mount Dimensions (including lens):** 5.26" L x 3.46" W x 1.93" D (133 mm L x 88 mm W x 49 mm D).
- **Horn Dimensions:** 5.6" L × 4.7" W × 1.25" D (143 mm L × 119 mm W × 32 mm D).
- **Compact Horn Dimensions:** 5.25" L x 3.45" W x 1.25" D (133mm L x 88mm W x 32mm D).

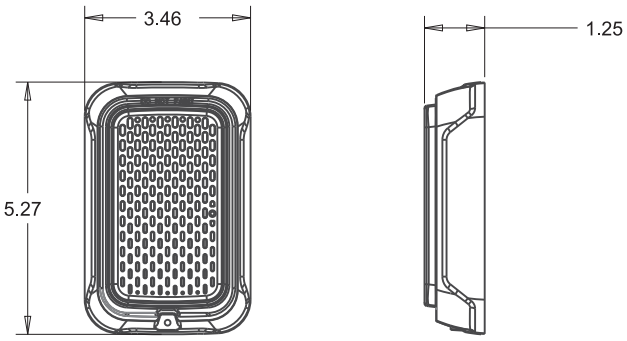
Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

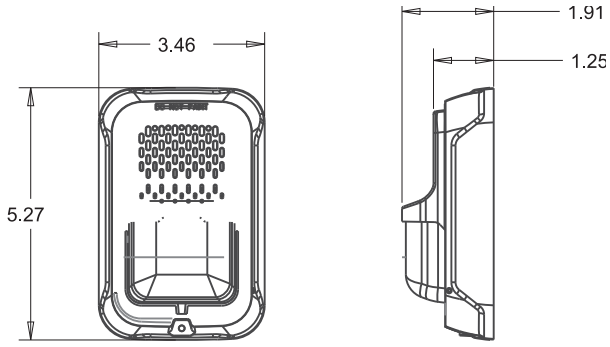
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 30 cd.

L-Series Drawings

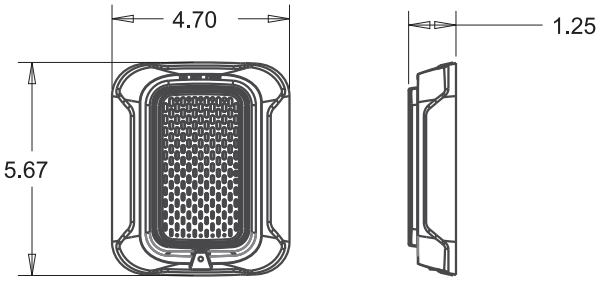
Compact Horn



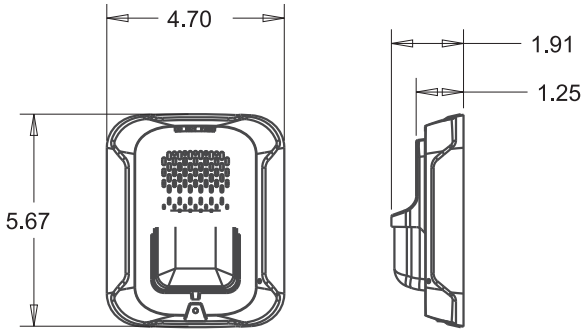
Compact Combo



Horn



Combo



UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts	16-33 Volts	
	DC	DC	FWR
15	88	43	60
30	143	63	83
75	N/A	107	136
95	N/A	121	155
110	N/A	148	179
135	N/A	172	209
185	N/A	222	257

UL MAX. HORN CURRENT DRAW (MA RMS)

Sound Pattern	dB	8-17.5 Volts	16-33 Volts	
		DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL MAX. CURRENT DRAW (MA RMS), 2-WIRE HORN STROBE, CANDELA RANGE (15-115 CD)

	DC Input: 8-17.5 Volts		DC Input: 16-33 Volts							FWR Input: 16 FWR						
	15 cd	30 cd	15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd	15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd
EM Temp Hi	98	158	54	74	121	142	162	196	245	83	107	156	177	198	234	287
EM Temp Low	93	154	44	65	111	133	157	184	235	68	91	145	165	185	223	271
EM Cont Hi	106	166	73	94	139	160	182	211	262	111	135	185	207	230	264	316
EM Cont Low	93	156	51	71	119	139	162	190	239	79	104	157	175	197	235	283
3.1K Temp Hi	93	156	53	73	119	140	164	190	242	81	105	155	177	196	234	284
3.1K Temp Low	91	154	45	66	112	133	160	185	235	68	90	145	166	186	222	276
3.1K Cont Hi	99	162	69	90	135	157	175	208	261	104	131	177	204	230	264	326
3.1k Cont Low	93	156	52	72	119	138	162	192	242	77	102	156	177	199	234	291

HORN TONES AND SOUND OUTPUT DATA: HORN AND HORN STROBE OUTPUT (DBA)

Pos.	Sound Pattern	dB	8-17.5 Volts	16-33 Volts	
			DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7†	3.1 KHz Non-Temporal	High	84	89	89
8†	3.1 KHz Non-Temporal	Low	77	83	83
9†	Coded	High	85	90	90
10	3.1 KHz Coded	High	84	89	89

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC-Listed**
  - S4011 Wall Horn Strobes
  - S5512 Wall Strobes
  - S5512 Wall Horns
- **FM Approved**

Product Line Information

Note: ULC-listed devices include required French labeling. See Agency Listings for listing details.

WALL HORN STROBES

P2WL(A), P2RL(A). 2-Wire, Horn Strobe (White, Red).

P2GWL(A), P2GRL(A). 2-Wire, Compact Horn Strobe (White, Red).

P2WL(A)-P, P2RL(A)-P. 2-Wire, Horn Strobe, Plain (White, Red).

P2WL-SP, P2RL-SP. 2-Wire, Horn Strobe, FUEGO (White, Red).

WALL STROBES

SWL(A), SRL(A). Strobe, Red (White, Red).

SGWL(A), SGRL(A). Compact Strobe (White, Red).

SWL(A)-P, SRL(A)-P. Strobe, Plain (White, Red).

SRL-SP. Strobe, FUEGO (Red).

SWL-CLR-ALERT. Strobe, ALERT (White).

SWL-ALERT. Strobe, Wall, Amber Lens, Alert (White).

HORNS

HWL(A), HRL(A). Horn (White, Red).

HGWL(A), HGRL(A). Compact Horn (White, Red).

ACCESSORIES

TR-2W, TR-2. Universal Wall Trim Ring (White, Red).

SBBWL, SBBRL. Wall Surface Mount Back Box (White, Red).

SBBGWL, SBBGRL. Compact Wall Surface Mount Back Box (White, Red).

Notes:

- All -P models have a plain housing (no “FIRE” marking on cover).
- All -SP models have “FUEGO” marking on cover.
- All -ALERT models have “ALERT” marking on cover.
- ULC-listed “A” models have FIRE/FEU marking on cover.

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To further simplify installation and protect devices from construction damage, L-Series utilizes a universal mounting plate for all standard and compact models with an onboard shorting spring, so installers can test wiring continuity before the device is installed.

Installers can also easily adapt devices to a suit a wide range of application requirements using field-selectable candela settings, automatic selection of 12- or 24-volt operation, and a rotary switch for horn tones with two volume selections.

P2RL

P2GWL

SGWL

HWL

Features

- Updated modern aesthetics.
- Small profile devices for Horns and Horn Strobes.
- Plug-in design with minimal intrusion into the back box.
- Tamper-resistant construction.
- Automatic selection of 12- or 24-volt operation at 15 and 30 candela.
- Field-selectable candela settings on wall units: 15, 30, 75, 95, 110, 135, and 185.
- Horn rated at 88+ dBA at 16 volts.
- Rotary switch for horn tone and two volume selections.
- Universal mounting plate for all standard and all compact wall units.
- Mounting plate shorting spring checks wiring continuity. before device installation.
- Electrically Compatible with legacy SpectrAlert® and SpectrAlert Advance devices.
- Compatible with MDL3 sync module.
- Listed for wall mounting only.

Architectural/Engineering Specifications

General: L-Series standard horns, strobes, and horn strobes shall mount to a standard 2" x 4" x $1^{7}/_{8}$" back box, 4" × 4" × 1½" back box, 4" octagon back box, or double-gang back box. L-Series compact products shall mount to a single-gang 2" × 4" × $1^{7}/_{8}$" back box. A universal mounting plate shall be used for mounting ceiling and wall products for all standard-size models and a separate universal mounting plate shall be used for mounting compact wall models. The notification appliance circuit wiring shall terminate at the universal mounting plate. Also, L-Series products, when used with the Sync•Circuit™ Module accessory, shall be powered from a non-coded notification appliance circuit output and shall operate on a nominal 12 or 24 volts. When used with the Sync•Circuit Module, 12-volt-rated notification appliance circuit outputs shall operate between 8.5 and 17.5 volts; 24-volt-rated c appliance circuit outputs shall operate between 16.5 and 33 volts. Indoor L-Series products shall operate between 32 and 120 degrees Fahrenheit from a regulated DC or full-wave rectified unaltered power supply. Strobes and horn strobes shall have field-selectable candela settings including 15, 30, 75, 95, 110, 135, and 185.

Strobe. The strobe shall be a L-Series Model listed to UL 1971 and shall be approved for fire protective service. The strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system.

Horn Strobe Combination. The horn strobe shall be a L-Series Model listed to UL 1971 and UL 464 and shall be approved for fire protective service. The horn strobe shall be wired as a primary-signaling notification appliance and comply with the Americans with Disabilities Act requirements for visible signaling appliances, flashing at 1 Hz over the strobe's entire operating voltage range. The strobe light shall consist of a xenon flash tube and associated lens/reflector system. The horn shall have two audibility options and an option to switch between a temporal three pattern and a non-temporal (continuous) pattern. These options are set by a multiple position switch. The horn on horn strobe models shall operate on a coded or non-coded power supply.

Synchronization Module. The module shall be a Sync•Circuit model MDL3 listed to UL 464 and shall be approved for fire protective service. The module shall synchronize SpectrAlert strobes at 1 Hz and horns at temporal three. Also, while operating the strobes, the module shall silence the horns on horn strobe models over a single pair of wires. The module shall mount to a $4^{11}/_{6}$" × $4^{11}/_{16}$" × $2^{1}/_{8}$" back box. The module shall also control two Style Y (class B) circuits or one Style Z (class A) circuit. The module shall synchronize multiple zones. Daisy chaining two or more synchronization modules together will synchronize all the zones they control. The module shall not operate on a coded power supply.

PHYSICAL/ELECTRICAL SPECIFICATIONS

- **Standard Operating Temperature:** 32°F to 120°F (0°C to 49°C).
- **Humidity Range:** 10 to 93% non-condensing.
- **Strobe Flash Rate:** 1 flash per second.
- **Nominal Voltage:** Regulated 12 DC or regulated 24 DC/FWR[1] (full wave rectified).
- **Operating Voltage Range[2]:** 8 to 17.5 V (12 V nominal) or 16 to 33 V (24 V nominal).
- **Operating Voltage Range:** MDL3 Sync Module 8.5 to 17.5 V (12 V nominal) or 16.5 to 33 V (24 V nominal).
- **Input Terminal Wire Gauge:** 12 to 18 AWG.
- **Wall-Mount Dimensions (including lens):** 5.6" L × 4.7" W × 1.25" D (143 mm L × 119 mm W × 32 mm D).
- **Compact Wall-Mount Dimensions (including lens):** 5.26" L x 3.46" W x 1.93" D (133 mm L x 88 mm W x 49 mm D).
- **Horn Dimensions:** 5.6" L × 4.7" W × 1.25" D (143 mm L × 119 mm W × 32 mm D).
- **Compact Horn Dimensions:** 5.25" L x 3.45" W x 1.25" D (133mm L x 88mm W x 32mm D).

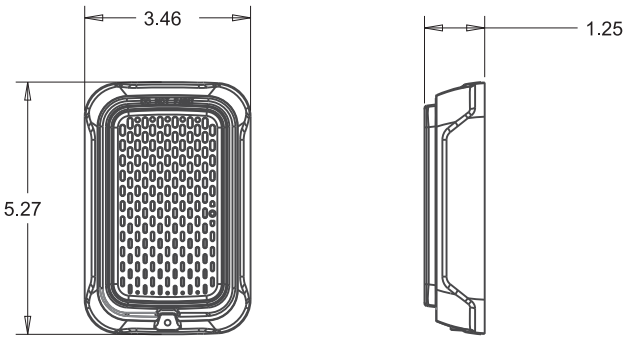
Notes:

1. Full Wave Rectified (FWR) voltage is a non-regulated, time-varying power source that is used on some power supply and panel outputs.

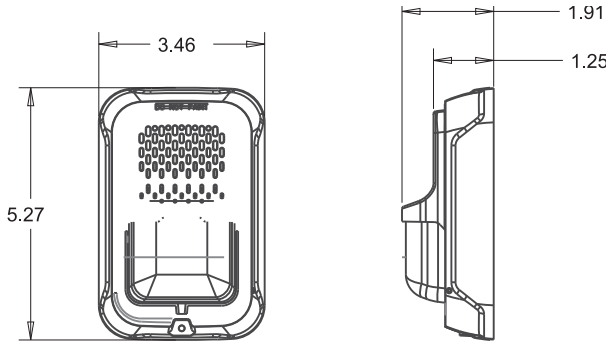
2. P, S, PC, and SC products will operate at 12 V nominal only for 15 cd and 30 cd.

L-Series Drawings

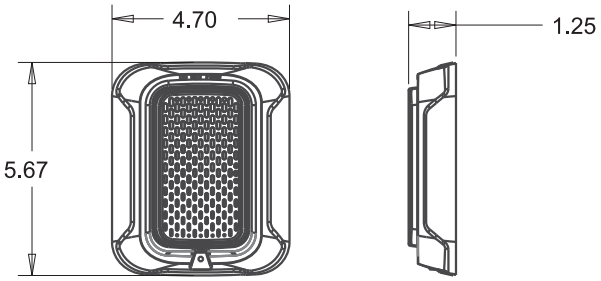
Compact Horn



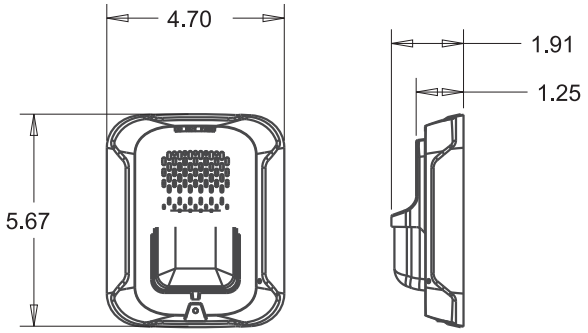
Compact Combo



Horn



Combo



UL Current Draw Data

UL MAX. STROBE CURRENT DRAW (MA RMS)

Candela	8-17.5 Volts	16-33 Volts	
	DC	DC	FWR
15	88	43	60
30	143	63	83
75	N/A	107	136
95	N/A	121	155
110	N/A	148	179
135	N/A	172	209
185	N/A	222	257

UL MAX. HORN CURRENT DRAW (MA RMS)

Sound Pattern	dB	8-17.5 Volts	16-33 Volts	
		DC	DC	FWR
Temporal	High	39	44	54
Temporal	Low	28	32	54
Non-Temporal	High	43	47	54
Non-Temporal	Low	29	32	54
3.1 KHz Temporal	High	39	41	54
3.1 KHz Temporal	Low	29	32	54
3.1 KHz Non-Temporal	High	42	43	54
3.1 KHz Non-Temporal	Low	28	29	54
Coded	High	43	47	54
3.1 KHz Coded	High	42	43	54

UL MAX. CURRENT DRAW (MA RMS), 2-WIRE HORN STROBE, CANDELA RANGE (15-115 CD)

	DC Input: 8-17.5 Volts		DC Input: 16-33 Volts							FWR Input: 16 FWR						
	15 cd	30 cd	15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd	15 cd	30 cd	75 cd	95 cd	110 cd	135 cd	185 cd
EM Temp Hi	98	158	54	74	121	142	162	196	245	83	107	156	177	198	234	287
EM Temp Low	93	154	44	65	111	133	157	184	235	68	91	145	165	185	223	271
EM Cont Hi	106	166	73	94	139	160	182	211	262	111	135	185	207	230	264	316
EM Cont Low	93	156	51	71	119	139	162	190	239	79	104	157	175	197	235	283
3.1K Temp Hi	93	156	53	73	119	140	164	190	242	81	105	155	177	196	234	284
3.1K Temp Low	91	154	45	66	112	133	160	185	235	68	90	145	166	186	222	276
3.1K Cont Hi	99	162	69	90	135	157	175	208	261	104	131	177	204	230	264	326
3.1k Cont Low	93	156	52	72	119	138	162	192	242	77	102	156	177	199	234	291

HORN TONES AND SOUND OUTPUT DATA: HORN AND HORN STROBE OUTPUT (DBA)

Pos.	Sound Pattern	dB	8-17.5 Volts	16-33 Volts	
			DC	DC	FWR
1	Temporal	High	84	89	89
2	Temporal	Low	75	83	83
3	Non-Temporal	High	85	90	90
4	Non-Temporal	Low	76	84	84
5	3.1 KHz Temporal	High	83	88	88
6	3.1 KHz Temporal	Low	76	82	82
7†	3.1 KHz Non-Temporal	High	84	89	89
8†	3.1 KHz Non-Temporal	Low	77	83	83
9†	Coded	High	85	90	90
10	3.1 KHz Coded	High	84	89	89

Agency Listings and Approvals

The listings and approvals below apply to L-series devices. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL/ULC-Listed**
  - S4011 Wall Horn Strobes
  - S5512 Wall Strobes
  - S5512 Wall Horns
- **FM Approved**

Product Line Information

Note: ULC-listed devices include required French labeling. See Agency Listings for listing details.

WALL HORN STROBES

P2WL(A), P2RL(A). 2-Wire, Horn Strobe (White, Red).

P2GWL(A), P2GRL(A). 2-Wire, Compact Horn Strobe (White, Red).

P2WL(A)-P, P2RL(A)-P. 2-Wire, Horn Strobe, Plain (White, Red).

P2WL-SP, P2RL-SP. 2-Wire, Horn Strobe, FUEGO (White, Red).

WALL STROBES

SWL(A), SRL(A). Strobe, Red (White, Red).

SGWL(A), SGRL(A). Compact Strobe (White, Red).

SWL(A)-P, SRL(A)-P. Strobe, Plain (White, Red).

SRL-SP. Strobe, FUEGO (Red).

SWL-CLR-ALERT. Strobe, ALERT (White).

SWL-ALERT. Strobe, Wall, Amber Lens, Alert (White).

HORNS

HWL(A), HRL(A). Horn (White, Red).

HGWL(A), HGRL(A). Compact Horn (White, Red).

ACCESSORIES

TR-2W, TR-2. Universal Wall Trim Ring (White, Red).

SBBWL, SBBRL. Wall Surface Mount Back Box (White, Red).

SBBGWL, SBBGRL. Compact Wall Surface Mount Back Box (White, Red).

Notes:

- All -P models have a plain housing (no “FIRE” marking on cover).
- All -SP models have “FUEGO” marking on cover.
- All -ALERT models have “ALERT” marking on cover.
- ULC-listed “A” models have FIRE/FEU marking on cover.

