Technology that saves lives

VM Series Life Safety Control System

S3000

7165-1657: 309

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Description

VM Series represents the latest generation of life safety control panels for mid to large sized applications. With large multi-message displays, intuitive interfaces, and stylish contoured cabinets — these systems capture the imagination, and catch the eye. But behind the LCD display is where they really shine.

New TCP/IP-enabled microprocessors and chipsets take full advantage of the latest advances in computing technology, leading to smarter, faster, higher-capacity processing and more efficient designs. VM Series's patented Voltage Boost™ technology, for example, delivers constant voltage on NAC and AUX circuits – even at low battery power – resulting in lighter cable requirements and/or longer runs. That saves time and money.

High performance processing also leads to powerful networking features and versatile digital audio functionality. In fact, VM Series can handle jobs that range from a single stand-alone control panel, to a sophisticated network comprising as many as 24 control panels processing data from up to 24,000 devices.

High quality voice evacuation also delivers system design flexibility with scalable implementation from simple Place-of-Assembly capability right up to multi-channel operation for highrise and campus applications. VM Series features three channels of integrated digital audio. Its optional paging control center includes a high quality paging microphone to which can be added a firefighters' telephone.

VM Series makes all this new technology readily accessible with easy installation and maintenance. Electronic addressing means devices virtually install themselves, while intuitive installation and detailed diagnostic tools offer a clear and rapid path to flawless system operation.

Standard Features

- One Class A or Class B intelligent device loop standard, optional loops brings control panel capacity to 1000 devices
- 24-line by 40-character backlit LCD capable of displaying eight simultaneous events
- Optional voice evacuation and firefighter's telephone
- Part of an end-to-end audio solution suitable for low frequency signaling in sleeping areas
- Optional network interface slots are located on the back of a swingable mounting chassis
- Electronic addressing with automatic device mapping
- Optional Ethernet port for diagnostics, programming
- Supports strobe synchronization
- Supports up to 30 R-Series remote annunciators with either Class A or Class B wiring
- Networkable up to twenty four VM control panels monitoring 24,000 intelligent points
- Patented Voltage Boost™ technology delivers constant voltage on NAC and AUX circuits — even at low battery power.
- 10 Amp UL listed power supply with universal 94 to 264 Vac input voltage
- Integrated Carbon Monoxide gas sensing with V-PCOS detectors including distinct audible signaling
- Four on-board Notification Appliance Circuits
- Room for three optional front panel LED/Switch modules
- Optional Ethernet interface
- UL2572; UL864 UUKL; UL 864 Listed for releasing applications using GSA-REL
- Optional earthquake hardening: seismic Importance Factor 1.5

Application

Application flexibility is where VM's leading edge computing power is put to best use. This generation of control panels is equally at home as the center of a simple single-building standalone system as it is when part of a sophisticated life safety network serving thousands of points across multiple buildings. Optional voice evacuation bridges the gap left by other mid-range systems, and makes these panels a cost-effective solution for most applications.

Efficient, cost-effective networking

Networking is among VM Series's strong suits. A simple VM Series network can comprise up to twenty-four control panels – enough to serve the needs of most campuses and larger buildings. Highly efficient RS485 connectivity, plus fiber-optic communications deliver faster response times and more sophisticated diagnostic capabilities, while cost-effective remote annunciation solutions keep basic monitoring and control always within reach.

Audio that speaks for itself

VM Series features three channels of integrated digital audio with up to two minutes of on-board programmable message storage. An optional paging control center includes a high quality paging microphone to which can be added a firefighters' telephone. Auxiliary inputs are available for mass notification operations and connection to external systems.

An optional paging microphone provides local, as well as remote, audio functions.

Versatility built right in

The VM control panel has room for three fully-programmable front panel switch/LED strips. Each strip includes 12 switches with two associated LEDs (one quad-color, and one yellow), and a custom label area. LED color designations are assigned by the installer.

Perfect for retrofits

VM Series is particularly well-suited to retrofit applications. All connections are made over standard wiring – no shielded cable required. This means that in most situations existing wiring can be used to upgrade a legacy control panel to VM Series technology without the expense or disruption of rewiring the entire building.

Clear-cut remote annunciation

Up to 30 R-Series LCD, LED annunciators and driver interface cards may be configured for each control panel on the VM Series network. Compatible annunciators include a range of LED and LCD models that provide zone or point annunciation, as well as common control capabilities. VM Series also supports graphic annunciation with optional graphic snnunciator interface modules. Each interface provides common control, indicators, and 32 LEDS. Expansion units provide 48 led outputs.

Up to 30 R-Series annunciators may be configured for each panel on the VM Series network.

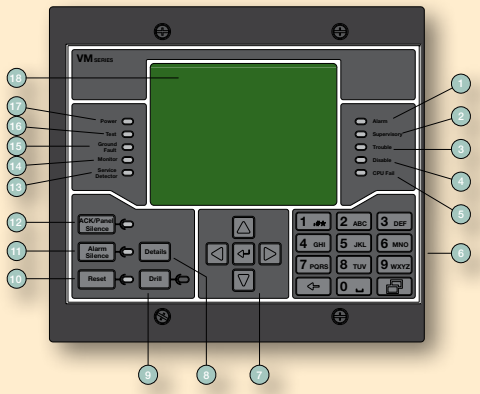
Power that goes the distance

Kidde's patented Voltage Boost™ technology delivers constant 22.5 Vdc on NAC and AUX circuits – even at low battery power. This means lighter gauge cable can be used for equivalent distances compared with conventional power supplies, or longer wire runs on the same gauge cable. Either way, this breakthrough technology saves time and equipment costs, making VM Series not only a high-performance solution — but a cost-effective one as well.

Scalable IP and Cellular Communications

Several popular third-party IP/Cellular communicators have been tested with the VM control panel and are compatibility listed to UL864. The IP/Cellular communicators meet NFPA72 2013 edition requirements for sole or secondary transmission paths. Using IP/Cellular communicators can reduce the cost of ownership by eliminating POTS lines. Please see the VM control panel compatibility documentation part number 3101804-EN for a full list of compatible communicators.