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

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For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FSM500K/T(E)

Addressable Call Point

NOTIFIER® by Honeywell

General

The new Notifier Fire Systems FSM500K/T(E) Flashscan™ Addressble Manual Call Point (MCP) is designed to be used as a component of a Fire Control System using Notifier analogue addressable devices. Resettable button is applied to allow repeatable operation.

Rotary decade switches are provided for setting the devices address on the two wire communications loop.

It provides both signaling of an alarm to the Fire Indicator Panel and local LED indication of activation.

The addressability of the FSM500K/T(E) enables the control panel to provide fire fighters with a pinpoint location of where the alarm activation originated from.

The FSM500K/T(E) requires compatible addressable communications to function properly.

The MCP will support either Flashscan™ or CLIP (Classic Loop Interface Protocol) modes.

FSM500K/T(E)

Specification

Operating Voltage:	15-32VDC
Current Ratings:	
Standby:	470µA @ 24VDC
Alarm:	2.3mA @ 24VDC
(LED Rating Max. 30mA)	

Product information

A key is included in the individual pack, which is for product remove and button position reset.

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

FSM500K/T(E)

Addressable Call Point

NOTIFIER® by Honeywell

The new MCP design offers a separate base (Model: B500CP) for installation and wiring, which brings installer easier wiring and installation experience.

The B500CP installation base is NOT included in the MCP package, it is a separate model for ordering.

The new MCP provides better tampering protection and wall mount solutions too. Transparent protection cover TPC-T and new back box with 3 knock-out holes BBS-2 are available to order too.

MCP Back View

B500CP

TCP-T

BBS-2

Ordering Information

Product and Ordering Model	Product description	UOM	Approval	COO	MPQ and MOQ
FSM500K/T(E)	Notifier Flashscan addressable call point, call point only, need to order installation base B500CP	ea	UL	CHN	1
B500CP	MCP installation base	ea	UL	CHN	10
TPC-T	Tampering resistance cover, transparent	ea		CHN	10
BBS-2	MCP wall mounting back box	ea		CHN	10

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B500CP	MCP installation base	ea	UL	CHN	10
TPC-T	Tampering resistance cover, transparent	ea		CHN	10
BBS-2	MCP wall mounting back box	ea		CHN	10

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FSM500K/T(E)

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The MCP will support either Flashscan™ or CLIP (Classic Loop Interface Protocol) modes.

FSM500K/T(E)

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Operating Voltage:	15-32VDC
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Standby:	470µA @ 24VDC
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MCP Back View

B500CP

TCP-T

BBS-2

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B500CP	MCP installation base	ea	UL	CHN	10
TPC-T	Tampering resistance cover, transparent	ea		CHN	10
BBS-2	MCP wall mounting back box	ea		CHN	10

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

FST-851(A) Series

Intelligent Thermal (Heat) Detectors with FlashScan®

NOTIFIER® by Honeywell

Intelligent / Addressable Devices

General

Notifier FST-851(A) Series intelligent plug-in thermal detectors with integral communication has features that surpass conventional detectors. Point ID capability allows each detector's address to be set with rotary, decimal address switches, providing exact detector locations. FST-851(A) Series thermal detectors use an innovative thermistor sensing circuit to produce 135°F/57°C fixed-temperature (FST-851/A) and rate-of-rise thermal detection (FST-851R/A) in a low-profile package. FST-851H(A) provides fixed high-temperature detection at 190°F/88°C. These thermal detectors provide effective, intelligent property protection in a variety of applications. FST-851(A) Series detectors are compatible with Notifier Onyx and CLIP series Fire Alarm Control Panels (FACPs).

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by Notifier Engineering that greatly enhances the speed of communication between analog intelligent devices and certain NOTIFIER systems. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel's CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of earlier designs.

Features

- Sleek, low-profile, stylish design.
- State-of-the-art thermistor technology for fast response.
- Rate-of-rise model (FST-851R/A), 15°F (8.3°C) per minute.
- Factory preset fixed temperature at 135°F (57°C); high-temperature model fixed at 190°F (88°C).
- Addressable by device.
- Compatible with FlashScan® and CLIP protocol systems.
- Rotary, decimal addressing (1-99 on CLIP systems, 1-159 on FlashScan systems).
- Two-wire SLC connection.
- Visible LEDs "blink" every time the unit is addressed.
- 360°-field viewing angle of the visual alarm indicators (two bi-color LEDs). LEDs blink green in Normal condition and turn on steady red in Alarm.
- Integral communications and built-in device-type identification.
- Remote test feature from the panel.
- Built-in functional test switch activated by external magnet.
- Walk test with address display (an address of 121 will blink the detector LED 12-(pause)-1).
- Low standby current.
- Backward-compatible.
- Built-in tamper-resistant feature.
- Designed for direct-surface or electrical-box mounting.
- Sealed against back pressure.
- Plugs into separate base for ease of installation and maintenance. Separate base allows interchange of photoelectric, ionization and thermal sensors.
- SEMS screws for wiring of the separate base.
- Constructed of off-white fire-resistant plastic, designed to commercial standards, and offers an attractive appearance.

B210-2251.jpg

FST-851(A) in B210LP(A) Base

- 94-5V plastic flammability rating.
- Remote LED output connection to optional RA100Z(A) remote LED annunciator.
- Optional sounder, relay, and isolator bases.
- Optional flanced surface mounting kit.

Specifications

Size: 2.1" (5.3 cm) high; base determines diameter.

- **B210LP(A):** 6.1" (15.5 cm) diameter.
- **B501(A):** 4.1" (10.4 cm) diameter.
- **B200S(A):** 6.875" (17.46 cm) diameter.
- **B200SR(A):** 6.875" (17.46 cm) diameter.
- **B224RB(A):** 6.2" (15.748 cm) diameter.
- **B224BI(A):** 6.2" (15.748 cm) diameter.

Shipping weight: 4.8 oz. (137 g).

Operating temperature range: FST-851(A) Series, FST-851R(A): –20°C to 38°C (–4°F to 100°F); FST-851H(A): –20°C to 66°C (–4°F to 150°F).

Detector spacing: UL approved for 50 ft. (15.24 m) center to center. FM approved for 25 x 25 ft. (7.62 x 7.62 m) spacing.

Relative humidity: 10% – 93% noncondensing.

Thermal ratings: fixed-temperature setpoint 135°F (57°C), rate-of-rise detection 15°F (8.3°C) per minute, high temperature heat 190°F (88°C).

ELECTRICAL SPECIFICATIONS

Voltage range: 15 - 32 volts DC peak.

Standby current (max. avg.): 300 µA @ 24 VDC (one communication every 5 seconds with LED enabled).

LED current (max.): 6.5 mA @ 24 VDC ("ON").

Applications

Use thermal detectors for protection of property. For further information, go to systemsensor.com for manual I56-407-00, Applications Manual for System Smoke Detectors, which provides detailed information on detector spacing, placement, zoning, wiring, and special applications.

Installation

The FST Series plug-in intelligent thermal detectors use a separate base to simplify installation, service, and maintenance. Installation instructions are shipped with each detector. A special tool allows maintenance personnel to plug in and remove detectors without using a ladder

Mount base (all base types) on an electrical backbox which is at least 1.5" (3.81 cm) deep. For a chart of compatible junction boxes, see *DN-60054*.

NOTE: 1) *Because of the inherent supervision provided by the SLC loop, end-of-line resistors are not required. Wiring "T-taps" or branches are permitted for Style 4 (Class "B") wiring.* ***2)*** *When using relay or sounder bases, consult the ISO-X(A) installation sheet I56-1380 for device limitations between isolator modules and isolator bases.*

Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document.In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. *Consult factory for latest listing status.*

- **UL Listed:** S747.
- **ULC Listed:** S6978.
- **MEA Listed:** 383-02-E.
- **FM Approved.**
- **CSFM:** 7270-0028:0196.
- **BSMI:** CI313066760025.
- **CCCF:** Certif. # 2004081801000018.
- **U.S. Coast Guard:** 161.002/42/1 (NFS-640); 161.002/50/0 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).
- **Lloyd's Register:** 11/600013 (NFS2-640/NFS-320/NFS-320C, excluding B210LP(A)).

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FST-851: Intelligent thermal detector. Must be mounted to one of the bases listed below.

FST-851A: Same as FST-851 but with ULC Listing.

FST-851R: Intelligent thermal detector with rate-of-rise feature.

FST-851RA: Same as FST-851R but with ULC Listing.

FST-851H: Intelligent high-temperature thermal detector.

FST-851HA: Same as FST-851H but with ULC Listing.

INTELLIGENT BASES

NOTE: *"A" suffix indicates ULC Listed model.*

NOTE: *For details about intelligent bases and their mounting, see DN-60054.*

B210LP(A): Standard U.S. flanged low-profile mounting base.

B210LPBP: Bulk pack of B210LP; package contains 10.

B501(A): Standard European flangeless mounting base.

B501BP: Bulk pack of B501; package contains 10.

B200S(A): Addressable Intelligent, programmable sounder base capable of producing sound output in high or low volume with ANSI Temporal 3, ANSI Temporal 4, continuous tone, marching tone, and custom tone.

B200SR(A): Intelligent sounder base capable of producing sound output with ANSI Temporal 3 or continuous tone. Replaces B501BH series bases in retrofit applications.

B224RB(A): Intelligent relay base. Screw terminals: up to 14 AWG (2.0 mm²). Relay type: Form-C. Rating: 2.0 A @ 30 VDC resistive; 0.3 A @ 110 VDC inductive; 1.0 A @ 30 VDC inductive.

B224BI(A): Intelligent isolator base. Isolates SLC from loop shorts. Maximum: 25 devices between isolator bases; see Note 2 under Installation.

ACCESSORIES

F110: Retrofit flange to convert B210LP(A) to match the B710LP(A) profile, or to convert older high-profile bases to low-profile.

F110BP: Bulk pack of F110; package contains 15.

F210: Replacement flange for B210LP(A) base.

RA100Z(A): Remote LED annunciator. 3 – 32 VDC. Fits U.S. single-gang electrical box. Supported by B210LP(A) and B501(A) bases only.

SMB600: Surface mounting kit, flanged.

M02-04-00: Test magnet.

M02-09-00: Test magnet with telescoping handle.

XR2B: Detector removal tool. Allows installation and/or removal of FlashScan® Series detector heads from base in high ceiling installations. Includes T55-127-010.

T55-127-010: Detector removal tool without pole.

XP-4: Extension pole for XR2B. Comes in three 5-foot (1.524 m) sections.

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FCM-1(A) & FRM-1(A) Series

Control and Relay Modules

NOTIFIER® by Honeywell

Intelligent / Addressable Devices

General

FCM-1(A) Control Module: The FCM-1(A) Addressable Control Module provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.). Addressability allows the FCM-1(A) to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

FRM-1(A) Relay Module: The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

FCM-1(A)

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications

The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers). The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

NOTE: *Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.*

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

Operation

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 350 µA direct poll, 375 µA group poll with LED flashing, 485 µA Max. (LED flashing, NAC shorted.)

Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 µA direct poll; 255 µA group poll.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S3705 (A version only)
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 14-00-E
- **FDNY:** COA #6067, #6065

Contact Ratings for FRM-1(A)

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VDC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded

NOTE: *Maximum (Speakers): 70.7 V RMS, 50 W*

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FCM-1(A): Intelligent Addressable Control Module.

FRM-1(A): Intelligent Addressable Relay Module.

A2143-20: Capacitor, required for Class A (Style Z) operation of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

NOTE: *For installation instructions, see the following documents:*

- *FCM-1(A) Installation document I56-1169.*
- *FRM-1(A) Installation document I56-3502.*
- *Notifier SLC Wiring Manual, document 51253.*

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FRM-1(A) Relay Module: The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

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FCM-1(A)

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications

The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers). The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

NOTE: *Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.*

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

Operation

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 350 µA direct poll, 375 µA group poll with LED flashing, 485 µA Max. (LED flashing, NAC shorted.)

Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 µA direct poll; 255 µA group poll.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S3705 (A version only)
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 14-00-E
- **FDNY:** COA #6067, #6065

Contact Ratings for FRM-1(A)

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VDC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded

NOTE: *Maximum (Speakers): 70.7 V RMS, 50 W*

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FCM-1(A): Intelligent Addressable Control Module.

FRM-1(A): Intelligent Addressable Relay Module.

A2143-20: Capacitor, required for Class A (Style Z) operation of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

NOTE: *For installation instructions, see the following documents:*

- *FCM-1(A) Installation document I56-1169.*
- *FRM-1(A) Installation document I56-3502.*
- *Notifier SLC Wiring Manual, document 51253.*

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FCM-1(A) & FRM-1(A) Series

Control and Relay Modules

NOTIFIER® by Honeywell

Intelligent / Addressable Devices

General

FCM-1(A) Control Module: The FCM-1(A) Addressable Control Module provides Notifier intelligent fire alarm control panels a circuit for Notification Appliances (horns, strobes, speakers, etc.). Addressability allows the FCM-1(A) to be activated, either manually or through panel programming, on a select (zone or area of coverage) basis.

FRM-1(A) Relay Module: The FRM-1(A) Addressable Relay Module provides the system with a dry-contact output for activating a variety of auxiliary devices, such as fans, dampers, control equipment, etc. Addressability allows the dry contact to be activated, either manually or through panel programming, on a select basis.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER Engineering that greatly enhances the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other designs.

FCM-1(A)

Features

- Built-in type identification automatically identifies these devices to the control panel.
- Internal circuitry and relay powered directly by two-wire SLC loop. The FCM-1(A) module requires power (for horns, strobes, etc.), or audio (for speakers).
- Integral LED “blinks” green each time a communication is received from the control panel and turns on in steady red when activated.
- LED blink may be deselected globally (affects all devices).
- High noise immunity (EMF/RFI).
- The FCM-1(A) may be used to switch 24-volt NAC power, audio (up to 70.7 Vrms).
- Wide viewing angle of LED.
- SEMS screws with clamping plates for wiring ease.
- Direct-dial entry of address 01– 159 for FlashScan loops, 01 – 99 for CLIP mode loops.
- Speaker, and audible/visual applications may be wired for Class B or A (Style Y or Z).

Applications

The FCM-1(A) is used to switch 24 VDC audible/visual power, high-level audio (speakers). The FRM-1(A) may be programmed to operate dry contacts for applications such as door holders or Air Handling Unit shutdown, and to reset four-wire smoke detector power.

NOTE: *Refer to the SLC Manual (PN 51253) for details regarding releasing applications with the FCM-1(A). Refer to the FCM-1-REL datasheet (DN-60390) for new FlashScan® releasing applications.*

Construction

- The face plate is made of off-white heat-resistant plastic.
- Controls include two rotary switches for direct-dial entry of address (01-159).
- The FCM-1(A) is configured for a single Class B (Style Y) or Class A (Style Z) Notification Appliance Circuit.
- The FRM-1(A) provides two Form-C dry contacts that switch together.

Operation

Each FCM-1(A) or FRM-1(A) uses one of 159 possible module addresses on a SLC loop (99 on CLIP loops). It responds to regular polls from the control panel and reports its type and status, including the open/normal/short status of its Notification Appliance Circuit (NAC). The LED blinks with each poll received. On command, it activates its internal relay. The FCM-1(A) supervises Class B (Style Y) or Class A (Style Z) notification or control circuits.

Upon code command from the panel, the FCM-1(A) will disconnect the supervision and connect the external power supply in the proper polarity across the load device. The disconnection of the supervision provides a positive indication to the panel that the control relay actually turned ON. The external power supply is always relay isolated from the communication loop so that a trouble condition on the external power supply will never interfere with the rest of the system.

Rotary switches set a unique address for each module. The address may be set before or after mounting. The built-in TYPE CODE (not settable) will identify the module to the control panel, so as to differentiate between a module and a sensor address.

Specifications for FCM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 350 µA direct poll, 375 µA group poll with LED flashing, 485 µA Max. (LED flashing, NAC shorted.)

Maximum NAC Line Loss: 4 VDC.

External supply voltage (between Terminals T10 and T11): Maximum (NAC): Regulated 24 VDC; Maximum (Speakers): 70.7 V RMS, 50W.

Drain on external supply: 1.7 mA maximum using 24 VDC supply; 2.2 mA Maximum using 80 VRMS supply.

Max NAC Current Ratings: For class B wiring system, the current rating is 3A; For class A wiring system, the current rating is 2A.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Specifications for FRM-1(A)

Normal operating voltage: 15 to 32 VDC.

Maximum current draw: 6.5 mA (LED on).

Average operating current: 230 µA direct poll; 255 µA group poll.

EOL resistance: not used.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% non-condensing.

Dimensions: 4.5" (114.3 mm) high x 4" (101.6 mm) wide x 1.25" (31.75 mm) deep. Mounts to a 4" (101.6 mm) square x 2.125" (53.975 mm) deep box.

Accessories: SMB500 Electrical Box; CB500 Barrier

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **ULC:** S3705 (A version only)
- **FM Approved**
- **CSFM:** 7300-0028:0219
- **MEA:** 14-00-E
- **FDNY:** COA #6067, #6065

Contact Ratings for FRM-1(A)

Current Rating	Maximum Voltage	Load Description	Application
3 A	30 VDC	Resistive	Non-Coded
2 A	30 VDC	Resistive	Coded
.9 A	110 VDC	Resistive	Non-Coded
.9 A	125 VDC	Resistive	Non-Coded
.5 A	30 VDC	Inductive (L/R=5ms)	Coded
1 A	30 VDC	Inductive (L/R=2ms)	Coded
.3 A	125 VAC	Inductive (PF=0.35)	Non-Coded
1.5 A	25 VAC	Inductive (PF=0.35)	Non-Coded
.7 A	70.7 VAC	Inductive (PF=0.35)	Non-Coded
2 A	25 VAC	Inductive (PF=0.35)	Non-Coded

NOTE: *Maximum (Speakers): 70.7 V RMS, 50 W*

Product Line Information

NOTE: *"A" suffix indicates ULC Listed model.*

FCM-1(A): Intelligent Addressable Control Module.

FRM-1(A): Intelligent Addressable Relay Module.

A2143-20: Capacitor, required for Class A (Style Z) operation of speakers.

SMB500: Optional Surface-Mount Backbox.

CB500: Control Module Barrier — required by UL for separating power-limited and non-power limited wiring in the same junction box as FCM-1(A).

NOTE: *For installation instructions, see the following documents:*

- *FCM-1(A) Installation document I56-1169.*
- *FRM-1(A) Installation document I56-3502.*
- *Notifier SLC Wiring Manual, document 51253.*

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www.notifier.com

FMM-1(A), FMM-101(A), FZM-1(A) & FDM-1(A)

Monitor Modules with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Four different monitor modules are available for Notifier's intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1(A)).

FMM-1(A) is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

FMM-101(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

FZM-1(A) is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

FDM-1(A) is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

FMM-1(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.
- LED flashes green during normal operation (programmable option) and latches on steady red to indicate alarm.

The FMM-1(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1(A) can be used to replace MMX-1(A) modules in existing systems.