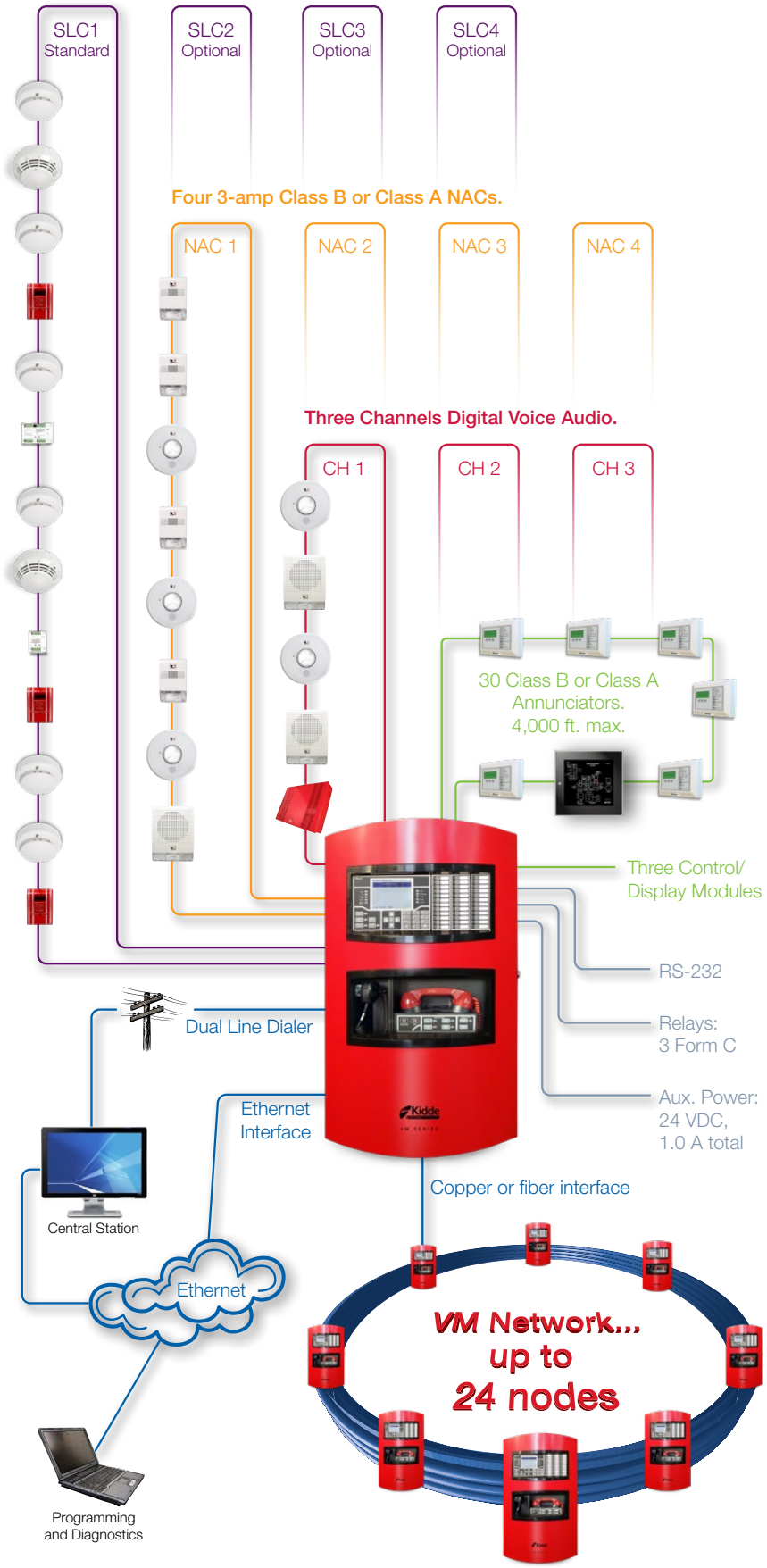
Operation



1	Alarm LED	Flashing indicates new alarm events. On indicates all alarm events have been acknowledged.
2	Supervisory LED	Flashing indicates new supervisory events On indicates all supervisory events have been acknowledged.
3	Trouble LED	Flashing indicates new trouble events. Steady indicates all trouble events have been acknowledged.
4	Disable LED	Indicates a system component has been disabled.
5	CPU Fail LED	Indicates a CPU processor failure.
6	Keypad	Includes alphanumeric keys, backspace key, and menu key.
7	Cursor controls	Includes up, down, left, and right arrow keys, and Enter key.
8	Details button	Displays additional information on the selected event.
9	Drill button	Activates audible alarm signals and, if configured, visible alarm signals. The LED indicates that Drill operation is active.
10	Reset button/ LED	Resets the fire alarm system. The LED indicates the panel is resetting.
11	Alarm Silence button/LED	Silences alarm signals. The LED indicates that Alarm Silence is active.
12	ACK/Panel Silence button/LED	Silences the panel buzzer and acknowledges all new events. The LED indicates that Panel Silence is active.
13	Service Detector LED	Indicates a detector needs servicing
14	Monitor LED	Flashing indicates new monitor events. On: Indicates all monitor events have been acknowledged.
15	Ground Fault LED	Indicates a system ground fault.
16	Test LED	Indicates system components are being tested.
17	Power LED	On indicates the panel is using primary power. Off iIndicates the panel (or another panel on the network) is using battery power.
18	LCD	Displays system status, event messages, reports, and operator menus.