FMM-1(A) Applications

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

FMM-1(A) (Type H)

FMM-1(A) Operation

Each FMM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FMM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 375 µA (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

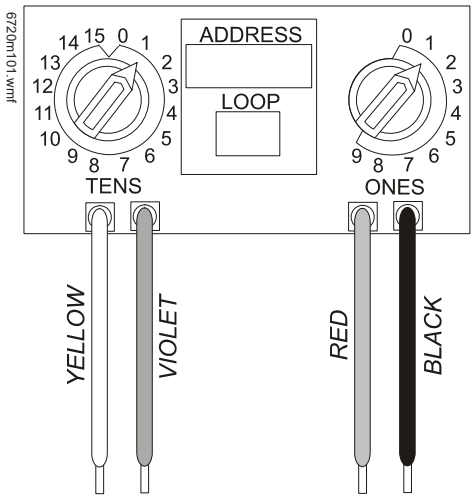
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FMM-101(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.



The FMM-101(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101(A) can be used to replace MMX-101(A) modules in existing systems.

FMM-101(A) Applications

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

FMM-101(A) Operation

Each FMM-101(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

FMM-101(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Average operating current: 350 µA, 1 communication every 5 seconds, 47k EOL; 600 µA Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

Wire length: 6" (15.24 cm) minimum.

FZM-1(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on FlashScan loops, 01 – 99 on CLIP loops.
- LED flashes during normal operation; this is a programmable option.
- LED latches steady to indicate alarm on command from control panel.

The FZM-1(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1(A) can be used to replace MMX-2(A) modules in existing systems.

FZM-1(A) Applications

Use the FZM-1(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

FZM-1(A) Operation

Each FZM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FZM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Dual Monitor Module

The FDM-1(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

NOTE: *The FDM-1(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.*

FDM-1(A) Specifications

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K Ohms.

Temperature range: 32° to 120°F (0° to 49°C).

Humidity range: 10% to 93% (non-condensing).

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Automatic Addressing

The FDM-1(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1(A) is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

NOTE: *“Ones” addresses on the FDM-1(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.*

CAUTION:
Avoid duplicating addresses on the system.

Installation

FMM-1(A), FZM-1(A), and FDM-1(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635.
- **ULC:** S635.
- **FM Approved.**
- **CSFM:** 7300-0028:0219, 7165-0028:0224, 7165-0028:0243.
- **MEA:** 457-99-E.
- **U.S. Coast Guard:** 161.002/50/0 (NFS2-640, NFS2-320, NFS2-3030).
- **Lloyd’s Register:** 11/600013 (NFS2-640, NFS2-320, NFS2-3030).
- **Fire Dept. of New York:** COA #6121 (NFS2-640, NFS-320), COA# 6114 (NFS2-3030).

Product Line Information

NOTE: *“A” suffix indicates ULC-listed model.*

FMM-1(A): Monitor module.

FMM-101(A): Monitor module, miniature.

FZM-1(A): Monitor module, two-wire detectors.

FDM-1(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: *See installation instructions and refer to the SLC Wiring Manual, PN 51253.*

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www.notifier.com

FMM-1(A), FMM-101(A), FZM-1(A) & FDM-1(A)

Monitor Modules with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Four different monitor modules are available for Notifier's intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1(A)).

FMM-1(A) is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

FMM-101(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

FZM-1(A) is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

FDM-1(A) is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

FMM-1(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.
- LED flashes green during normal operation (programmable option) and latches on steady red to indicate alarm.

The FMM-1(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1(A) can be used to replace MMX-1(A) modules in existing systems.

FMM-1(A) Applications

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

FMM-1(A) (Type H)

FMM-1(A) Operation

Each FMM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FMM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 375 µA (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

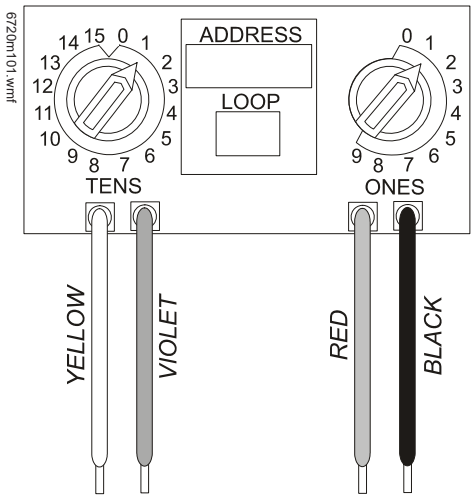
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FMM-101(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.



The FMM-101(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101(A) can be used to replace MMX-101(A) modules in existing systems.

FMM-101(A) Applications

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

FMM-101(A) Operation

Each FMM-101(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

FMM-101(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Average operating current: 350 µA, 1 communication every 5 seconds, 47k EOL; 600 µA Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

Wire length: 6" (15.24 cm) minimum.

FZM-1(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on FlashScan loops, 01 – 99 on CLIP loops.
- LED flashes during normal operation; this is a programmable option.
- LED latches steady to indicate alarm on command from control panel.

The FZM-1(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1(A) can be used to replace MMX-2(A) modules in existing systems.

FZM-1(A) Applications

Use the FZM-1(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

FZM-1(A) Operation

Each FZM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FZM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Dual Monitor Module

The FDM-1(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

NOTE: *The FDM-1(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.*

FDM-1(A) Specifications

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K Ohms.

Temperature range: 32° to 120°F (0° to 49°C).

Humidity range: 10% to 93% (non-condensing).

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Automatic Addressing

The FDM-1(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1(A) is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

NOTE: *“Ones” addresses on the FDM-1(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.*

CAUTION:
Avoid duplicating addresses on the system.

Installation

FMM-1(A), FZM-1(A), and FDM-1(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635.
- **ULC:** S635.
- **FM Approved.**
- **CSFM:** 7300-0028:0219, 7165-0028:0224, 7165-0028:0243.
- **MEA:** 457-99-E.
- **U.S. Coast Guard:** 161.002/50/0 (NFS2-640, NFS2-320, NFS2-3030).
- **Lloyd’s Register:** 11/600013 (NFS2-640, NFS2-320, NFS2-3030).
- **Fire Dept. of New York:** COA #6121 (NFS2-640, NFS-320), COA# 6114 (NFS2-3030).

Product Line Information

NOTE: *“A” suffix indicates ULC-listed model.*

FMM-1(A): Monitor module.

FMM-101(A): Monitor module, miniature.

FZM-1(A): Monitor module, two-wire detectors.

FDM-1(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: *See installation instructions and refer to the SLC Wiring Manual, PN 51253.*

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We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

FMM-1(A), FMM-101(A), FZM-1(A) & FDM-1(A)

Monitor Modules with FlashScan®

NOTIFIER® by Honeywell

Intelligent/Addressable Devices

General

Four different monitor modules are available for Notifier's intelligent control panels for a variety of applications. Monitor modules supervise a circuit of dry-contact input devices, such as conventional heat detectors and pull stations, or monitor and power a circuit of two-wire smoke detectors (FZM-1(A)).

FMM-1(A) is a standard-sized module (typically mounts to a 4" [10.16 cm] square box) that supervises either a Style D (Class A) or Style B (Class B) circuit of dry-contact input devices.

FMM-101(A) is a miniature monitor module a mere 1.3" (3.302 cm) H x 2.75" (6.985 cm) W x 0.65" (1.651 cm) D that supervises a Style B (Class B) circuit of dry-contact input devices. Its compact design allows the FMM-101(A) to be mounted in a single-gang box behind the device it monitors.

FZM-1(A) is a standard-sized module that monitors and supervises compatible two-wire, 24 volt, smoke detectors on a Style D (Class A) or Style B (Class B) circuit.

FDM-1(A) is a standard-sized dual monitor module that monitors and supervises two independent two-wire Style B (Class B) dry-contact initiating device circuits (IDCs) at two separate, consecutive addresses in intelligent, two-wire systems.

FlashScan® (U.S. Patent 5,539,389) is a communication protocol developed by NOTIFIER that greatly increases the speed of communication between analog intelligent devices. Intelligent devices communicate in a grouped fashion. If one of the devices within the group has new information, the panel CPU stops the group poll and concentrates on single points. The net effect is response speed greater than five times that of other communication protocols.

FMM-1(A) Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the control panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.
- LED flashes green during normal operation (programmable option) and latches on steady red to indicate alarm.

The FMM-1(A) Monitor Module is intended for use in intelligent, two-wire systems, where the individual address of each module is selected using the built-in rotary switches. It provides either a two-wire or four-wire fault-tolerant Initiating Device Circuit (IDC) for normally-open-contact fire alarm and supervisory devices. The module has a panel-controlled LED indicator. The FMM-1(A) can be used to replace MMX-1(A) modules in existing systems.

FMM-1(A) Applications

Use to monitor a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact alarm activation devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the Style B circuit. No resistor is required for supervision of the Style D circuit.

FMM-1(A) (Type H)

FMM-1(A) Operation

Each FMM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FMM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.0 mA (LED on).

Average operating current: 375 µA (LED flashing), 1 communication every 5 seconds, 47k EOL.

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

EOL resistance: 47K Ohms.

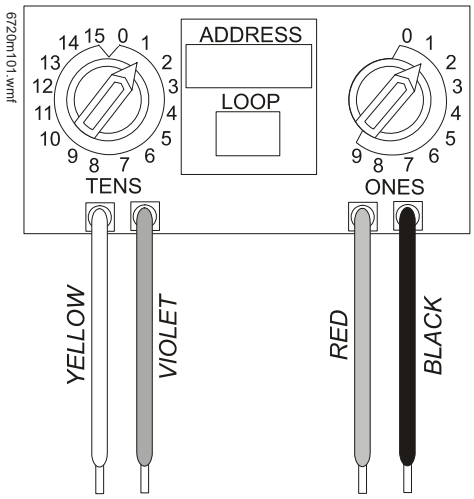
Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FMM-101(A) Mini Monitor Module

- Built-in type identification automatically identifies this device as a monitor module to the panel.
- Powered directly by two-wire SLC loop. No additional power required.
- High noise (EMF/RFI) immunity.
- Tinned, stripped leads for ease of wiring.
- Direct-dial entry of address: 01 – 159 on FlashScan loops; 01 – 99 on CLIP loops.



The FMM-101(A) Mini Monitor Module can be installed in a single-gang junction directly behind the monitored unit. Its small size and light weight allow it to be installed without rigid mounting. The FMM-101(A) is intended for use in intelligent, two-wire systems where the individual address of each module is selected using rotary switches. It provides a two-wire initiating device circuit for normally-open-contact fire alarm and security devices. The FMM-101(A) can be used to replace MMX-101(A) modules in existing systems.

FMM-101(A) Applications

Use to monitor a single device or a zone of four-wire smoke detectors, manual fire alarm pull stations, waterflow devices, or other normally-open dry-contact devices. May also be used to monitor normally-open supervisory devices with special supervisory indication at the control panel. Monitored circuit/device is wired as an NFPA Style B (Class B) Initiating Device Circuit. A 47K Ohm End-of-Line Resistor (provided) terminates the circuit.

FMM-101(A) Operation

Each FMM-101(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC).

FMM-101(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Average operating current: 350 µA, 1 communication every 5 seconds, 47k EOL; 600 µA Max. (Communicating, IDC Shorted).

Maximum IDC wiring resistance: 1500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 450 µA.

EOL resistance: 47K Ohms.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 1.3" (3.302 cm) high x 2.75" (6.985 cm) wide x 0.65" (1.651 cm) deep.

Wire length: 6" (15.24 cm) minimum.

FZM-1(A) Interface Module

- Supports compatible two-wire smoke detectors.
- Supervises IDC wiring and connection of external power source.
- High noise (EMF/RFI) immunity.
- SEMS screws with clamping plates for ease of wiring.
- Direct-dial entry entry of address: 01 – 159 on FlashScan loops, 01 – 99 on CLIP loops.
- LED flashes during normal operation; this is a programmable option.
- LED latches steady to indicate alarm on command from control panel.

The FZM-1(A) Interface Module is intended for use in intelligent, addressable systems, where the individual address of each module is selected using built-in rotary switches. This module allows intelligent panels to interface and monitor two-wire conventional smoke detectors. It transmits the status (normal, open, or alarm) of one full zone of conventional detectors back to the control panel. All two-wire detectors being monitored must be UL compatible with the module. The FZM-1(A) can be used to replace MMX-2(A) modules in existing systems.

FZM-1(A) Applications

Use the FZM-1(A) to monitor a zone of two-wire smoke detectors. The monitored circuit may be wired as an NFPA Style B (Class B) or Style D (Class A) Initiating Device Circuit. A 3.9 K Ohm End-of-Line Resistor (provided) terminates the end of the Style B or D (class B or A) circuit (maximum IDC loop resistance is 25 Ohms). Install ELR across terminals 8 and 9 for Style D application.

FZM-1(A) Operation

Each FZM-1(A) uses one of the available module addresses on an SLC loop. It responds to regular polls from the control panel and reports its type and the status (open/normal/short) of its Initiating Device Circuit (IDC). A flashing LED indicates that the module is in communication with the control panel. The LED latches steady on alarm (subject to current limitations on the loop).

FZM-1(A) Specifications

Nominal operating voltage: 15 to 32 VDC.

Maximum current draw: 5.1 mA (LED on).

Maximum IDC wiring resistance: 25 Ohms.

Average operating current: 270 µA, 1 communication and 1 LED flash every 5 seconds, 3.9k eol.

EOL resistance: 3.9K Ohms.

External supply voltage (between Terminals T10 and T11):

- DC voltage: 24 volts power limited.
- Ripple voltage: 0.1 Vrms maximum.
- Current: 90 mA per module maximum.

Temperature range: 32°F to 120°F (0°C to 49°C).

Humidity range: 10% to 93% noncondensing.

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Dual Monitor Module

The FDM-1(A) Dual Monitor Module is intended for use in intelligent, two-wire systems. It provides two independent two-wire initiating device circuits (IDCs) at two separate, consecutive addresses. It is capable of monitoring normally open contact fire alarm and supervisory devices; or either normally open or normally closed security devices. The module has a single panel-controlled LED.

NOTE: *The FDM-1(A) provides two Style B (Class B) IDC circuits ONLY. Style D (Class A) IDC circuits are NOT supported in any application.*

FDM-1(A) Specifications

Normal operating voltage range: 15 to 32 VDC.

Maximum current draw: 6.4 mA (LED on).

Average operating current: 750 µA (LED flashing).

Maximum IDC wiring resistance: 1,500 Ohms.

Maximum IDC Voltage: 11 Volts.

Maximum IDC Current: 240 µA

EOL resistance: 47K Ohms.

Temperature range: 32° to 120°F (0° to 49°C).

Humidity range: 10% to 93% (non-condensing).

Dimensions: 4.5" (11.43 cm) high x 4" (10.16 cm) wide x 1.25" (3.175 cm) deep. Mounts to a 4" (10.16 cm) square x 2.125" (5.398 cm) deep box.

FDM-1(A) Automatic Addressing

The FDM-1(A) automatically assigns itself to two addressable points, starting with the original address. For example, if the FDM-1(A) is set to address “26”, then it will automatically assign itself to addresses “26” and “27”.

NOTE: *“Ones” addresses on the FDM-1(A) are 0, 2, 4, 6, or 8 only. Terminals 6 and 7 use the first address, and terminals 8 and 9 use the second address.*

CAUTION:
Avoid duplicating addresses on the system.

Installation

FMM-1(A), FZM-1(A), and FDM-1(A) modules mount directly to a standard 4" (10.16 cm) square, 2.125" (5.398 cm) deep, electrical box. They may also be mounted to the SMB500 surface-mount box. Mounting hardware and installation instructions are provided with each module. All wiring must conform to applicable local codes, ordinances, and regulations. These modules are intended for power-limited wiring only.

The FMM-101(A) module is intended to be wired and mounted without rigid connections inside a standard electrical box. All wiring must conform to applicable local codes, ordinances, and regulations.

Agency Listings and Approvals

In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635.
- **ULC:** S635.
- **FM Approved.**
- **CSFM:** 7300-0028:0219, 7165-0028:0224, 7165-0028:0243.
- **MEA:** 457-99-E.
- **U.S. Coast Guard:** 161.002/50/0 (NFS2-640, NFS2-320, NFS2-3030).
- **Lloyd’s Register:** 11/600013 (NFS2-640, NFS2-320, NFS2-3030).
- **Fire Dept. of New York:** COA #6121 (NFS2-640, NFS-320), COA# 6114 (NFS2-3030).

Product Line Information

NOTE: *“A” suffix indicates ULC-listed model.*

FMM-1(A): Monitor module.

FMM-101(A): Monitor module, miniature.

FZM-1(A): Monitor module, two-wire detectors.

FDM-1(A): Monitor module, dual, two independent Class B circuits.

SMB500: Optional surface-mount backbox.

NOTE: *See installation instructions and refer to the SLC Wiring Manual, PN 51253.*

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www.notifier.com

NBG-12 Series

Non-Coded Conventional Manual Fire Alarm Pull Stations

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The NOTIFIER **NBG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The NBG-12 Series features a variety of models including single- and dual-action versions.

The NBG-12 Series provides an alarm initiating input signal to conventional fire alarm control panels (FACPs) such as the SFP Series, and to XP Transponders. Its innovative design, durable construction, and multiple mounting options make the NBG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word “ACTIVATED” appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words “NORMAL” and “ACTIVATED” are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions *(FUEGO)* available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.

6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor’s popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word “ACTIVATED” appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station’s front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station’s front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

pull station		SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

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ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: **The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.*

Pre-Signal Models

The **NBG-12LPS** and **NBG-12LPSP** pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. *See diagram at right.*

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved *(except NBG-12LPS, NBG-12LPSP).*
- **MEA** approved: file 67-02-E *(NBG-12, NBG-12L, NBG-12LOB, NBG-12LA).*
- **Lloyd's Register** type approved: file 93/60141 (E3) *(NBG-12, NBG-12L, NBG-12LA, NBG-12LOB, NBG-12S).*
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- **Patented:** U.S. Patent No. D428,351; 6,380,846; 6,314,772; 6,632,108.

Product Line Information

NBG-12S: Single-action pull station with pigtail connections, hex lock.

NBG-12: Dual-action pull station with SPST N/O switch, screw terminal connections, ***hex lock***.

NBG-12L: Dual-action pull station with SPST N/O switch, screw terminal connections, ***key lock***.

NBG-12LSP: Same as NBG-12L with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LPS: Dual-action pull station with pre-signal option.

NBG-12LPSP: Same as NBG-12LPS with English/Spanish *(FIRE/FUEGO)* labeling.

NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (**NBG-12LO**), and backbox. Includes **SB-I/O** indoor/outdoor backbox, and sealing gasket. Model will also mount to **WP-10** weatherproof backbox in retrofit applications.

NOTE: *NBG-12LO not available separately;*
NBG-12LO + approved backbox = NBG-12LOB.
Outdoor applications listings apply to NBG-12LOB combination.

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SB-10: Surface-mount backbox, metal.