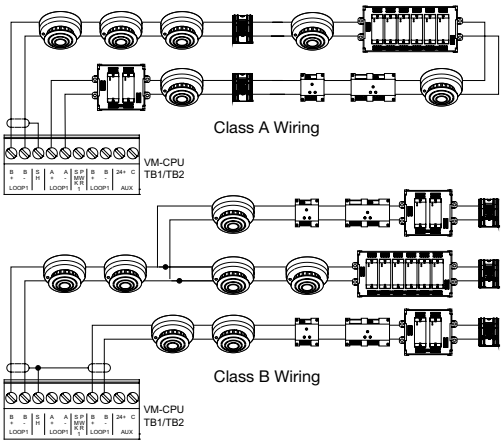
System Layout

Up to Four Intelligent Analog Loops.

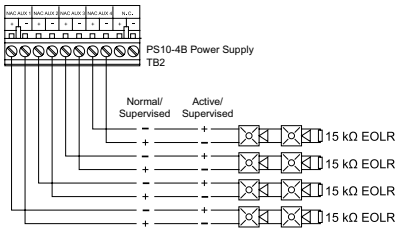


Wiring

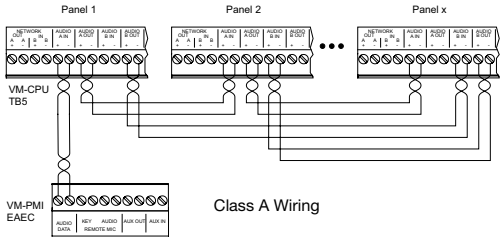
Signaling Line Circuit



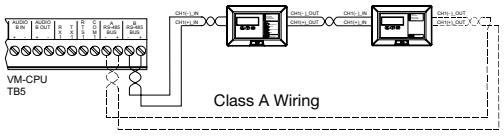
Notification Appliance Circuits



Digital Audio Riser

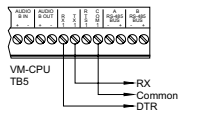


RS-485 bus wiring for remote annunciators

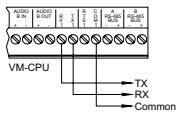


RS-232 wiring

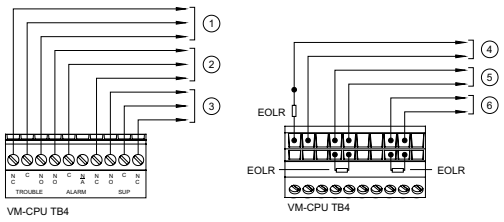
Supervised Printer, RS-232 wiring



Unsupervised Printer, RS-232 wiring

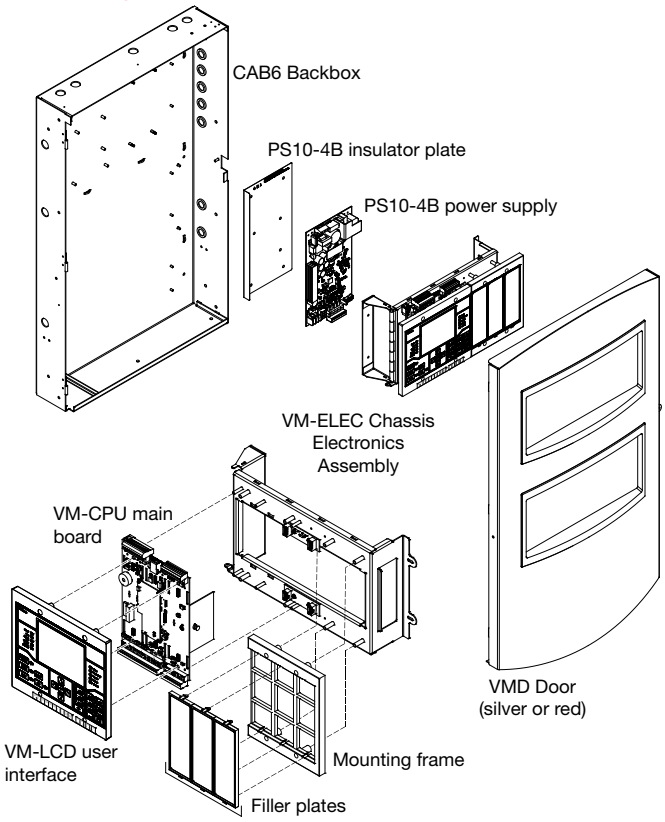


Common relays



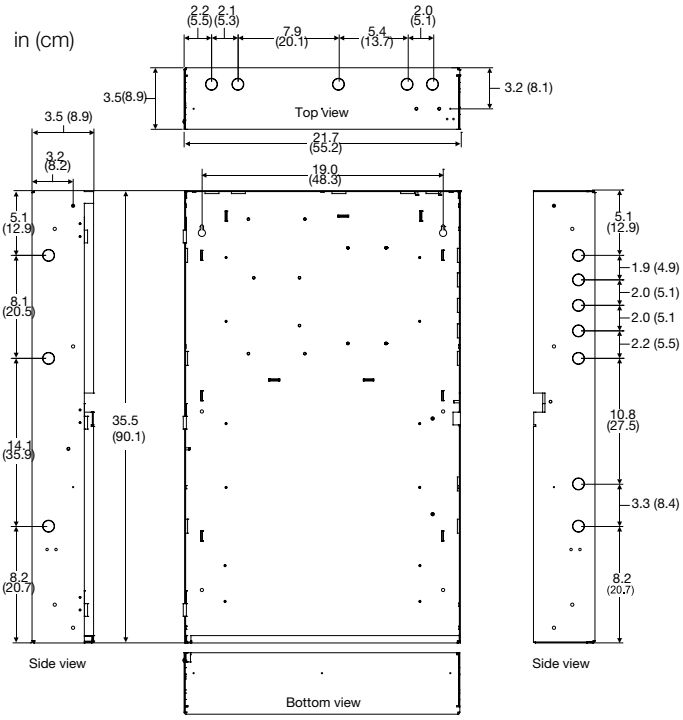
1. Trouble circuit
2. Alarm circuit
3. Supervisory circuit
4. External trouble input circuit
5. External alarm input circuit
6. External supervisory input circuit

Assembly



Dimensions

The backbox is designed for semiflush or surface mounting. Conduit and nail knockouts, keyhole style mounting holes, and wide wiring troughs facilitate efficiency during installation.