SB-I/O: Surface-mount backbox, plastic. *(Included with NBG-12LOB.)*

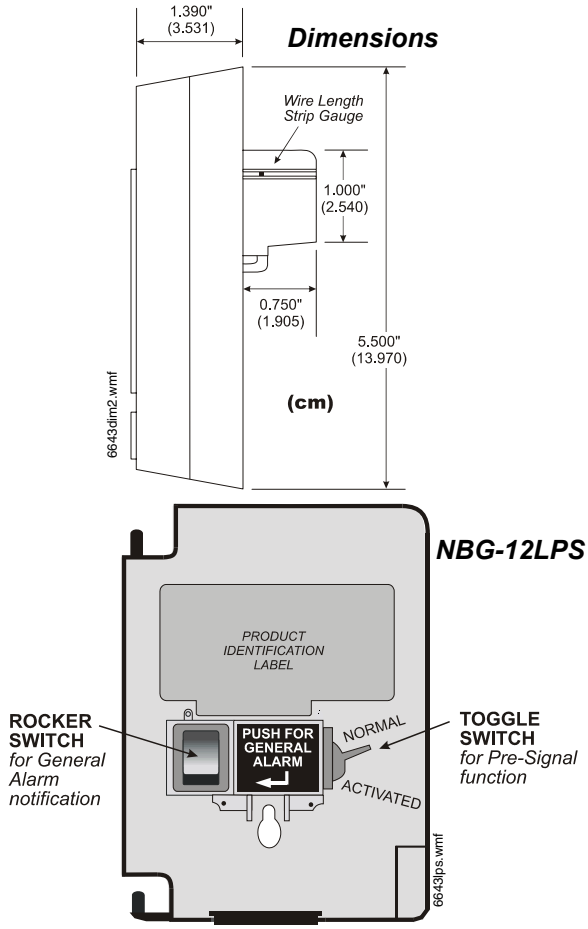
BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

17021: Keys, set of two. (Included with key-lock pull stations.)

17007: Hex key, 9/64". (Included with hex-lock pull stations.)

NOTE: *For addressable NBG-12LX models, see data sheet DN-6726.*



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www.notifier.com

NBG-12 Series

Non-Coded Conventional Manual Fire Alarm Pull Stations

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The NOTIFIER **NBG-12 Series** is a cost-effective, feature-packed series of non-coded manual fire alarm pull stations. It was designed to meet multiple applications with the installer and end-user in mind. The NBG-12 Series features a variety of models including single- and dual-action versions.

The NBG-12 Series provides an alarm initiating input signal to conventional fire alarm control panels (FACPs) such as the SFP Series, and to XP Transponders. Its innovative design, durable construction, and multiple mounting options make the NBG-12 Series simple to install, maintain, and operate.

Features

- Aesthetically pleasing, highly visible design and color.
- Attractive contoured shape and light textured finish.
- Meets ADA 5 lb. maximum pull-force.
- Meets UL 38, Standard for Manually Actuated Signaling Boxes.
- Easily operated (single- or dual-action, model dependent), yet designed to prevent false alarms when bumped, shaken, or jarred.
- PUSH IN/PULL DOWN handle latches in the down position to clearly indicate the station has been operated.
- The word “ACTIVATED” appears on top of the handle in bright yellow, further indicating operation of the station.
- Operation handle features white arrows showing basic operation direction for non-English-speaking persons.
- Braille text included on finger-hold area of operation handle and across top of handle.
- Multiple hex- and key-lock models available.
- U.S. patented hex-lock needs only a quarter-turn to lock/unlock.
- Station can be opened for inspection and maintenance without initiating an alarm.
- Product ID label viewable by simply opening the cover; label is made of a durable long-life material.
- The words “NORMAL” and “ACTIVATED” are molded into the plastic adjacent to the alarm switch (located inside).
- Four-position terminal strip molded into backplate.
- Terminal strip includes Phillips combination-head captive 8/32 screws for easy connection to Initiating Device Circuit (IDC).
- Terminal screws backed-out at factory and shipped ready to accept field wiring (up to 12 AWG/3.1 mm²).
- Terminal numbers are molded into the backplate, eliminating the need for labels.
- Switch contacts are normally open.
- Can be surface-mounted (with **SB-10** or **SB-I/O**) or semi-flush mounted. Semi-flush mount to a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box.
- Backplate is large enough to overlap a single-gang backbox cutout by 1/2" (1.27 cm).
- Optional trim ring (**BG12TR**).
- Spanish versions *(FUEGO)* available (**NBG-12LSP**, **NBG-12LPSP**).
- Designed to replace the legacy **NBG-10** Series.
- Models packaged in attractive, clear plastic (PVC), clam-shell-style, Point-of-Purchase packages. Packaging includes a cutaway dust/paint cover in shape of pull station.

6643cov.jpg

Construction

- Cover, backplate and operation handle are all molded of durable polycarbonate material.
- Cover features white lettering and trim.
- Red color matches System Sensor’s popular SpectrAlert® Advance horn/strobe series.

Operation

The NBG-12 manual pull stations provide a textured finger-hold area that includes Braille text. In addition to PUSH IN and PULL DOWN text, there are arrows indicating how to operate the station, provided for non-English-speaking people.

Pushing in and then pulling down on the handle activates the normally-open alarm switch. Once latched in the down position, the word “ACTIVATED” appears at the top in bright yellow, with a portion of the handle protruding at the bottom as a visible flag. Resetting the station is simple: insert the key or hex (model dependent), twist one quarter-turn, then open the station’s front cover, causing the spring-loaded operation handle to return to its original position. The alarm switch can then be reset to its normal (non-alarm) position manually (by hand) or by closing the station’s front cover, which automatically resets the switch.

Specifications

PHYSICAL SPECIFICATIONS:

pull station		SB-10	SB-I/O	WBB	WP-10
H	5.500 in. (13.97 cm)	5.500 in. (13.97 cm)	5.601 in. (14.23 cm)	4.25 in. (10.79 cm)	6.000 in. (15.24 cm)
W	4.121 in. (10.467 cm)	4.125 in. (10.478 cm)	4.222 in. (10.72 cm)	4.25 in. (10.79 cm)	4.690 in. (11.913 cm)
D	1.390 in. (3.531 cm)	1.375 in. (3.493 cm)	1.439 in. (3.66 cm)	1.75 in. (4.445 cm)	2.000 in. (5.08 cm)

6643dim2.tbl

ELECTRICAL SPECIFICATIONS:

Switch contact ratings: gold-plated; rating 0.25 A @ 30 VAC or VDC. **Auxiliary contact circuit** (Terminals 3 & 4, NBG-12LA): rated to 3.0 A @ 30 VAC or VDC.

ENGINEERING/ARCHITECTURAL SPECIFICATIONS

Manual Fire Alarm Stations shall be non-code, with a key- or hex-operated reset lock in order that they may be tested, and so designed that after actual Emergency Operation, they cannot be restored to normal except by use of a key or hex. An operated station shall automatically condition itself so as to be visually detected as activated. Manual stations shall be constructed of red colored LEXAN (or polycarbonate equivalent) with clearly visible operating instructions provided on the cover. The word **FIRE** shall appear on the front of the stations in white letters, 1.00 inches (2.54 cm) or larger.* Stations shall be suitable for surface mounting on matching backbox SB-10 or SB-I/O; or semi-flush mounting on a standard single-gang, double-gang, or 4" (10.16 cm) square electrical box, and shall be installed within the limits defined by the Americans with Disabilities Act (ADA) or per national/local requirements. Manual Stations shall be Underwriters Laboratories listed.

NOTE: **The words "FIRE/FUEGO" on the NBG-12LSP and NBG-12LPSP shall appear on the front of the station in white letters, approximately 3/4" (1.905 cm) high.*

Pre-Signal Models

The **NBG-12LPS** and **NBG-12LPSP** pull stations are non-coded manual pull stations which provide a FACP with two normally open alarm initiating input signals. "Pre-signal" input is activated by pushing in, then pulling down, the dual-action handle. A "general" alarm input signal can be manually activated via a momentary rocker switch mounted inside the unit. This general alarm switch can only be accessed by opening the cover with the supplied key/lock. *See diagram at right.*

Agency Listings and Approvals

The listings and approvals below apply to the NBG-12 Series pull stations. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **C(UL)US** Listed: file S692.
- **CSFM** approved: file 7150-0028:199.
- **FM** approved *(except NBG-12LPS, NBG-12LPSP).*
- **MEA** approved: file 67-02-E *(NBG-12, NBG-12L, NBG-12LOB, NBG-12LA).*
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NBG-12LOB: Dual-action pull station with key lock, outdoor applications listings (**NBG-12LO**), and backbox. Includes **SB-I/O** indoor/outdoor backbox, and sealing gasket. Model will also mount to **WP-10** weatherproof backbox in retrofit applications.

NOTE: *NBG-12LO not available separately;*
NBG-12LO + approved backbox = NBG-12LOB.
Outdoor applications listings apply to NBG-12LOB combination.

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SB-10: Surface-mount backbox, metal.

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BG12TR: Optional trim ring for semi-flush mounting.

WP-10: Outdoor use backbox.

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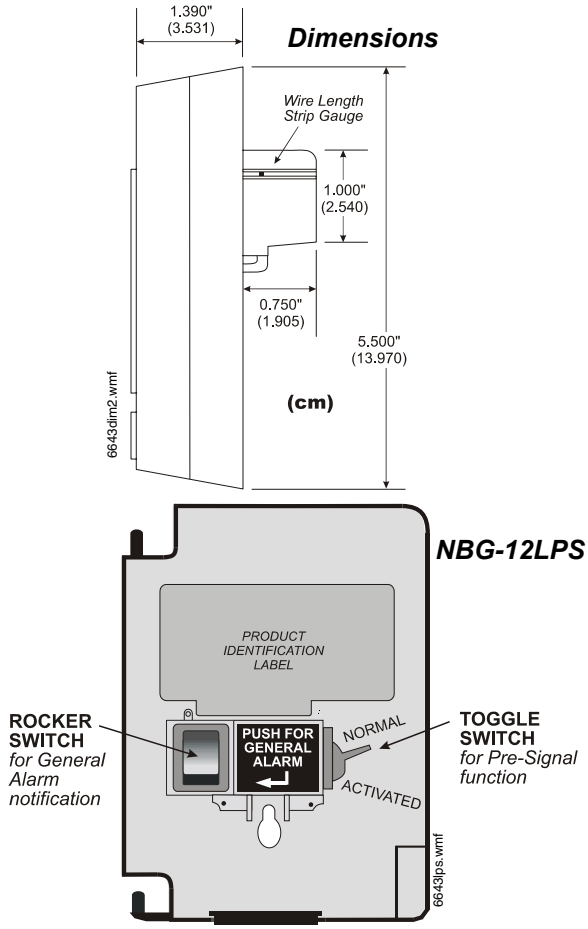
NOTE: *For addressable NBG-12LX models, see data sheet DN-6726.*



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ONYXWorks® Lite

Integrated Facilities Monitoring Network

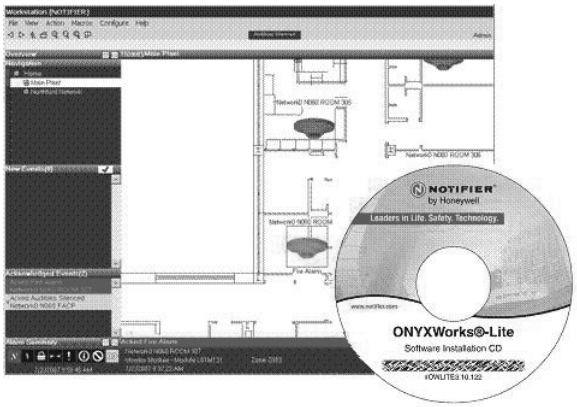
NOTIFIER® by Honeywell

Network Systems

General

ONYXWorks® Lite is the next generation in life safety and building systems integration for monitoring fire over a proprietary network. The ONYXWorks Lite system is designed to provide clear and precise annunciation of life safety and other building system events. The preciseness of that annunciation enables the responding personnel to identify the location of a life safety event quickly and accurately. The status of the emergency equipment or fire safety functions that might affect the safety of the occupants is also easily identifiable.

The ONYXWorks Lite software is a high-performance color graphic system capable of displaying all network events and points. The workstation uses Microsoft® Windows® XP, providing an easy-to-use graphical user interface. The operator is presented with a consistent look and operation for all monitored equipment. The ONYXWorks Lite software has the ability to monitor up to four Notifier Fire Alarm Control Panels and is an ideal addition to the NOTI•FIRE•NET™ network when network monitoring and control are required.



OWLite.wmf

Features

GENERAL

- Supported NOTIFIER Equipment (4 nodes maximum):
  - NFS-320
  - NFS2-640
  - NFS2-3030
  - Notifier 8th edition Fire Alarm Control Panels
  - Notifier legacy panels.
- Operates under Microsoft Windows XP Professional SP2 (Service Pack 2).
- Supports the following additional languages:
  - Korean
  - Portuguese
  - French
  - Spanish
  - Chinese (Traditional and Simplified)

NOTE: *ONYXWorks Lite is not listed with UL, FM or CNTC.*

USER INTERFACE

- All off-normal events displayed simultaneously with text and corresponding graphic screens.
- Automatic screen navigation (selectable for each device) that locates and zooms to the device related to an alarm or event, based on the priority of the event.
- Dynamically generated floor plan overview.
- Floor plans can be zoomed in and out and devices can be placed at different zoom levels.
- Full linked multimedia (text, audio, video, and bitmaps) to any device and event status, all definable by the administrator.
- Intuitive navigational tree and icons for easy access to building floorplans

EVENT NOTIFICATION AND RESPONSE

- Real-time event printing of system-wide events.
- Control of fire panels (extent of control determined by panel model).
- Operator log with response tracking.
- History Manager records operator, event, and response (with time and date stamp) to disk.
- Up to 6 states can be visually represented for each input device: Normal, Trouble, Fire Alarm, Pre-Alarm (detectors), Disabled and Security.

SYSTEM SETUP

- Graphic Editing mode allows on-site programming of floor plan screens, device icons, functional and navigational buttons.
- Text Mode operation is also available.
- Import converted vector (.WMF) drawing files, bitmaps (.BMP), JPEG and .GIF files from existing CAD floor plan drawings.
- Graphics printing for floor plans and reports.
- Customizable device icon and colors to visually represent each event type.
- User defined icons can be added to the workstation (.PNG, .BMP, .WMF, .JPG, and .GIF formats)
- Spreadsheet editor available for faster programming when running VeriFire Tools.

SECURE ACCESS

- System Administrator-definable security, monitoring, and control profiles allow for extremely flexible definition of operator accounts.
- Operator Login/Logout/Change Password feature allows only authorized personnel to access the system.
- Logs in history any operator changes in the workstation.

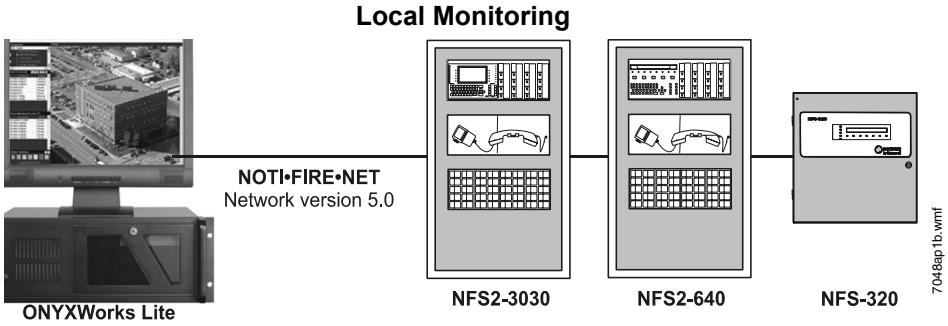
SYSTEM MAINTENANCE

- Backup capability for all system data – screen, member, and history databases.
- Obtain software version numbers for network panels.
- Upload/Download databases to NOTIFIER panels (ONYX Series and AFP1010/AM2020) and perform panel upgrades (ONYX Series only) over the network.
- Individual Enable/Disable or Group Enable/Disable points and zones on a NOTI•FIRE•NET network.

NOTI•FIRE•NET Monitoring

An ONYXWorks Lite system is an ideal component of a Fire Command Center for real-time fire system status and system control options. ONYXWorks Lite interfaces directly to a NOTI•FIRE•NET fire system using an NFN Gateway. The NFN Gateway is an intelligent interface used by the ONYXWorks Lite system that facilitates monitoring and control of up to four nodes of NOTIFIER fire panels. The NFN Gateway is available in two versions: PC-based gateway wire and fiber versions.

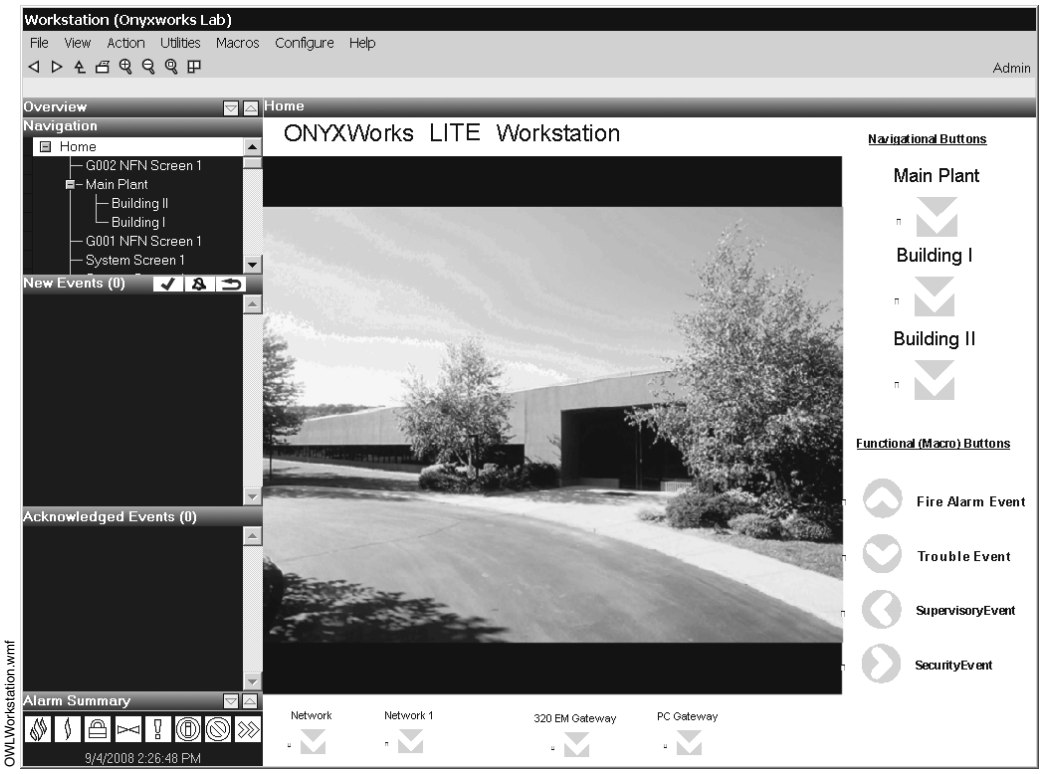
Minimum ONYXWorks Lite equipment options/requirements are available on the NFN Gateway data sheet.