Note: Add 0.25 in (0.64 cm). to height and width dimensions to allow for knockouts when framing in the backbox for semiflush mounting.

Specifications, standard equipment

Main Board The VM-1 consists of the following components, CPU main board, LCD display, one SLC card, power supply, back box and door. The CPU main board processes all information from modules installed in the same cabinet and from other control panels on the VM network.

Voltage	24 VDC
Current	
Standby	381mA
Alarm	481mA
Common relays	
Quantity	3 (Alarm, Supervisory, Trouble)
Type	Form C
Rating	30 VDC at 1 A
RS-232 circuit	
Baud rate	1200 to 38400
Length	50 ft. (6 m) max.
Resistance	13 Ω max.
Capacitance	0.7 µF max.
Remote annunciator circuit	
Length	4,000 ft. (1,219 m) max.
Resistance	90 Ω max.
Capacitance	0.3µF max.
Compatible devices	RLCD-C, RLCD, RLED-C, GCI
Wire size	18 to 12 AWG (0.75 to 2.5 mm²)
Ground fault impedance	10 kΩ

PS10-4B Power Supply Board provides the required power and related supervision functions for the control panel as well as filtered, regulated power. It also provides 24 VDC for operating ancillary equipment.

Voltage	93 to 264 VAC, 50/60 Hz
Current	Power supply current is included in the total current shown under VM1 above.
Current at 120 V, 50/60 Hz	3 A max.
Current at 240 V, 50/60 Hz	1.5 A max.
Power output	
UL	24 VDC at 10 A [Note 1]
ULC	24 VDC at 9.0 A [Note 1]
Brownout level	93 VAC at 50/60 Hz
Rechargeable battery circuit	
Voltage	24 VDC
Charging current	1.5 or 3 A, selectable
Charging capacity	65 Ah max.
Type	Sealed lead acid only
Battery operating voltage	20.4 V min.
Notification appliance/Auxiliary power circuits	
Quantity	4
Circuit designation	
NAC	Class B (Style Y]
AUX	Class B
Output voltage	
NAC	24 VDC
AUX	24 VDC
Output current, NAC	
Regulated	3.0 A max. per circuit 6.0 A total, shared
Special application	3.0 A max. per circuit 9.0 A total, shared
Output current, AUX	6.0 A total, shared
EOLR	15 kΩ (UL P/N EOL-15, ULC P/N EOL-P1)
Wire size	18 - 12 AWG (0.75 - 2.50 mm²) [Note 2]
Ground fault impedance	10 kΩ
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Note 1: Internal and NAC/AUX outputs
Note 2: Mains wiring is typically 18 to 12 AWG (0.75 mm² to 2.50 mm²

VM-SLCXB Signaling Line Expansion Card

This Card provides up to two Class A or Class B data circuits for V-Series detectors and GSA modules. The VM-SLCXB includes one preinstalled VM-SLC signaling line circuit card. A second SLC card (separately purchased) can be added to provide an additional device loop.

Voltage	19.0 VDC nom., 24 VDC max.
Current with full loop of devices for one circuit	
Standby	144 mA at 24 VDC
Alarm	204 mA at 24 VDC
Current with full loop of devices for two circuits	
Standby	264 mA at 24 VDC
Alarm	336 mA at 24 VDC
Smoke power	
Voltage	24 VDC max.
Current	19.95 mA
Circuit	
Designation	Class B or Class A
Capacity	125 detector and 125 module addresses per circuit
Resistance	100 Ω max.
Capacitance	0.5 µF max.
Wire size	12 to 18 AWG (1.0 to 4.0 mm²) max.
Wire size	12 to 18 AWG (1.0 to 4.0 mm²) max.
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

VM-SLC Signaling Line Circuit Card

provides one Class B or Class A signaling line circuit loop on a VM-CPU main board that supports up to 125 detector and 125 module addresses. The card also provides resettable 24 VDC for powering conventional two-wire smoke detector circuits on V-Series modules.

Quantity	One standard, second card optional
Current for a second loop with full loop of devices	
Standby	120 mA at 24 VDC
Alarm	132 mA at 24 VDC
Circuit	
Designation	Class B (Style 4), Class A (Style 6)
Capacity	125 detector and 125 module addresses per circuit
Resistance	100 Ω max.
Capacitance	0.5 µF max.
Smoke power output	
Voltage	24 VDC
Current	85 mA
AUX power output	24 VDC, resettable or continuous 1.0 A each circuit, 1.0 A total
Wire size	18 to 12 AWG (0.75 to 2.5 mm²)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Specifications, network options

Fiber Optic Transceivers

are used with a fiber optic network module to provide transmission and reception capability over fiber optic cable for fire control panels. Class B and Class A configurations are supported.

Operating voltage	24 VDC
Budget	
SMXLO2	15 dBm between two interfaces
SMXHI2	25 dBm max. and 8 dBm min. between two interfaces
MMXVR	10 dBm between two interfaces
Wavelength	
SMXLO2, SMXHI2	1300 nm
MMXVR	820 nm
Cable type	
SMXLO2, SMXHI2	8.3/125 µ
MMXVR	50/125 µ, 62.5/125 µ, or 100/140 µ
Connector type	
SMXLO2, SMXHI2	Duplex SC
MMXVR	ST
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

VM-NOC RS-485 Network Option Card

is used to connect up to eight VM-1 panels. The card enables two independent RS-485 circuits for network data and digital audio communications. Class B and Class A wiring is supported.

Voltage	24 VDC
Current	
Standby	98 mA at 24 VDC
Alarm	98 mA at 24 VDC
Signal level	5 Vp-p
Circuit designation	
Network data	Class B (Style 4), Class A (Style 6)
Network audio	Class B (Style 4), Class A (Style 6)
Isolation	
Network data	A port not isolated B port isolated
Network audio	A IN and B IN isolated A OUT and B OUT not isolated
Wire size	Twisted-pair, 6 twists/ft., min. 18 to 12 AWG (0.75 to 2.5 mm²)..
Circuit length	5,000 ft. (1,524 m) between any three panels
Circuit resistance	90 Ω max.
Circuit capacitance	
Network data	0.3 µF max.
Network audio	0.09 µF max.
Control panels	8 max.
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

VM-NOCF Fiber Network Option Module provides a fiber optic, or combination fiber optic and RS-485 communication path, for VM-1 control panels.