Specialized Client Applications

- ONYXWorks Lite Workstation
- History Manager

ONYXWorks Lite Workstation Software



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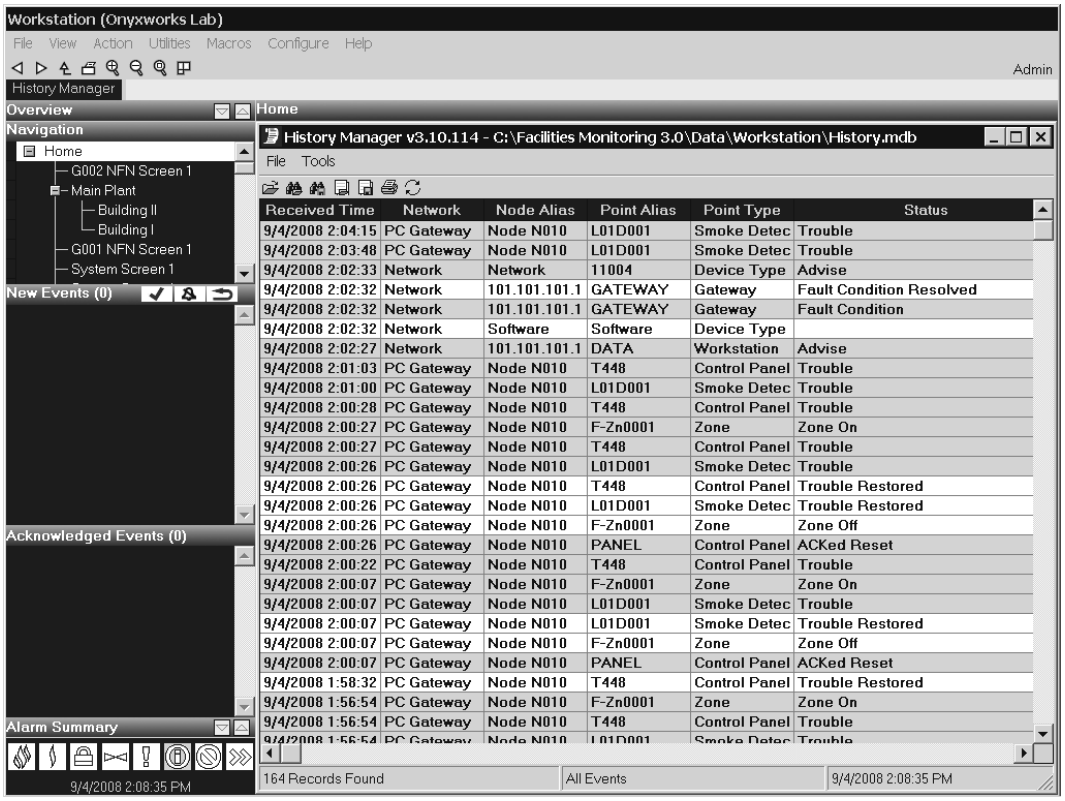

Product Line Information

Required Hardware (user provided): PC with Intel® Pentium IV - 2.0 GHz, 1GB RAM, 80 GB hard disk, DVD-ROM/CD-RW, sound, mouse, powered speaker option, keyboard, Ethernet card, PCI slot, RS-232 serial COM port, Windows XP Professional with Service Pack 2.

OW-LITE-NW: ONYXWorks Lite software, user manuals (on CD), configured USB Hardlock software key, and NFN-GW-PC-W (interface board for wire network)

OW-LITE-NF: ONYXWorks Lite software, user manuals (on CD), configured USB Hardlock software key, and NFN-GW-PC-F (interface board for fiber network)

Additional Ordering Information:

PRN-6: UL approved printer

NCM-W/F: see data sheet DN-6861

NAM-232PCB: see data sheet DN-5331

NOTI-FIRE-NET: see data sheet DN-6971

NFN-GW-PC-W: NFN Gateway PC card with wire (included with OW-LITE-NW).

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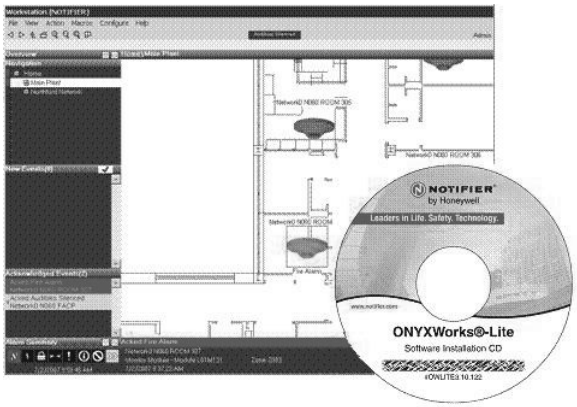

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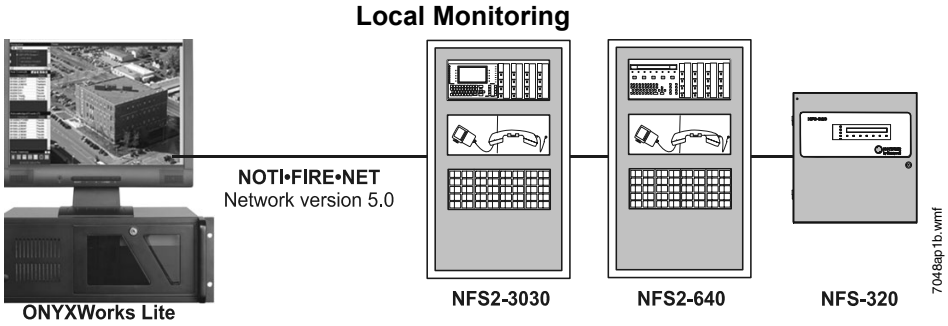

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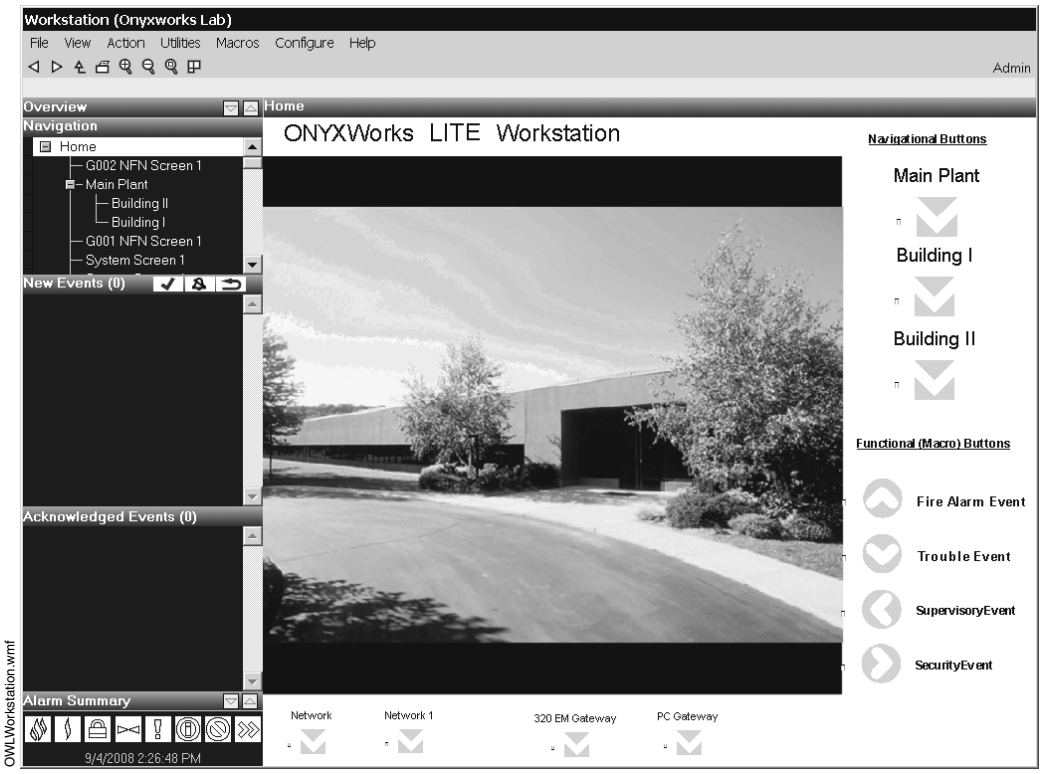

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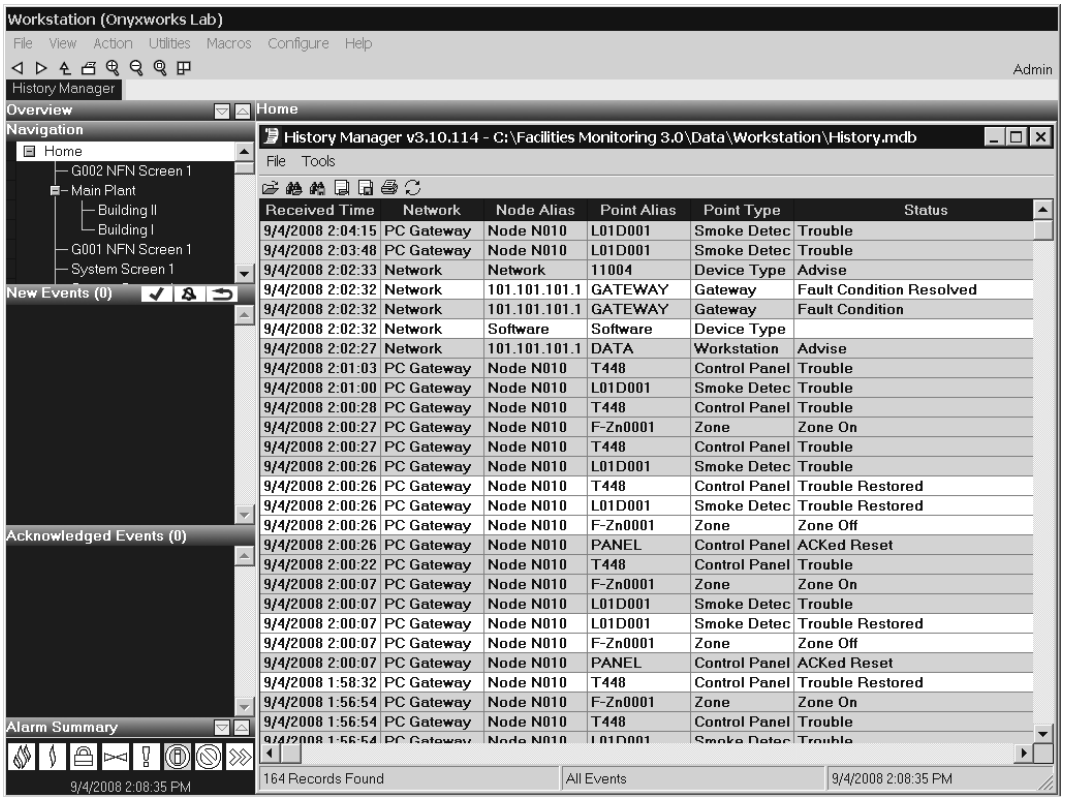

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NOTIFIER®
by Honeywell

Remote Indicator Unit

Data Sheet

Description

The RI/W/3V remote indicator unit is designed for fire detection systems requiring local indication of an individual or group of fire detectors in alarm. The unit is fitted with LED providing a wide area of illumination and high on/off contrast for easy viewing.

Using a single gang purpose designed moulding, the unit operates with all Notifier analogue addressable fire detectors.

Features

- Industrial construction
- Terminal block wiring
- Ultra-bright LED
- Suitable for analogue addressable systems.

For more information, contact:
NOTIFIER. 140 Waterside Road, Hamilton Industrial Park, Leicester, LE5 1TN
Phone: +44 (0) 203 409 1779

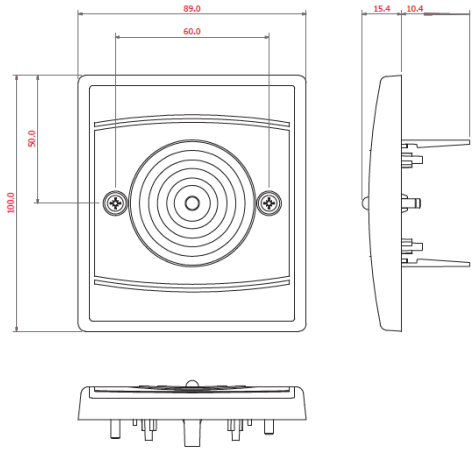
ISO9001
Design, Manufacture and Supply to Quality Management Systems Certified to ISO9001:1994

Specifications

RI/W/3V remote indicator unit

Mechanical Specification

	RI/W/3V
Height:	100mm
Width:	89mm
Body colour:	white with red lettering
Wire gauge for terminals:	1.5mm^2
Mounting	Designed to fit to a standard UK BS1363 single gang back-box



Dimensions: mm

Electrical Configuration

	RI/W/3V
Operating voltage:	5 - 28 V dc

System	Resistance	Terminals	Current
Addressable	0Ω	2,3	28 mA Max

Installation Recommendations

For analogue addressable systems connect across LED (terminals 2 & 3)

Product Range at a Glance

		Part Number
	Remote Indicator Unit	RI/W/3V

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RP-2002(E)

Agent Release Control Panel

NOTIFIER® by Honeywell

Conventional Releasing Panels

General

The RP-2002 is a six-zone FACP for single and dual hazard agent releasing applications. The RP-2002 provides reliable fire detection, signaling and protection for commercial, industrial and institutional buildings requiring agent-based releasing. The RP-2002 is compatible with System Sensor's i^3 detectors which are conventional smoke detectors that can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory 'freeze' signal when the ambient temperature falls below the detector rating of approximately 45°F (7.22°C). In addition, the control panel is compatible with conventional input devices such as two-wire smoke detectors, four-wire smoke detectors, pull stations, waterflow devices, tamper switches and other normally-open contact devices. Refer to the Notifier Device Compatibility Document for a complete listing of compatible devices.

Four outputs are programmable as NACs (Notification Appliance Circuits) or releasing circuits. Three programmable Form-C relays (factory programmed for Alarm, Trouble and Supervisory) and 24 VDC special application resettable and non-resettable power outputs are also included on the main circuit board. The RP-2002 supervises all wiring, AC voltage, battery charger and battery level.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicator, display alarm information on the panel's LCD, sound the piezo sounder at the FACP, activate the FACP alarm relay and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The RP-2002E offers the same features as the RP-2002 but allows connection to 220/240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 110/120 VAC and 220/240 VAC versions of the panels.

RP2002.jpg

Features

- Listed to UL Standard 864, 9th edition.
- FM Approved.
- Designed for agent releasing standards NFPA 12, 12A, 12B, and 2001.
- Meets International Building Code (IBC) seismic requirements.
- Disable/Enable control per input zone and output zone.
- Extensive transient protection.
- Dual hazard operation.
- Adjustable pre-discharge, discharge and waterflow delay timers.
- Cross-zone (double-interlock) capability.
- Six programmable Style B (Class B) IDCs (Initiating Device Circuit).
- System Sensor i^3 series detector compatible.
- Four programmable Style Y (Class B) output circuits - (special application power).
- Strobe synchronization:
  - System Sensor
  - Wheelock
  - Gentex
  - Faraday
  - Amseco
- Three programmable Form-C relays.
- 7.0 amps total 24 VDC output current.
- Resettable and non-resettable output power.
- Built-in Programmer.
- ANN-BUS connector for communication with optional devices (up to 8 total of any of the following):
  - N-ANN-80 Remote LCD Annunciator
  - N-ANN-I/O LED Driver
  - N-ANN-S/PG Printer Modules
  - N-ANN-RLY Relay Module
  - N-ANN-LED Annunciator Module
- 80-character LCD display (backlit).
- Real-time clock/calendar with daylight savings time control.
- History log with 256 event storage.
- Piezo sounder for alarm, trouble and supervisory.
- 24 volt operation.
- Low AC voltage sense.
- Outputs Programmable for:
  - Releasing Circuits or NACS
- NACs programmable for:
  - Silence Inhibit
  - Auto-Silence
  - Strobe Synchronization
  - Selective Silence (horn-strobe mute)
  - Temporal or Steady Signal
  - Silenceable or Non-silenceable
  - Release Stage Sounder

- Automatic battery charger with charger supervision.
- Optional Dress Panel DP-51050 (red).
- Optional Trim Ring TR-CE (red) for semi-flush mounting the cabinet.
- Optional N-CAC-5X Class A Converter Module for Outputs and IDCs.
- Optional 4XTM Municipal Box Transmitter Module.
- Optional Digital Alarm Communicators (411, 411UD, 411UDAC).
- Optional ANN-SEC card for a secondary ANN-BUS.

PROGRAMMING AND SOFTWARE:

- Custom English labels (per point) may be manually entered or selected from an internal library file.
- Programmable Abort operation.
- Three programmable Form-C relay outputs.
- Pre-programmed and custom application templates.
- Continuous fire protection during online programming at the front panel.
- Program Check automatically catches common errors not linked to any zone or input point.

USER INTERFACE:

- Integral 80-character LCD display with backlighting.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-Bus for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)
- DISCHARGED (red)
- PRE-DISCHARGE (red indicator)
- ABORT (yellow indicator)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

AC Power – TB1

- **RP-2002:** 120 VAC, 60 Hz, 3.66 amps.
- **RP-2002E:** 240 VAC, 50/60 Hz, 2.085 amps.
- **Wire size:** minimum #14 AWG (2.0 mm^2) with 600V insulation.
- Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- **Maximum Charging Circuit - Normal Flat Charge:** 27.6 VDC @ 1.4 amp. Supervised, nonpower-limited.
- **Maximum Charger Capacity:** 26 Amp Hour battery (two 18 Amp Hour batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBBR).
- **Minimum Battery Size:** 7 Amp Hour.

Initiating Device Circuits - TB4 and TB6

- Zones 1 - 5 on TB4.
- Zone 6 on TB6.
- Supervised and power-limited circuitry.
- Style B (Class B) wiring with Style D (Class A) option.
- Normal Operating Voltage: Nominal 20 VDC.
- Alarm Current: 15 mA minimum.
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 Ohms.
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Standby Current: 4 mA.

Refer to the Notifier Device Compatibility Document for listed compatible devices.

Notification Appliance and Releasing Circuit(s) - TB5 and TB7

- Four Output Circuits.
- Style Y (Class B) or Style Z (Class A) with optional converter module.
- Special Application power.
- Supervised and power-limited circuitry.
- Normal Operating Voltage: Nominal 24 VDC.
- Maximum Signaling Current: 7.0 amps (3.0 amps special application, 300 mA regulated maximum per NAC).
- End-of-Line Resistor: 4.7K Ohms, 1/2 watt (PN 71252).
- Max. Wiring Voltage Drop: 2 VDC.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Form-C Relays - Programmable - TB8

- Relay 1 (factory default programmed as Alarm Relay)
- Relay 2 (factory default programmed as fail-safe Trouble Relay)
- Relay 3 (factory default programmed as Supervisory Relay)
- Relay Contact Ratings:
  - **–** 2 amps @ 30 VDC (resistive)
  - **–** 0.5 amps @ 30 VAC (resistive)

Auxiliary Trouble Input – J6

The Auxiliary Trouble Input is an open collector circuit which can be used to monitor external devices for trouble conditions. It can be connected to the trouble bus of a peripheral, such as a power supply, which is compatible with open collector circuits.