Operating voltage	24 VDC
Current rating	105mA Standby 105mA Alarm Add 71.2 mA for each SMXLO2 and SMXHI2 Add 20 mA for each MMXVR
Fiber optics network and audio	
Budget	
SMXLO2	15 dBm max. between two interfaces
SMXHI2	8 to 25 dBm between two interfaces
MMXVR	10 dBm max. between two interfaces
Cable type	
SMXLO2, SMXHI2	8.3/125µ
MMXVR	50/125µ, 62.5/125µ, or 100/140µ
Connector type	
SMXLO2, SMXHI2	Duplex SC
MMXVR	ST
Wavelength	
SMXLO2, SMXHI2	1300 nm
MMXVR	820 nm
Network data circuit	
Circuit configuration	Class B (Style 4) or Class A (Style 7)
Data rate	19.2 and 38.4 Kbps Isolated from previous panel CPU when using wire
Isolation	Total isolation when using fiber optic cable
Digital audio circuit	
Circuit configuration	Class B (Style 4) or redundant Class B (Style 7) [Note 1]
Data rate	327 Kbps Isolated from previous panel CPU when using wire
Isolation	Total isolation when using fiber optic cable
Network data circuit wire segment	
Circuit	
Length	5,000 ft. (1,524 m) max. between any three panels
Resistance	90 Ω max.
Capacitance	0.3 µF max. [Note 2]
Wire type	Twisted pair, 18 AWG (0.75 mm²) min.
Digital audio circuit wire segment	
Circuit	
Length	5,000 ft. (1,524 m) max. between any three panels
Resistance	90 Ω max.
Capacitance	0.09 µF max. [Note 2]
Wire type	Twisted pair, 18 AWG (0.75 mm²) min.
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Note 1: Must be installed in separate conduit.
Note 2: Include shield capacitance.

Specifications, audio options

VM-MFK Master Firefighters' Telephone adds two-way firefighters' telephone capability to a VM-PMI Paging Microphone Interface. The VM-MFK and the VM-PMI comprise the fire command center.

Voltage	24 VDC
Current	
Standby	37 mA
Alarm	39 mA
Telephone riser	
Circuit designation	Class A or Class B
Line impedance	52 Ω, 0.2 µF max.
EOL resistor	4.7 kΩ
Active telephones	5 max.
Ground fault impedance	1 kΩ
Wire size	18 to 12 AWG (0.75 mm² to 2.50 mm²) Shielded twisted-pair
Isolation	Isolated and supervised
Controls and indicators	
Common	
Paging Volume	Indicates the relative signal strength during an active page
Ready To Page	Flashes during preannouncement tone, steady when ready to page
Firefighter telephone	
Page By Phone	Activates and deactivates the remote firefighter telephone to paging channel
Buzzer Silence	Silences the call-in request buzzer
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

VM Remote Microphone provides remote paging capability throughout a building or campus. Each remote microphone has two inputs for connecting other remote microphone units. The paging circuit supports up to 63 interconnected remote paging stations.

Voltage	21 to 27 VDC
Current	52 mA
Wiring Type	
Audio out	14 to 18 AWG (1.0 to 2.5 mm²) max., shielded twisted-pair, in conduit
Key out	14 to 18 AWG (1.0 to 2.5 mm²) max., twisted-pair, in conduit
Resistance	210 Ω max.
Capacitance	1 µF
Audio Output	1 VRMS at 400 to 4,000 Hz (4 kHz)
Trouble relay	
Current	1 A at 30 VDC resistive
UL rating	Common
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

VM-PMI Paging Microphone Interface with EAEC Emergency Audio Evacuation Controller Card provides controls for emergency voice/alarm communication and two-way firefighters' telephone communication. The VM-PMI consists of an audio mounting bracket, EAEC Emergency Audio Evacuation Controller card, enclosure, and paging microphone.

The EAEC Emergency Audio Evacuation Controller Card provides the audio source interface for emergency voice/alarm communication and two-way firefighters' telephone communication. In addition, the card includes an RJ-11 connection for downloading an audio database.

Voltage	24 VDC
Current	
Standby	23 mA
Alarm	29 mA
Remote microphone input	Isolated and supervised
AUX input	
Impedance	1 kΩ
Level	0.2 VRMS to 1.0 VRMS
Frequency response	100 Hz to 4 kHz
Ground fault impedance	10 kΩ
Wire size	18 to 12 AWG (0.75 mm² to 2.50 mm²)
Audio channels	4 simultaneous
Audio inputs	
Local microphone	Isolated and supervised
Remote microphone	Isolated and supervised
Firefighter telephone	Isolated and supervised
Remote audio	Isolated and supervised
Messages	
Storage	2 min
Length	39 s max.
Controls and indicators	
Common	
Paging Volume	Indicates relative signal strength during active page
Ready To Page	Flashes during preannouncement tone, steady when ready to page
Paging Microphone	
All Call	Activates/deactivates page to all areas
All Call Minus	Activates/deactivates page to areas not receiving EVAC or Alert message
Page To Evac	Activates/deactivates page to areas currently receiving EVAC message
Page To Alert	Activates/deactivates page to areas currently receiving Alert message
Firefighter Phone	
Page By Phone	Activates/deactivates remote firefighter telephone to paging channel
Buzzer Silence	Silences call-in request buzzer
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

D12LS-VM Control-Indicating Module provides additional operator interface capability. The module consists of 12 groups of two LED-switches arranged as a top LED that is software programmable to amber, red, blue, or green, and a bottom amber LED.