Special Application Resettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA - appropriate for powering 4-wire smoke detectors (see note).
- Power-limited Circuitry.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

NOTE: *Total current for resettable power, nonresettable power and Output Circuits must not exceed 7.0 amps.*

Special Application Resettable or Nonresettable Power - TB9

- **Operating Voltage:** Nominal 24 VDC.
- **Maximum Available Current:** 500 mA (see note 1).
- Power-limited Circuitry.
- Jumper selectable by JP31 for resettable or nonresettable power.

Refer to the Notifier Device Compatibility Document for compatible listed devices.

Product Line Information

RP-2002: Six-zone, 24 volt Agent Release Control Panel (includes backbox, power supply, technical manual, and a frame & post operating instruction sheet) for single and dual hazard agent releasing applications.

RP-2002E: Same as above but allows connection to 220/240 VAC.

N-CAC-5X: Class A Converter Module can be used to convert the Style B (Class B) Initiating Device Circuits to Style D (Class A) and Style Y (Class B) Output Circuits to Style Z (Class A).

NOTE: *Two Class A Converter modules are required to convert all four Output Circuits and six Initiating Device Circuits.*

4XTM: Transmitter Module provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. It includes a disable switch and disable trouble LED.

N-ANN-80(-W): LCD Annunciator is a remote LCD annunciator that mimics the information displayed on the FACP LCD display. Recommended wire type is un-shielded. (Basic model is black; order -W version for white; s*ee DN-7114.)*

N-ANN-LED: Annunciator Module provides three LEDs for each zone: Alarm, Trouble and Supervisory. Ships with red or black enclosure (see DN-60242).

N-ANN-RLED: Provides alarm (red) indicators for up to 30 input zones or addressable points. (See DN-60242).

N-ANN-RLY: Relay Module, which can be mounted inside or outside the cabinet, provides 10 programmable Form-C relays. (See *DN-7107*).

N-ANN-S/PG: Serial/Parallel Printer Gateway module provides a connection for a serial or parallel printer. (See *DN-7103*).

N-ANN-I/O: LED Driver Module provides connections to a user supplied graphic annunciator. (See *DN-7105*).

ANN-SEC: Optional card for a secondary ANN-BUS. *See #53944.*

NBG-12LR: Agent Release Pull Stations designed for use with Notifier Fire Alarm Control Panels with releasing capabilities.

DP-51050: Dress panel (red) is available as an option. The dress panel restricts access to the system wiring while allowing access to the membrane switch panel.

TR-CE: Trim-ring (red) is available as an option. The trim-ring allows semi-flushing mounting of the cabinet.

BB-26: Battery box, holds up to two 26 Amp Hour batteries and CHG-75.

NFS-LBBR: Battery box, houses two 55 Amp Hour batteries, red.

SEISKIT-COMMENC: Seismic mounting kit; required for seismic-certified installations.

BAT Series Batteries: Refer to DN-6933.

PRN-6: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRN-7: UL-listed compatible event printer. Dot-matrix, tractor-fed paper, 120 VAC.

PRT-PK-CABLE: Programming cable. Used to update the FACP's flash firmware. (Also requires an RS485 to RS232 converter).

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **RP-2002 (FLPS-7 Power Supply):** 120 VAC, 60 Hz, 3.66 amps
- **RP-2002E (FLPS-7 Power Supply):** 240 VAC, 50/60 Hz, 2.085 amps
- **Wire size:** minimum 14 AWG (2.0 mm²) with 600 V insulation, supervised, nonpower-limited

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR- CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Weight: 24.05 lbs. (10.9 kg)

Dimensions:

- Height 20.00" (50.80cm)
- Width 22.50" (57.15cm)
- Depth 8.50" (21.59cm)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

NFPA Standards

The RP-2002(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

- **NFPA 12** CO_2 Extinguishing Systems
- **NFPA 12A** Halon 1301 Extinguishing Systems
- **NFPA 12B** Halon 1211 Extinguishing Systems
- **NFPA 72** National Fire Alarm Code for Local Fire Alarm Systems and Remote Station Fire Alarm Systems (requires an optional Remote Station Output Module)
- **NFPA 2001** Clean Agent Fire Extinguishing Systems

Agency Listings and Approvals

The listings and approvals below apply to the basic RP-2002(E) control panels. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL:** S635
- **FM approved**
- **CSFM:** 7165-0028:0245
- **MEA:** 333-07-E
- ***Seismic Listing:*** *Reference certificiate of compliance VMA - 45894-01 by the VMC Group*

NOTE: *For ULC-listed model, see DN-60444.*

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Assembled in the USA

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

March 24, 2005 DN-4924 • I-75

SD-651 and CP-651

Low-Profile Conventional Detectors

Section: Conventional Initiating Devices

GENERAL

NOTIFIER's 600 Series Plug-in Smoke Detectors offer superb performance and reliability in a profile just 1.66" (4.22 cm) deep. Model CP-651 (ionization sensor) and Model SD-651 (photoelectronic sensor) share the same sleek low-profile design and can be used with many different adapter bases in a variety of wiring configurations and voltages. Other features include low current draw, stable performance in high air velocities, built-in tamper resistant base design, remote LED option, removable cover, and built-in test switch.

The 600 Series is designed to meet the performance criteria designated by UL/ULC and EN-54. Their sensing chambers are sealed from back-pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include interchangeable ion and photo heads, a variety of mounting bases, and a full line of accessories.

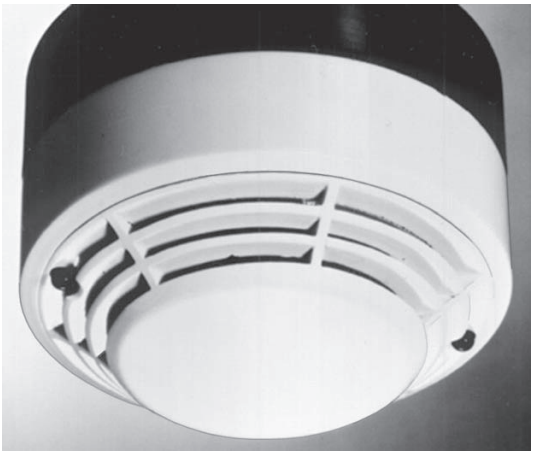
LISTED S1115

FM APPROVED

California State Fire Marshal
CP-651:
7271-0028:176
SD-651:
7272-0028:175

MEA
205-94-E

MARYLAND
State Fire Marshal
Permit 2008



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SD-651 pictured in B401 Base

FEATURES

- Identical appearance to standard NOTIFIER low-profile intelligent detectors. Sleek, low-profile design.
- Same base for both ion and photo models.
- Compatible with all System Sensor 400 Series products.
- Two LEDs blink in standby and turn on steady in alarm.
- Lower standby current.
- Field sensitivity metering of detector to meet NFPA 72 Chapter 7 requirements.
- Broad range of adapter bases available.
- Dual LEDs provide 360° visibility.
- Designed to meet the requirements of UL 268.

SPECIFICATIONS

Operating voltage: mounting base dependent *(see chart on page 2).*

Standby current: 100 Microamps maximum.

Sensitivity: ***Ion:*** 1.9% ± 0.62%/ft.; ***Photo:*** 3% ± 0.7%/ft.

Weight: 3.67 oz. (104 g).

Size: 1.66" (4.22 cm) high; ***unflanged base*** 4.0 (10.16 cm) diameter; ***flanged base*** 6.2" (15.75 cm) diameter.

Construction: flame-retardant thermoplastic.

Operating temperature: 32°F to 120°F (0°C to 49°C).

European models:
Humidity range: 10% to 93% RH noncondensing.

IONIZATION

All 600 Series ionization smoke detectors contain a unique single source chamber detection design which will sense the presence of smoke particles produced by fast combustion as well as slow smoldering fires. This chamber exhibits increased stability, significantly reduces nuisance alarms, and provides better performance at higher air velocities.

PHOTOELECTRIC

All 600 Series photoelectronic smoke detectors contain a unique optical sensing chamber designed to sense the presence of smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarms.

NOTIFIER® 12 Clintonville Road, Northford, Connecticut 06472

MOUNTING BASE SELECTION GUIDE

Base Model Number	Version	Loop Type	Current Limit Resistor	Alarm Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
B610LP	UL/ULC	2-wire*	No	—	12/24 VDC	10 – 100**
B612LP	UL/ULC	4-wire	Yes	Form A & C	24 VDC	14 – 39
B401†	UL/EN-54	2-wire*	No	—	12/24 VDC	10 – 100**

4924base.tbl

*Functionality contingent on panel compatibility.

** Must be limited by control panel.

Relay Contact Ratings: Resistive or Inductive (60% power factor) load.

Form A: 2.0 A at 30 VAC/DC

Form C: 0.6 A at 110 VDC, 2.0 A at 30 VDC
1.0 A at 125 VAC, 2.0 A at 30 VAC

† Flangeless base.

JUNCTION BOX SELECTION GUIDE*

* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations.

	Single-Gang	3-1/2" OCT	4" OCT	4" SQ	500 MM	60 MM	75 MM
B401/B401R	NO	NO	NO	NO	YES	YES	NO
B610LP	YES	YES	YES	YES	NO	NO	NO
B612	YES	YES	YES	YES	YES	YES	YES

4924box.tbl

ORDERING INFORMATION

Part No. ***Description***

CP-651 Low-profile ionization detector. Must be mounted to one of the B600 Series or B401 Series bases listed in Mounting Base Guide.

SD-651 Low-profile photoelectronic detector. Must be mounted to one of the B600 Series or B401 Series bases listed in Mounting Base Guide.

Accessories...

BCK-200 Black detector conversion kit. Includes ten black trim rings and ten black detector housings.

F110 Retrofit replacement flange for B400 Series flanged bases.

RA400Z Remote annunciator for two- or four-wire systems, 3 – 32V. Use with ion and photo plug-in detectors. Fits standard U.S. single-gang electrical box.

B601BH Sounder base for systems using B401 or B401R. Requires an external 24 VDC power supply. Mounts to 4" (10.16 cm) square electrical box (1.5" [3.81 cm] minimum depth).

MOD400R Detector sensitivity test tool. Use with most analog or digital multimeters. Satisfies requirement of NFPA 72E for sensitivity testing.

RMK400 Recessed mounting kit. *For use with B401 base **only**.*

SMK400 Surface mounting kit provides for entry of surface wiring conduit. *For use with B401 base **only**.*

A77-716B End-of-line relay for power supervision, 12/24 VDC systems.

C58-213-00 Replacement protective dust cover for plug-in 600 Series.

M02-04-01 Test magnet.

XR-2 Detector removal tool. Allows installation and/or removal of 600 Series detector heads from base in high ceiling installations.

XP-4 Extension pole for XR-2. Comes in three 5-ft. (1.524 m) sections.

SD-651

SD-651 Low-Profile
Plug-In Smoke Detectors

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The Notifier SD-651 Plug-in Smoke Detectors offer superb performance and reliability in a profile which is just 2" (5.1 cm) deep. Model SD-651 (photoelectric sensor) can be used with a variety of different adapter bases in several wiring configurations and voltages. Other features include: low current draw, stable performance in high air velocities, built-in tamper resistant base design, remote LED option, removable cover, and built-in test switch.

The SD-651 is designed to meet the performance criteria designated by UL. Its sensing chambers are sealed against back pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include a variety of mounting bases and a full line of accessories.

SD-651 photoelectric smoke detectors contain a unique optical sensing chamber designed to sense smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarms.

Model SD-651 photoelectric detector's unique optical sensing chamber is engineered to sense smoke by a wide range of combustion sources.

Specifications

Operating Voltage/Alarm Current: See Adapter Base Selection Guide following

Standby Current: 85µA Standby

Sensitivity: 1 - 3.18%/ft.

Height: 2.0" in B401

Diameter: 4.1" installed in B401; 6.1" installed in B110LP

Shipping Weight: 5.2 oz

Construction: Flame retardant thermoplastic

Temperature: Photo: 32°F to 120°F (0°C to 49°C)

UL Listed Velocity Range: Photo: 0–3000 fpm (0–15.2 m/s)

Humidity Range: 10%–93% RH non-condensing

Smoke Detector Spacing: On smooth ceilings (as defined in NFPA 72), spacing of 30 feet (900 sq. ft.) may be used as a guide. Other spacing may be used depending on ceiling height, high air movements, and other conditions or response requirements.

Agency Listing and Approval

One listing and approval apply to the module specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S911

Product Line Information

SD-651: Low-profile photoelectric detector. Must be mounted to one of the B100 Series or B400 Series bases listed in the Adapter Base Selection Guide.

F110: Retrofit replacement flange for B400 Series flanged bases.

RA400Z: Remote annunciator for 2 or 4 wire systems, 3-32V. Fits standard single gang electrical box.

B401BH-2: Sounder base. Requires an external 24 VDC power supply. Mounts to 4" square electrical box (112" minimum depth, 218" recommended).

SMK400: Surface mounting kit provides for entry of surface wiring conduit. For use with B401 or B401R mounting bases only.

EOLR-1: End of line relay for power supervision, 12/24 VDC systems.

M02-04-01: Test magnet.

M02-09-00: Test magnet with 32° telescoping handle.

XR-2B: Detector removal tool. Allows installation and/or removal of SD-651 detector heads from base in high ceiling installations when used with XP-4.

XP-4: Extension pole for XR-2B. Comes in three 5 ft. sections.

C58-227-01: Replacement dust cover for SD-651 smoke detectors.

RMK400: Recessed mounting kit (B401 sold separately).

Adapter Base Selection Guide

Base Model Number	Loop Type	Current Limit Resistor	Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
B110LP/B401†	2-wire*	No	—	12/24 VDC	10-130**
B110RLP/B401R†/B401BR†	2-wire*	Yes	—	24 VDC	10-62
B401†	2-wire*	No	—	12/24 VDC	10-100**

* Functionality contingent on panel compatibility.
** Must be limited by control panel.
† Flangeless base.

Junction Box Selection Guide*

Base Model Number	Single Gang	3-1/2" Octagon	4" Octagon	4" Square	50 mm	60 mm	75 mm
B401	No	No	No	No	Yes	Yes	No
B110LP/RLP	Yes	Yes	Yes	Yes	No	No	No

* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations.

SD-651

SD-651 Low-Profile
Plug-In Smoke Detectors

NOTIFIER® by Honeywell

Conventional Initiating Devices

General

The Notifier SD-651 Plug-in Smoke Detectors offer superb performance and reliability in a profile which is just 2" (5.1 cm) deep. Model SD-651 (photoelectric sensor) can be used with a variety of different adapter bases in several wiring configurations and voltages. Other features include: low current draw, stable performance in high air velocities, built-in tamper resistant base design, remote LED option, removable cover, and built-in test switch.

The SD-651 is designed to meet the performance criteria designated by UL. Its sensing chambers are sealed against back pressure air flow, dirt, and insects. This chamber is protected by a fine mesh screen which can be cleaned or replaced. Additional key features include a variety of mounting bases and a full line of accessories.

SD-651 photoelectric smoke detectors contain a unique optical sensing chamber designed to sense smoke particles produced by a wide range of combustion sources. A custom integrated circuit incorporates signal processing to reduce false alarms.

Model SD-651 photoelectric detector's unique optical sensing chamber is engineered to sense smoke by a wide range of combustion sources.

Specifications

Operating Voltage/Alarm Current: See Adapter Base Selection Guide following

Standby Current: 85µA Standby

Sensitivity: 1 - 3.18%/ft.

Height: 2.0" in B401

Diameter: 4.1" installed in B401; 6.1" installed in B110LP

Shipping Weight: 5.2 oz

Construction: Flame retardant thermoplastic

Temperature: Photo: 32°F to 120°F (0°C to 49°C)

UL Listed Velocity Range: Photo: 0–3000 fpm (0–15.2 m/s)

Humidity Range: 10%–93% RH non-condensing

Smoke Detector Spacing: On smooth ceilings (as defined in NFPA 72), spacing of 30 feet (900 sq. ft.) may be used as a guide. Other spacing may be used depending on ceiling height, high air movements, and other conditions or response requirements.

Agency Listing and Approval

One listing and approval apply to the module specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** S911

Product Line Information

SD-651: Low-profile photoelectric detector. Must be mounted to one of the B100 Series or B400 Series bases listed in the Adapter Base Selection Guide.

F110: Retrofit replacement flange for B400 Series flanged bases.

RA400Z: Remote annunciator for 2 or 4 wire systems, 3-32V. Fits standard single gang electrical box.

B401BH-2: Sounder base. Requires an external 24 VDC power supply. Mounts to 4" square electrical box (112" minimum depth, 218" recommended).

SMK400: Surface mounting kit provides for entry of surface wiring conduit. For use with B401 or B401R mounting bases only.

EOLR-1: End of line relay for power supervision, 12/24 VDC systems.

M02-04-01: Test magnet.

M02-09-00: Test magnet with 32° telescoping handle.

XR-2B: Detector removal tool. Allows installation and/or removal of SD-651 detector heads from base in high ceiling installations when used with XP-4.

XP-4: Extension pole for XR-2B. Comes in three 5 ft. sections.

C58-227-01: Replacement dust cover for SD-651 smoke detectors.

RMK400: Recessed mounting kit (B401 sold separately).

Adapter Base Selection Guide

Base Model Number	Loop Type	Current Limit Resistor	Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
B110LP/B401†	2-wire*	No	—	12/24 VDC	10-130**
B110RLP/B401R†/B401BR†	2-wire*	Yes	—	24 VDC	10-62
B401†	2-wire*	No	—	12/24 VDC	10-100**

* Functionality contingent on panel compatibility.
** Must be limited by control panel.
† Flangeless base.

Junction Box Selection Guide*

Base Model Number	Single Gang	3-1/2" Octagon	4" Octagon	4" Square	50 mm	60 mm	75 mm
B401	No	No	No	No	Yes	Yes	No
B110LP/RLP	Yes	Yes	Yes	Yes	No	No	No

* Box depth contingent on base and wire size. Refer to National Electrical Code or local applicable codes for appropriate recommendations.

SFP-5UD/SFP-10UD(E)

Five Zone Fire Alarm Control Panel
Ten Zone Fire Alarm Control Panel

NOTIFIER® by Honeywell

Conventional Fire Alarm Control Panels

General

The **SFP-5UD** is a five-zone FACP (Fire Alarm Control Panel) and the **SFP-10UD(E)** is a ten-zone FACP. These control panels provide reliable fire signaling protection for small to medium-sized commercial, industrial, and institutional buildings. Both panels include built-in communicators for Central Station Service and remote upload/download.

Each of these FACPs is compatible with System Sensor's microprocessor-based i^3 series detectors. These conventional smoke detectors can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory "freeze" signal when the ambient temperature falls below the detector rating. Additionally, both the SFP-5UD and SFP-10UD are compatible with conventional input devices such as two- and four-wire smoke detectors, pull stations, waterflow devices, tamper switches, and other normally-open contact devices. Refer to the *Notifier Device Compatibility Document* for a complete listing of compatible devices.

Outputs include four NACs (Notification Appliance Circuits), three programmable Form-C relays (factory programmed for Alarm, Trouble, and Supervisory) and 24 VDC special application resettable and nonresettable power outputs. The FACPs supervise all wiring, AC voltage, battery level and telephone line integrity.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicating LED, sound the piezo sounder at the FACP, activate the communicator and FACP alarm relay, and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The FireWatch Series internet monitoring modules IPDACT-2 and IPDACT-2UD permit monitoring of alarm signals over the Internet saving the monthly cost of two telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line.

NOTE: *The SFP-10UDE offers the same features as the SFP-10UD but allows connection to 240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 120 VAC and the 240 VAC versions of these panels.*

NOTE: *For ULC-listed models, see dn-60437.*

Features

- Listed to UL Standard 864, 9th edition.
- Built-in DACT (Digital Alarm Communicator/Transmitter).
- Style B (Class B) IDC (Initiating Device Circuit)
  - – SFP-5UD - five IDCs.
  - – SFP-10UD - ten IDCs.
- Style Y (Class B) NAC (Notification Appliance Circuit) - special application power
  - – SFP-5UD - four NACs.
  - – SFP-10UD - four NACs.
- Notification Appliances may be programmed as
  - – Silence Inhibit.
  - – Auto-Silence.

  - – Strobe Synchronization for System Sensor, Wheelock, Gentex, Faraday, or Amseco devices.
  - – Selective Silence (horn-strobe mute).
  - – Temporal or Steady Signal.
  - – Silenceable or Nonsilenceable.
- Optional N-CAC-5X Style Z (Class A) Converter Module for NACs and IDCs (2 required for SFP-10UD).
- Form-C Relays for Alarm, Trouble and Supervisory - Contact Ratings 2.0 A@ 30 VDC or 30 VAC (resistive).
- 3.0 A total system current for SFP-5UD.
- 7.0 A total system current for SFP-10UD.
- Optional Dress Panel DP-51050 (red)
- Optional Dress Panel DP-51050B (black).
- Optional Trim Ring TR-CE/-B for semi-flush mounting.
- 24 volt operation.
- Low AC voltage sense.
- Alarm Verification.
- PAS (Positive Alarm Sequence).
- Automatic battery trickle charger.
- Up to eight ANN-BUS annunciators:
  - – Optional 8 zone Relay Module N-ANN-RLY.
  - – Optional LED Annunciator Module N-ANN-LED,
  - – Optional Remote LCD Annunciator N-ANN-80.
  - – Optional Remote Printer Gateway N-ANN-S/PG.
  - – Optional LED Annunciator Driver N-ANN-I/O.
- Optional 4XTM module (conventional reverse polarity/city box transmitter).

PROGRAMMING AND SOFTWARE:

- Can be programmed at the panel with no special software or additional equipment.
- Programmable Make/Break Ratio.
- Upload/Download (local or remote) of program and data via integral DACT.

USER INTERFACE:

- Built-in DACT (Digital Alarm Communicator/Transmitter).
- Integral 80-character LCD display with backlighting and keypad.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-BUS for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

Terminal Blocks

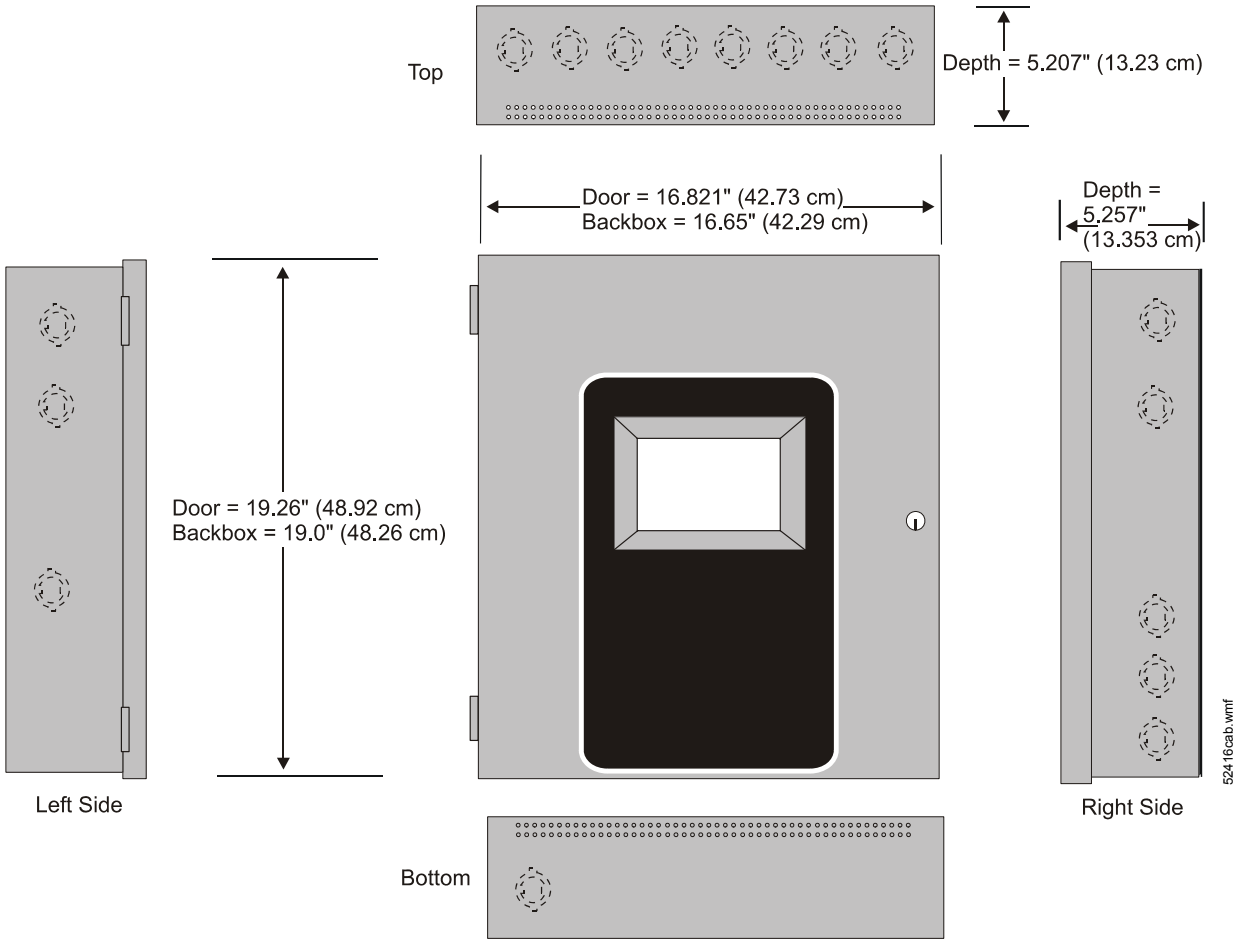
AC Power – TB1:

- *SFP-5UD* (FLPS-3 Power Supply): 120 VAC, 50/60 HZ, 1.00 A.
- SFP-10UD (FLPS-7 Power Supply): 120 VAC, 50/60 Hz, 3.8 A.
- SFP-10UDE (FLPS-7 Power Supply): 240 VAC, 50 HZ, 2.20 A.

Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- Maximum Charging Circuit - Normal Flat Charge: 27.6 VDC @ 1.4 A. Supervised, nonpower-limited.
- Maximum Charger Capacity: 18 AH battery for SFP-5UD, and 26 AH battery for SFP-10UD(E). [Two 18 Ah batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBB.]
- Minimum Battery Size: 7 AH.



Cabinet Measurements

Initiating Device Circuits – TB4 (and TB 6 on SFP-10UD only):

- Alarm Zones 1 - 5 on TB 4 (SFP-5UD and SFP-10UD).
- Alarm Zones 6 - 10 on TB6 (SFP-10UD only).
- Supervised and power-limited circuitry.
- Operation: All zones Style B (Class B).
- Normal Operating Voltage: Nominal 20 VDC.
- Alarm Current: 15 mA minimum.
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 ohms.
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (P/N 71252 UL-listed).
- Standby Current: 2 mA.

Refer to the *Notifier Device Compatibility Document* for listed compatible devices.

Notification Appliance Circuits – TB5 (and TB 7 on SFP-10UD only):

- Four NACs
- Operation: Style Y (Class B)
- Special Application power
- Supervised and power-limited circuitry
- Normal Operating Voltage: Nominal 24 VDC
- Maximum Signaling Current: 3.0 A for SFP-5UD, 2.5 A maximum per NAC; 7.0 A for SFP-10UD(E), 3.0 A maximum per NAC.
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (Part #71252)
- Max. Wiring Voltage Drop: 2 VDC

Refer to the *Notifier Device Compatibility Document* for compatible listed devices.

Form C Relays – TB8:

- *Relay 1* (factory default programmed as Alarm Relay)
- *Relay 2* (factory default programmed as fail-safe Trouble Relay)
- *Relay 3* (factory default programmed as Supervisory Relay)

Special Application Resettable Power – TB9:

- Jumper selectable by JP31 for resettable or nonresettable power.
- Operating voltage: 24 VDC nominal.
- Maximum available current: 500 mA - appropriate for powering four-wire smoke detectors.
- Power-limited circuit.

Refer to the *Notifier Device Compatibility Document* for listed compatible devices.

Remote Sync Output - TB2: Remote power supply synchronization output, only required for the SFP-5UD. 24 VDC nominal special application power. Maximum current is 40 mA. End-of-Line Resistor: 4.7K ohm. Supervised and power-limited circuit.

Product Line Information

SFP-5UD: Five-zone, 24-volt Fire Alarm Control Panel (includes black backbox, FLPS-3 power supply, technical manual, and a frame & post operating instruction sheet).

SFP-5UDR: Same as above in a red backbox.

SFP-10UD: Ten-zone, 24-volt Fire Alarm Control Panel (includes black backbox, FLPS-7 power supply, technical manual, and a frame & post operating instruction sheet).

SFP-10UDE: Same as above with 220 VAC FLPS-7.

SFP-10UDR: Same as SFP-10UD in a red backbox.

IPDACT, IPDACT-2/2UD Internet Monitoring Module: Mounts in bottom of enclosure with optional mounting kit (PN IPBRKT). Connects to primary and secondary DACT telephone output ports for internet communications over customer provided ethernet internet connection. Requires compatible Teldat Visoralarm Central Station Receiver. Can use DHCP or static IP. *(See data sheet DN-60389 for more information.)*

IPBRKT: Mounting kit for IPDACT in common enclosure.

IPSPLT: Y Adaptor option to allow connection of both panel dialer outputs to one cable input to IPDACT (sold separately).

OPTIONAL MODULES

N-CAC-5X: Optional (Class A) Converter Module. Converts Style B (Class B) Initiating Device Circuits to Style D (Class A); and Style Y (Class B) Notification Appliance Circuits to Style Z (Class A). Connects to J2 on the SFP-5UD and SFP-10UD main circuit board and to J7 on the SFP-10UD.

***NOTE:** Two Class A Converter Modules are required for the ten-zone panel.*

4XTM: Transmitter module. Provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. Includes a disable switch and disable trouble LED. A module jumper option allows the reverse polarity circuit to open with a system trouble condition if no alarm conditions exists. Mounts to the main circuit board connectors J4 and J5.

COMPATIBLE ANNUNCIATORS

N-ANN-80: Remote LCD Annunciator. Mimics the information displayed on the FACP's LCD. Black. (For white, order: **N-ANN-80-W**.)

N-ANN-LED: LED Annunciator with three LEDs for each zone: Alarm, Trouble, and Supervisory. Includes black backbox. (For white, order **N-ANN-80-W.** For red order **N-ANN-80-R.**)

ANN-RLED: LED Annunciator with three alarm (red) indicators for up to 30 input zones or addressable points.

N-ANN-RLY: Relay module. Mounts inside the cabinet. Provides ten Form C relays.

N-ANN-S/PG: Serial/parallel printer gateway. Provides a connection for a serial or parallel printer.

N-ANN-I/O: Driver module. Provides connections to a user-supplied graphic annunciator.

ACCESSORIES

DP-51050: Optional dress panel. Restricts access to the system wiring while allowing access to the membrane switch panel. Red.

DP-51050B: Same as DP-51050 except black.

BB-26: Battery backbox, holds up to two 25 AH batteries and CHG-75.

NFS-LBB: Battery backbox, holds up to two 55 AH batteries. Black.

NFS-LBBR: Same as above in red.

TR-CE-B: Optional black trim-ring for semi-flush mounted cabinets.

TR-CE: Same as above in red.

PRN-6: UL listed printer.

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **SFP-5UD(R) (FLPS-3 Power Supply):** 120 VAC, 60 HZ, 1.0 A
- **SFP-10UD(R) (FLPS-7 Power Supply):** 120 VAC, 60 HZ, 3.90 A
- **SFP-5UDE (FLPS-3 Power Supply):** 240 VAC, 50 HZ, 0.54 A.
- **SFP-10UDE (FLPS-7 Power Supply):** 240 VAC, 50 HZ, 2.20 A.
- **Wire size:** minimum 14 AWG (2.0 mm^2) with 600 V insulation, supervised, nonpower-limited

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Dimensions:

– 20.00" (50.80 cm.) high

– 22.5" (57.15 cm.) wide

– 8.5" (21.59 cm.) deep.

Weight: 27 lb (12.20 kg)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic SFP-5UD and SFP-10UD control panels. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** File S635
- **FM Approved**
- **CSFM:** 7165-0028:246
- **MEA:** MEA: 333-07-E

NOTE: *For ULC-listed models, see dn-60437.*

NFPA Standards

The SFP-5UD/SFP-10UD(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

– **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).

– **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTM).

– **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTM is required.)

– **PROPRIETARY** (Automatic, Manual and Waterflow).

– **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).

– **OT, PSDN** (Other Technologies, Packet-switched Data Network)

ISO 9001 CERTIFIED
ENGINEERING & MANUFACTURING
QUALITY SYSTEMS

This document is not intended to be used for installation purposes.
We try to keep our product information up-to-date and accurate.
We cannot cover all specific applications or anticipate all requirements.
All specifications are subject to change without notice.

Made in the U.S. A.

For more information, contact Notifier. Phone: (203) 484-7161, FAX: (203) 484-7118.
www.notifier.com

SFP-5UD/SFP-10UD(E)

Five Zone Fire Alarm Control Panel
Ten Zone Fire Alarm Control Panel

NOTIFIER® by Honeywell

Conventional Fire Alarm Control Panels

General

The **SFP-5UD** is a five-zone FACP (Fire Alarm Control Panel) and the **SFP-10UD(E)** is a ten-zone FACP. These control panels provide reliable fire signaling protection for small to medium-sized commercial, industrial, and institutional buildings. Both panels include built-in communicators for Central Station Service and remote upload/download.

Each of these FACPs is compatible with System Sensor's microprocessor-based i^3 series detectors. These conventional smoke detectors can transmit a maintenance trouble signal to the FACP indicating the need for cleaning and a supervisory "freeze" signal when the ambient temperature falls below the detector rating. Additionally, both the SFP-5UD and SFP-10UD are compatible with conventional input devices such as two- and four-wire smoke detectors, pull stations, waterflow devices, tamper switches, and other normally-open contact devices. Refer to the *Notifier Device Compatibility Document* for a complete listing of compatible devices.

Outputs include four NACs (Notification Appliance Circuits), three programmable Form-C relays (factory programmed for Alarm, Trouble, and Supervisory) and 24 VDC special application resettable and nonresettable power outputs. The FACPs supervise all wiring, AC voltage, battery level and telephone line integrity.

Activation of a compatible smoke detector or any normally-open fire alarm initiating device will activate audible and visual signaling devices, illuminate an indicating LED, sound the piezo sounder at the FACP, activate the communicator and FACP alarm relay, and operate an optional module used to notify a remote station or initiate an auxiliary control function.

The FireWatch Series internet monitoring modules IPDACT-2 and IPDACT-2UD permit monitoring of alarm signals over the Internet saving the monthly cost of two telephone lines. Although not required, the secondary telephone line may be retained providing backup communication over the public switched telephone line.

NOTE: *The SFP-10UDE offers the same features as the SFP-10UD but allows connection to 240 VAC. Unless otherwise specified, the information in this data sheet applies to both the 120 VAC and the 240 VAC versions of these panels.*

NOTE: *For ULC-listed models, see dn-60437.*

Features

- Listed to UL Standard 864, 9th edition.
- Built-in DACT (Digital Alarm Communicator/Transmitter).
- Style B (Class B) IDC (Initiating Device Circuit)
  - – SFP-5UD - five IDCs.
  - – SFP-10UD - ten IDCs.
- Style Y (Class B) NAC (Notification Appliance Circuit) - special application power
  - – SFP-5UD - four NACs.
  - – SFP-10UD - four NACs.
- Notification Appliances may be programmed as
  - – Silence Inhibit.
  - – Auto-Silence.

  - – Strobe Synchronization for System Sensor, Wheelock, Gentex, Faraday, or Amseco devices.
  - – Selective Silence (horn-strobe mute).
  - – Temporal or Steady Signal.
  - – Silenceable or Nonsilenceable.
- Optional N-CAC-5X Style Z (Class A) Converter Module for NACs and IDCs (2 required for SFP-10UD).
- Form-C Relays for Alarm, Trouble and Supervisory - Contact Ratings 2.0 A@ 30 VDC or 30 VAC (resistive).
- 3.0 A total system current for SFP-5UD.
- 7.0 A total system current for SFP-10UD.
- Optional Dress Panel DP-51050 (red)
- Optional Dress Panel DP-51050B (black).
- Optional Trim Ring TR-CE/-B for semi-flush mounting.
- 24 volt operation.
- Low AC voltage sense.
- Alarm Verification.
- PAS (Positive Alarm Sequence).
- Automatic battery trickle charger.
- Up to eight ANN-BUS annunciators:
  - – Optional 8 zone Relay Module N-ANN-RLY.
  - – Optional LED Annunciator Module N-ANN-LED,
  - – Optional Remote LCD Annunciator N-ANN-80.
  - – Optional Remote Printer Gateway N-ANN-S/PG.
  - – Optional LED Annunciator Driver N-ANN-I/O.
- Optional 4XTM module (conventional reverse polarity/city box transmitter).

PROGRAMMING AND SOFTWARE:

- Can be programmed at the panel with no special software or additional equipment.
- Programmable Make/Break Ratio.
- Upload/Download (local or remote) of program and data via integral DACT.

USER INTERFACE:

- Built-in DACT (Digital Alarm Communicator/Transmitter).
- Integral 80-character LCD display with backlighting and keypad.
- Real-time clock/calendar with automatic daylight savings adjustments.
- ANN-BUS for connection to remote annunciators.
- Audible or silent walk test capabilities.
- Piezo sounder for alarm, trouble, and supervisory.