Voltage	24 VDC
Current Standby Alarm	 11 mA. 11 mA plus 2.5 mA for each active LED, 58 mA max.
Operating environment Temperature Relative humidity	 32 to 120°F (0 to 49°C) 0 to 93% noncondensing

ACHS Audio Channel Selector Card converts digital audio from an EAEC card into an analog preamp signal. A VM-1 control panel supports up to three ACHS cards.

Voltage	24 VDC
Current	
Standby	47 mA
Alarm	64 mA
Circuit	
Designation	Class B (Style Y) or Class A (Style Z)
Output	1 VRMS analog signal
Resistance	100 Ω max.
Capacitance	0.2 µF
EOL resistor	15 kΩ
Wire size	18 - 12 AWG (0.75-2.50 mm²), twisted pair [1]
Amplifier capacity	Fifteen AA30/50 amplifiers per ACHS
Compatible controllers	EAEC, AMK-RN, VM-MFK
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Voice Evacuation in Sleeping Areas

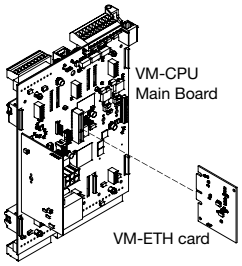
VM system audio components are system is part of an end-to-end low frequency solution listed to UL 464 and UL 864. The system is approved for code-compliant 520 Hz signaling in sleeping areas when used in conjunction with:

- integrated voice audio capability
- a factory-supplied 520 Hz audio file
- one or more Genesis High Fidelity speakers (G4HF or GCHF series)

Consult the VM Control Panel Compatibility List for details.

VM-ETH Ethernet Adapter Cards

Three optional Ethernet adapter cards are available for VM applications. Each of these provide specific features such as panel programming, diagnostics, and status monitoring, as well as central station connectivity, and email or email-to-text messaging capability.



Supported communications	ETH1	ETH2	ETH3
Standard 10/100 Base-T Ethernet network connection for panel programming and diagnostics	•	•	•
IP Dialer Communications		•	•
Email and Text Communications			•

Each VM control panel supports up to eight IP services, which can provide connection to any combination of the following functions:

- Programming
- IP Dialer (IP-DACT)
- Email

Each VM network supports up to:

- 100 Dialer Accounts, and;
- 100 Email Accounts (up to 20 email addresses per account).

VM-ETH1, VM-ETH2, VM-ETH3 Specifications

See Ordering Information for adapter card functional descriptions

Ethernet	10/100 Base-T
Voltage	24 VDC
Current	
Standby	42 mA
Active	54 mA at 24 VDC
Connection mode	Auto negotiation
Wire runs	
Distance	200 ft. (60 m) max. [Note 1]
Type	Standard Cat 5 or Cat 5e
Connector	RJ-45
IP address	192.168.001.003 (default)
Subnet mask	255.255.255.0 (default)
Default port ID	2501
Gateway	000.000.000.000 (default)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Note 1: Panel to communication equipment

VM-DACT Dual Line Dialer Card provides dialer communications between the VM-1 control panel and remote locations over telephone lines. Alarm, supervisory, and trouble information is transmitted to the remote site using one or two telephone lines in dual or split format to any desired receiver.

Voltage	24 VDC
Input power	
Supervisory	60 mA
Active	95 mA
Output	19.2 or 38.4 Kbps
Output current	100 mA max.
Phone line	One/two loop start line on public switched telephone network, pulse, or DTMF dialing (party, ground start, and PBX lines are not acceptable.)
Modem	V.32 bis 14.4 Kbaud
Dialer protocol	Contact ID
Wall connector	Standard RJ-31X or RJ-38X phone jack
Line supervision	
Trouble	When on-hook line voltage < 10 V
Off-hook current	< 10 mA
Telco compliance	Communications Canada CS-03, FCC/CFR 47 Part 68
FCC registration number	EDWUSA-47115-AL-E
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

Ordering Information

Intelligent Analog Control Panels		
VM-1R (English)	VM-1R-FR -CA (French Canadian)	FACP complete system with user interface, CPU, one addressable loop, four Class B NACs, Universal 110/220v 10 Amp power supply, red door. Order VM-SLC for second loop.
VM-1S (English)	VM-1S-FR -CA (French Canadian)	FACP complete system with user interface, CPU, one addressable loop, four Class B NACs, Universal 110/220v 10 Amp power supply, silver door. Order VM-SLC for second loop.

Option modules and accessories for VM series	
VM-SLCXB	Signaling Line Expander Card, comes with one loop, for a second loop order VM-SLC.
VM-SLC	Loop Expansion Module, 250 addressable devices total: 125 detectors, 125 modules.
VM-SLC-HC	High Capacity Loop Expansion Module. For use with circuits that contain more than 90 isolators.
VM-DACT	Dialer, dual line.
D12LS-VM	Control/Indicating Display Strip, 12 groups: two LEDs (1 4-color, 1 yellow) with switch.
VM-BF	Blank Front, Outer Door Window
CLA-PS10	Class A Adapter, PS10 NACs.
CAB6BEQ	Seismic hardening Kit for batteries up to 17Ah. Larger batteries use external cabinet BC-1.
VM-MFKEQ	Master Firefighter Telephone Seismic Kit
MIR-PRT/S	Desk mount printer
BC-1	Free-standing battery cabinet with key lock
BC-1R	Free standing battery cabinet with key lock; Red
BC-1EQ	Seismic hardening Kit for BC-1 series enclosure
VM-ELEC	Replacement Base Electronics kit.
VM-ELEC -FR-CA	Base Electronics, replacement, Kidde. French Canadian Language
PS10-4B	Replacement power supply

Note: For earthquake anchorage, including detailed mounting weights and center of gravity detail, please refer to *Seismic Application Guide 3101987-EN.* Approval of panel anchorage to site structure may require local AHJ, structural, or civil engineer review.