Controls and Indicators

LED INDICATORS

- FIRE ALARM (red)
- SUPERVISORY (yellow)
- TROUBLE (yellow)
- AC POWER (green)
- ALARM SILENCED (yellow)

CONTROL BUTTONS

- ACKNOWLEDGE
- ALARM SILENCE
- SYSTEM RESET (lamp test)
- DRILL

Terminal Blocks

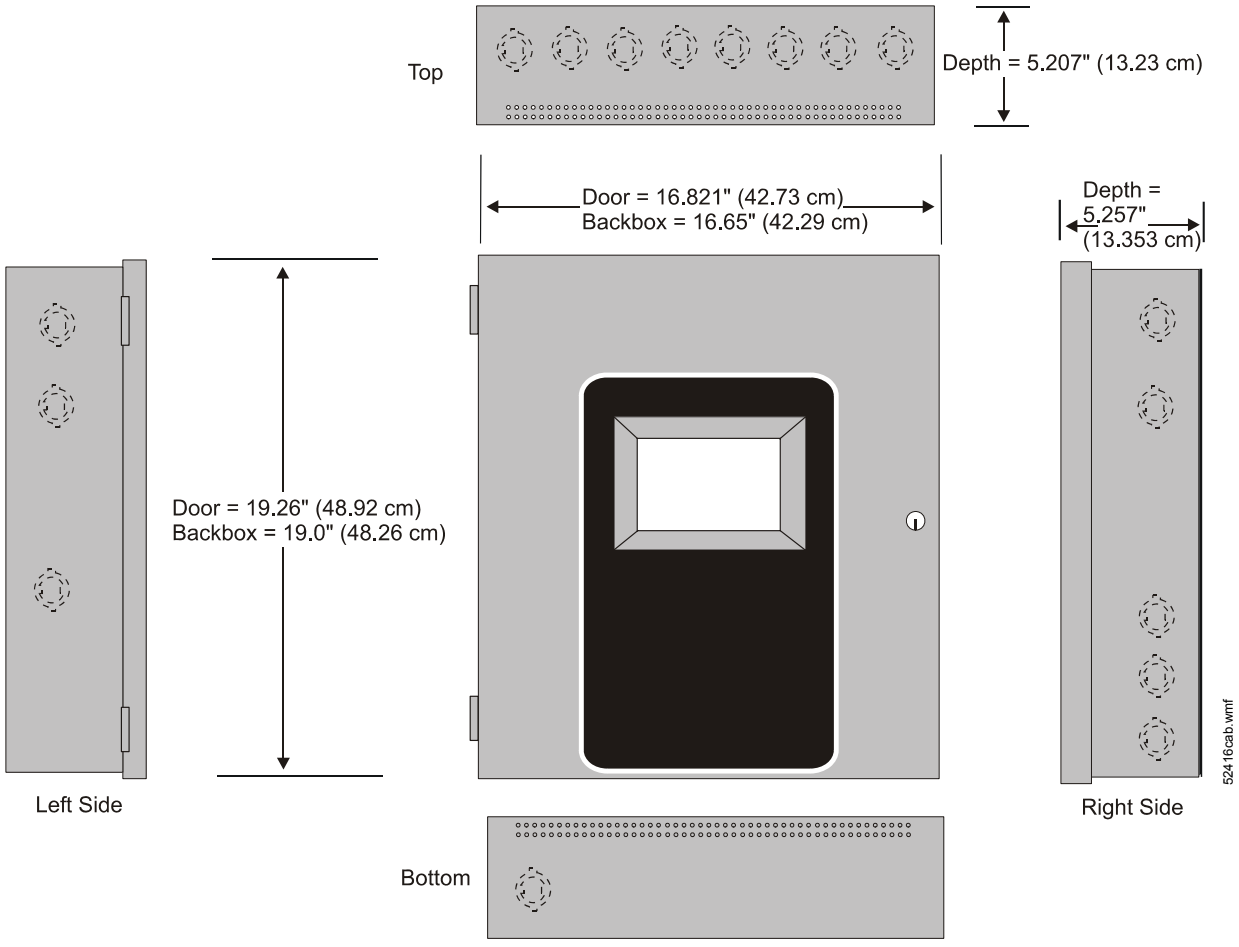
AC Power – TB1:

- *SFP-5UD* (FLPS-3 Power Supply): 120 VAC, 50/60 HZ, 1.00 A.
- SFP-10UD (FLPS-7 Power Supply): 120 VAC, 50/60 Hz, 3.8 A.
- SFP-10UDE (FLPS-7 Power Supply): 240 VAC, 50 HZ, 2.20 A.

Wire size: minimum 14 AWG (2.00 mm²) with 600 V insulation. Supervised, nonpower-limited.

Battery (sealed lead acid only) – J12:

- Maximum Charging Circuit - Normal Flat Charge: 27.6 VDC @ 1.4 A. Supervised, nonpower-limited.
- Maximum Charger Capacity: 18 AH battery for SFP-5UD, and 26 AH battery for SFP-10UD(E). [Two 18 Ah batteries can be housed in the FACP cabinet. Larger batteries require separate battery box such as the BB-26 or NFS-LBB.]
- Minimum Battery Size: 7 AH.



Cabinet Measurements

Initiating Device Circuits – TB4 (and TB 6 on SFP-10UD only):

- Alarm Zones 1 - 5 on TB 4 (SFP-5UD and SFP-10UD).
- Alarm Zones 6 - 10 on TB6 (SFP-10UD only).
- Supervised and power-limited circuitry.
- Operation: All zones Style B (Class B).
- Normal Operating Voltage: Nominal 20 VDC.
- Alarm Current: 15 mA minimum.
- Short Circuit Current: 40 mA max.
- Maximum Loop Resistance: 100 ohms.
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (P/N 71252 UL-listed).
- Standby Current: 2 mA.

Refer to the *Notifier Device Compatibility Document* for listed compatible devices.

Notification Appliance Circuits – TB5 (and TB 7 on SFP-10UD only):

- Four NACs
- Operation: Style Y (Class B)
- Special Application power
- Supervised and power-limited circuitry
- Normal Operating Voltage: Nominal 24 VDC
- Maximum Signaling Current: 3.0 A for SFP-5UD, 2.5 A maximum per NAC; 7.0 A for SFP-10UD(E), 3.0 A maximum per NAC.
- End-of-Line Resistor: 4.7K ohm, 1/2 watt (Part #71252)
- Max. Wiring Voltage Drop: 2 VDC

Refer to the *Notifier Device Compatibility Document* for compatible listed devices.

Form C Relays – TB8:

- *Relay 1* (factory default programmed as Alarm Relay)
- *Relay 2* (factory default programmed as fail-safe Trouble Relay)
- *Relay 3* (factory default programmed as Supervisory Relay)

Special Application Resettable Power – TB9:

- Jumper selectable by JP31 for resettable or nonresettable power.
- Operating voltage: 24 VDC nominal.
- Maximum available current: 500 mA - appropriate for powering four-wire smoke detectors.
- Power-limited circuit.

Refer to the *Notifier Device Compatibility Document* for listed compatible devices.

Remote Sync Output - TB2: Remote power supply synchronization output, only required for the SFP-5UD. 24 VDC nominal special application power. Maximum current is 40 mA. End-of-Line Resistor: 4.7K ohm. Supervised and power-limited circuit.

Product Line Information

SFP-5UD: Five-zone, 24-volt Fire Alarm Control Panel (includes black backbox, FLPS-3 power supply, technical manual, and a frame & post operating instruction sheet).

SFP-5UDR: Same as above in a red backbox.

SFP-10UD: Ten-zone, 24-volt Fire Alarm Control Panel (includes black backbox, FLPS-7 power supply, technical manual, and a frame & post operating instruction sheet).

SFP-10UDE: Same as above with 220 VAC FLPS-7.

SFP-10UDR: Same as SFP-10UD in a red backbox.

IPDACT, IPDACT-2/2UD Internet Monitoring Module: Mounts in bottom of enclosure with optional mounting kit (PN IPBRKT). Connects to primary and secondary DACT telephone output ports for internet communications over customer provided ethernet internet connection. Requires compatible Teldat Visoralarm Central Station Receiver. Can use DHCP or static IP. *(See data sheet DN-60389 for more information.)*

IPBRKT: Mounting kit for IPDACT in common enclosure.

IPSPLT: Y Adaptor option to allow connection of both panel dialer outputs to one cable input to IPDACT (sold separately).

OPTIONAL MODULES

N-CAC-5X: Optional (Class A) Converter Module. Converts Style B (Class B) Initiating Device Circuits to Style D (Class A); and Style Y (Class B) Notification Appliance Circuits to Style Z (Class A). Connects to J2 on the SFP-5UD and SFP-10UD main circuit board and to J7 on the SFP-10UD.

***NOTE:** Two Class A Converter Modules are required for the ten-zone panel.*

4XTM: Transmitter module. Provides a supervised output for local energy municipal box transmitter and alarm and trouble reverse polarity. Includes a disable switch and disable trouble LED. A module jumper option allows the reverse polarity circuit to open with a system trouble condition if no alarm conditions exists. Mounts to the main circuit board connectors J4 and J5.

COMPATIBLE ANNUNCIATORS

N-ANN-80: Remote LCD Annunciator. Mimics the information displayed on the FACP's LCD. Black. (For white, order: **N-ANN-80-W**.)

N-ANN-LED: LED Annunciator with three LEDs for each zone: Alarm, Trouble, and Supervisory. Includes black backbox. (For white, order **N-ANN-80-W.** For red order **N-ANN-80-R.**)

ANN-RLED: LED Annunciator with three alarm (red) indicators for up to 30 input zones or addressable points.

N-ANN-RLY: Relay module. Mounts inside the cabinet. Provides ten Form C relays.

N-ANN-S/PG: Serial/parallel printer gateway. Provides a connection for a serial or parallel printer.

N-ANN-I/O: Driver module. Provides connections to a user-supplied graphic annunciator.

ACCESSORIES

DP-51050: Optional dress panel. Restricts access to the system wiring while allowing access to the membrane switch panel. Red.

DP-51050B: Same as DP-51050 except black.

BB-26: Battery backbox, holds up to two 25 AH batteries and CHG-75.

NFS-LBB: Battery backbox, holds up to two 55 AH batteries. Black.

NFS-LBBR: Same as above in red.

TR-CE-B: Optional black trim-ring for semi-flush mounted cabinets.

TR-CE: Same as above in red.

PRN-6: UL listed printer.

SYSTEM SPECIFICATIONS

System Capacity

- Annunciators 8

Electrical Specifications

- **SFP-5UD(R) (FLPS-3 Power Supply):** 120 VAC, 60 HZ, 1.0 A
- **SFP-10UD(R) (FLPS-7 Power Supply):** 120 VAC, 60 HZ, 3.90 A
- **SFP-5UDE (FLPS-3 Power Supply):** 240 VAC, 50 HZ, 0.54 A.
- **SFP-10UDE (FLPS-7 Power Supply):** 240 VAC, 50 HZ, 2.20 A.
- **Wire size:** minimum 14 AWG (2.0 mm^2) with 600 V insulation, supervised, nonpower-limited

Cabinet Specifications

Door: 19.26" (48.92 cm.) high x 16.82" (42.73 cm.) wide x 0.72" (1.82 cm.) deep. **Backbox:** 19.00" (48.26 cm.) high x 16.65" (42.29 cm.) wide x 5.25" (13.34 cm.) deep. **Trim Ring (TR-CE):** 22.00" (55.88 cm.) high x 19.65" (49.91 cm.) wide.

Shipping Specifications

Dimensions:

– 20.00" (50.80 cm.) high

– 22.5" (57.15 cm.) wide

– 8.5" (21.59 cm.) deep.

Weight: 27 lb (12.20 kg)

Temperature and Humidity Ranges

This system meets NFPA requirements for operation at 0 – 49°C/32 – 120°F and at a relative humidity 93% ± 2% RH (noncondensing) at 32°C ± 2°C (90°F ± 3°F). However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a normal room temperature of 15 – 27°C/60 – 80°F.

Agency Listings and Approvals

The listings and approvals below apply to the basic SFP-5UD and SFP-10UD control panels. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

- **UL Listed:** File S635
- **FM Approved**
- **CSFM:** 7165-0028:246
- **MEA:** MEA: 333-07-E

NOTE: *For ULC-listed models, see dn-60437.*

NFPA Standards

The SFP-5UD/SFP-10UD(E) complies with the following NFPA 72 Fire Alarm Systems requirements:

– **LOCAL** (Automatic, Manual, Waterflow and Sprinkler Supervisory).

– **AUXILIARY** (Automatic, Manual and Waterflow) (requires 4XTM).

– **REMOTE STATION** (Automatic, Manual and Waterflow) (Where a DACT is not accepted, the alarm, trouble and supervisory relays may be connected to UL 864 listed transmitters. For reverse polarity signaling of alarm and trouble, 4XTM is required.)

– **PROPRIETARY** (Automatic, Manual and Waterflow).

– **CENTRAL STATION** (Automatic, Manual and Waterflow, and Sprinkler Supervised).

– **OT, PSDN** (Other Technologies, Packet-switched Data Network)

CONTROL FIRE SYSTEMS.COM

ISO 9001 CERTIFIED ENGINEERING & MANUFACTURING QUALITY SYSTEMS

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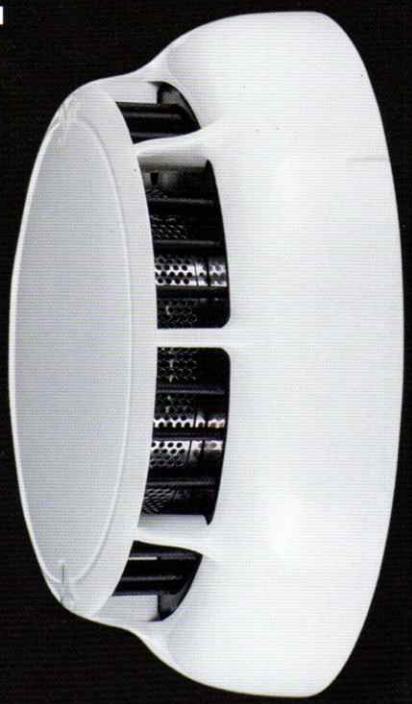


Smoke, Heat, & Multi

FEATURES

- Tested in accordance to EN54-7 Standard
- 360° LED Indicator View
- Bi-Color (Blue/Red) LED's to Display Error & Alarm Conditions
- Aesthetic and Elegant Design Fits any Environment
- Compatible with All Fire Alarm & Detection Panels

APPLICATIONS

Residential

Retail

Commercial Building

Banking

For More Information
buildings.asean@honeywell.com

Malaysia (ASEAN Headquarter)
Honeywell International Sdn. Bhd.
Level 25, UOA Corp Tower B, Avenue 10
The Vertical, Bangsar South City,
59200, Kuala Lumpur, Malaysia

XAL-53

Hazardous Location Pull Station

NOTIFIER® by Honeywell

Conventional Initiating Devices

Applications

KILLARK® fire alarm stations are suitable for:

- Hazardous areas due to the presence of flammable gases or vapors, combustible dusts or easily ignitable fibers or flyings.
- Installation at petroleum refineries, chemical and petrochemical plants, storage areas, and other processing facilities where hazardous substances are handled and stored.
- Areas where emergency control of fire alarm or signal circuits is required.

Features

- Enclosure is made of copper-free aluminum alloy.
- Conduit openings are 3/4" (19.05 mm) NPT feed-through.
- Red, textured powder epoxy paint finish is standard on box and cover and provides high visibility for alarm station.
- Universal (1) normally open and (1) normally closed contact furnished standard.
- Bilingual nameplates included per CSA requirement.
- Internal ground screw is standard.
- Wiring range is #12 AWG through #24 AWG, solid or stranded.

Operation

The alarm station is activated by lifting the front cover and pulling down ring. This quick, easy-to-use two-step process prevents unintentional operation. Operator is reset by depressing shaft and returning plate to original position.

Hazardous Area Classifications

- Class I, Divison 1 and 2, Groups C and D.
- Class I, Zones 1 and 2, Groups IIB, IIA.
- Class II, Division 1 and 2, Group E, F, and G.
- Class III, Hazardous Locations.
- NEMA 7CD, 9EFG.

Operational Data

This enclosure is made of cast, copper-free aluminum alloy. It is suitable for: Class I, Groups C and D; Class II, Groups E, F, and G; and Class III hazardous locations. All installations must comply with applicable local and/or National Electrical Code.

Like all electromechanical devices, these control stations require occasional maintenance. Parts may wear out or become defective due to adverse environmental conditions. See Maintenance Data below.

Maintenance Data

CAUTION: *Disconnect this device from the supplying circuit before removing the cover.*

1. To prevent corrosion, lubricant should be occasionally applied, as follows:
   - Killark® "LUBG" lubricant to box/cover flanges.
   - Dow Corning Molykote™ 33 Grease, light consistency, to operator shaft.
2. Keep all flanges clean and free of scratches.
3. Some internal service parts are available. Consult the Killark factory for parts breakdowns.

XAL-53
Explosion-Proof Pull Station with Pull Ring

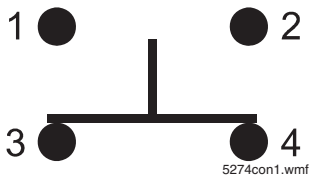
Agency Listings and Approvals

These listings and approvals apply to the modules specified in this document. In some cases, certain modules or applications may not be listed by certain approval agencies, or listing may be in process. Consult factory for latest listing status.

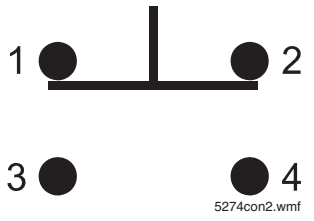
- **UL Listed:** E50498
- **ULC Listed:** E50498
- **CSA:** LR31085
- **CSFM:** 7150-1439:100

Contact Arrangement

Not Activated Position

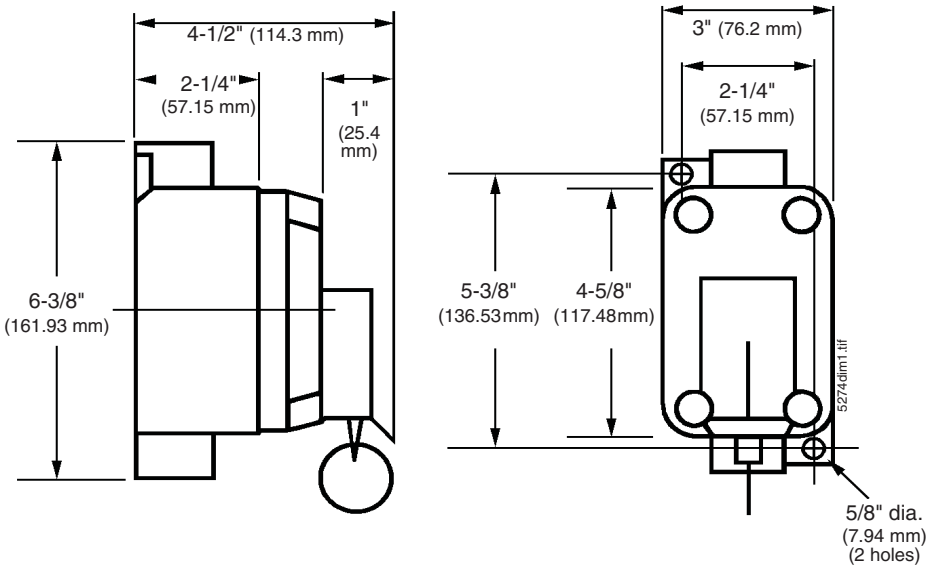


Activated Position



Contact Block Rating

AC						DC		
Volts	Make Amperes	VA	Break Amperes	VA	Continuous Carrying Amperes	Volts	Make Break	Continuous Carrying Amperes
120	60	7200	6.0	720	10	125	1.10	10
240	30	7200	3.0	720	10	250	0.55	10
480	15	7200	1.5	720	10	600	0.20	10
600	12	7200	1.2	720	10			



Product Line Information

XAL-53: Explosion-proof, N/O and N/C Contacts.

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