Audio components	
VM-PMI	Audio System Control and Paging Interface. Includes audio control unit, interconnect cables, mounting plate, paging interface with microphone, and user controls.
VM-PMI-LK -FR-CA	PMI language kit, includes paging microphone and Fire fighter phone language kit - French Canadian Language.
VM-MFK	Master Firefighters' Telephone Kit. Includes single riser interface (Class B or A), and master telephone. Requires VM-PMI for mounting.
ACHS	Audio Channel Selector, one channel, supervised preamp output, three max per panel.
EAEC	Emergency Audio Evacuation Controller, board only. For replacing controller in VM-PMI.
AMK-RN	Audio mounting kit. Used to mount ACHS option cards in control panels without audio system control components.
VM-ARM	Remote Microphone, includes cabinet. (Add "S" for surface.)
SIGA-AA30	30 Watt Intelligent Audio Amplifier
SIGA-AA50	50 Watt Intelligent Audio Amplifier
APS6A	6.5 Amp Booster Power Supply
APS10A	10 Amp Booster Power Supply

Network communication options	
VM-NOC	Network Option Card, RS485, Class B and Class A wiring.
VM-NOCF	Fiber Optic Communications Interface, Class A/B Network, Class A/B Audio Data. Provides single and/or multi mode network and digital audio fiber optic connections. Order VM-MMXVR, VM-SMXHI2 or VM-SMXLO2 transceivers separately.
MMXVR	Standard Output Multi Mode Fiber Optic Transceiver for VM-NOCF. ST connectors.
SMXHI2	High Output Single Mode Fiber Optic Transceiver for VM-NOCF. Duplex SC connectors.
SMXLO2	Standard Output Single Mode Fiber Optic Transceiver for VM-NOCF. Duplex SC connectors.

Ethernet communication Options	
VM-ETH1	Ethernet Adapter, 10/100, provides Ethernet connection from system to VM-CU for programming and diagnostics remotely. Uses standard Ethernet cable (not supplied).
VM-ETH2	Ethernet adapter card provides all the function of the VM-ETH1 plus the added capability of communicating to compatible digital alarm receivers. Please refer to the VM UL Compatibility List for the latest compatible receivers.
VM-ETH3	Ethernet adapter card provides all the function of the VM-ETH2 plus the added capability of sending email messages as well as SMS text messages by means of email-to-text.

Programming Tools	
VM-CU	Programming software CD, VM series control panels. Requires USB hasp.

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Website: kidde-esfire.com

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Bradenton, FL 34202

Technology that saves lives

ELECTRONIC ADDRESSING
Compatible with VS & VM control systems

Manual Pull Stations

GSA-M270, GSA-M270P, GSA-M278

GSA-M270 SERIES

GSA-M278

7150-1483: 0139

FM APPROVED

MEA

S2318

Overview

The GSA-M270 and GSA-M278 series Manual Pull Stations are part of Kidde's Signature Series system. The GSA-M270 Fire Alarm Manual Pull Stations feature our very familiar teardrop shape. They are made from die-cast zinc and finished with red epoxy powder-coat paint complemented by aluminum colored stripes and markings. With positive pull-lever operation, one pull on the station handle breaks the glass rod and turns in a positive alarm, ensuring protection plus fool-proof operation. Presignal models (GSA-M270P) are equipped with a general alarm (GA) keyswitch for applications where two stage operation is required. The up-front highly visible glass rod discourages tampering, but is not required for proper operation.

Kidde's double action single stage GSA-M278 station is a contemporary style manual station made from durable red colored lexan. To initiate an alarm, first lift the upper door marked "LIFT THEN PULL HANDLE", then pull the alarm handle.

Standard Features

Note: *Some features described here may not be supported by all control systems. Check your control panel's Installation and Operation Guide for details.*

- **Traditional familiar appearance**
  GSA-M270 models feature our familiar teardrop design with simple positive pull action and sturdy die-cast metal body.
- **One stage (GA), two stage (pre-signal), and double action models**
  GSA-M270 models are available for one or two stage alarm systems. The single stage double action GSA-M278 features a rugged Lexan housing with keyed reset mechanism.
- **Break glass operation**
  An up-front visible glass rod on the GSA-M270 discourages tampering.
- **Intelligent device with integral microprocessor**
  All decisions are made at the station allowing lower communication speed while substantially improving control panel response time. Less sensitive to line noise and loop wiring properties; twisted or shielded wire is not required.
- **ADA Compliant**
  Meets ADA requirements for manual pull stations.
- **Electronic Addressing with Non-volatile memory**
  Permanently stores programmable address, serial number, type of device, and job number. Automatically updates historic information including hours of operation, last maintenance date, number of alarms and troubles, and time and date of last alarm.
- **Automatic device mapping**
  Each station transmits wiring information to the loop controller regarding its location with respect to other devices on the circuit.
- **Stand-alone operation**
  The station inputs an alarm even if the loop controller's polling interrogation stops.
- **Diagnostic LEDs**
  Status LEDs; flashing GREEN shows normal polling; flashing RED shows alarm state.
- **Designed for high ambient temperature operation**
  Install in ambient temperatures up to 120 °F (49 °C).

Application

The operating characteristics of the fire alarm stations are determined by their sub-type code or “Personality Code”. NORMALLY-OPEN ALARM - LATCHING (Pesonality Code 1**)** is assigned by the factory; no user configuration is required. The device is configured for Class B IDC operation. An ALARM signal is sent to the loop controller when the station’s pull lever is operated. The alarm condition is latched at the station.

Compatibility

Signature Series manual stations are compatible only with Kidde’s Signature Loop Controller.

Warnings & Cautions

This device will not operate without electrical power. As fires frequently cause power interruption, we suggest you discuss further safeguards with your local fire protection specialist.

Testing & Maintenance

To test (or reset) the station simply open the station and operate the exposed switch. The GSA-M270 series are opened with a tool; the GSA-M278 requires the key which is supplied with that station.

The station’s automatic self-diagnosis identifies when it is defective and causes a trouble message. The user-friendly maintenance program shows the current state of each Signature series device and other pertinent messages. Single devices may be deactivated temporarily, from the control panel. Availability of maintenance features is dependent on the fire alarm system used.

Scheduled maintenance (Regular or Selected) for proper system operation should be planned to meet the requirements of the Authority Having Jurisdiction (AHJ). Refer to current NFPA 72 and ULC CAN/ULC 536 standards.

Typical Wiring

The fire alarm station’s terminal block accepts #18 AWG (0.75mm^2) to #12 AWG (2.5mm^2) wire sizes. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.

Wiring Notes

1. Refer to Signature Loop Controller manual for maximum wire distance.
2. All wiring is power limited and supervised.

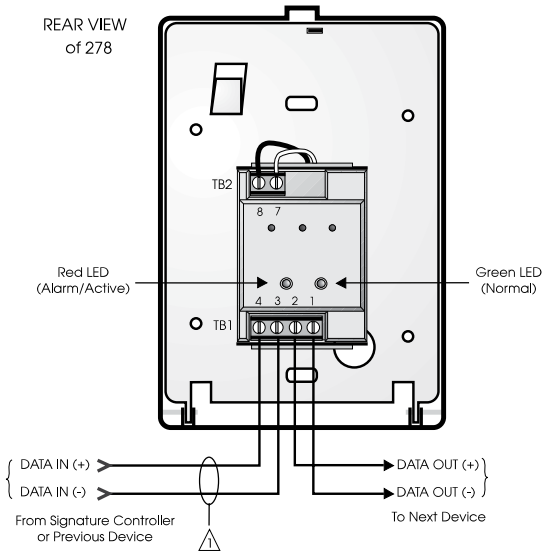

Figure 4. Single Stage Systems

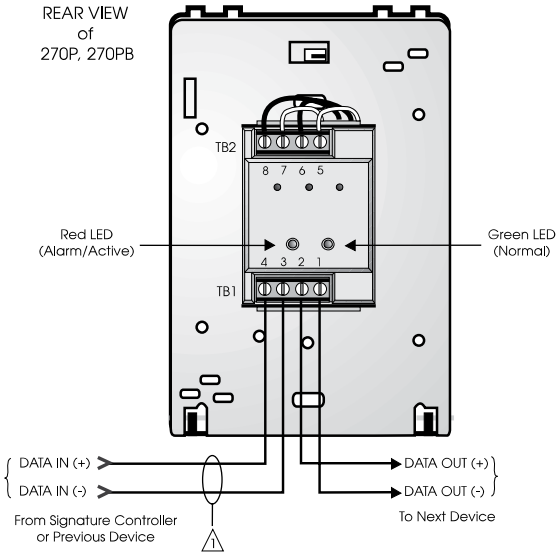

Figure 5. Two Stage Systems

Installation

Single-stage Signature Series fire alarm manual pull stations mount to North American 2½ inch (64 mm) deep 1-gang boxes.

Two stage presignal (270P) models require 1½ inch (38 mm) deep 4-inch square boxes with 1-gang, ½-inch raised covers. Openings must be angular. *Rounded openings are not acceptable.* Recommended box: Steel City Model 52-C-13; in Canada, use Iberville Model CI-52-C-49-1/2.

All models include terminals are suited for #12 to #18 AWG (2.5 mm^2 to 0.75 mm^2) wire size. Kidde recommends that these fire alarm stations be installed according to latest recognized edition of national and local fire alarm codes.

Electronic Addressing: The loop controller electronically addresses each manual station, saving valuable time during system commissioning. Setting complicated switches or dials is not required. Each station has its own unique serial number stored in its on-board memory. The loop controller identifies each device on the loop and assigns a "soft" address to each serial number. If desired, the stations can be addressed using the SIGA-PRO Signature Program/Service Tool.

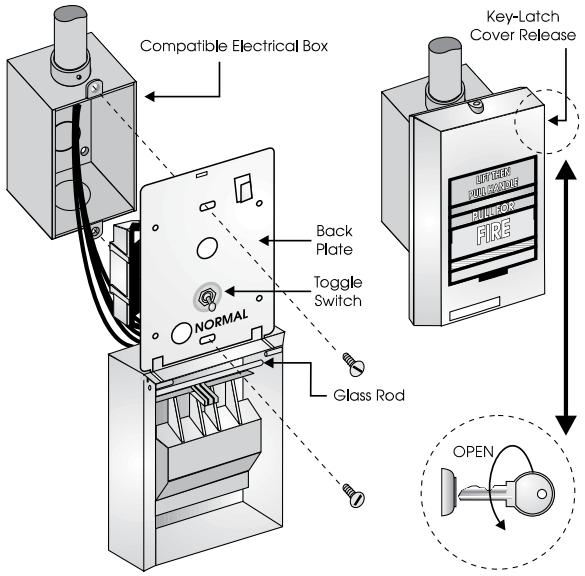

Figure 1. GSA-M278 installation

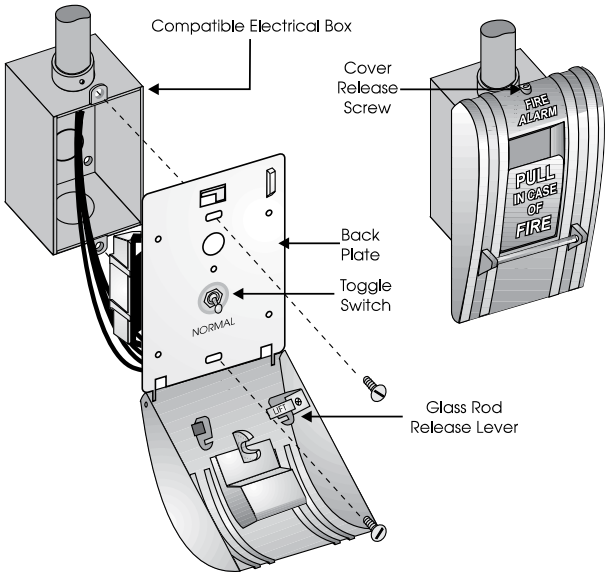

Figure 2. GSA-M270 installation

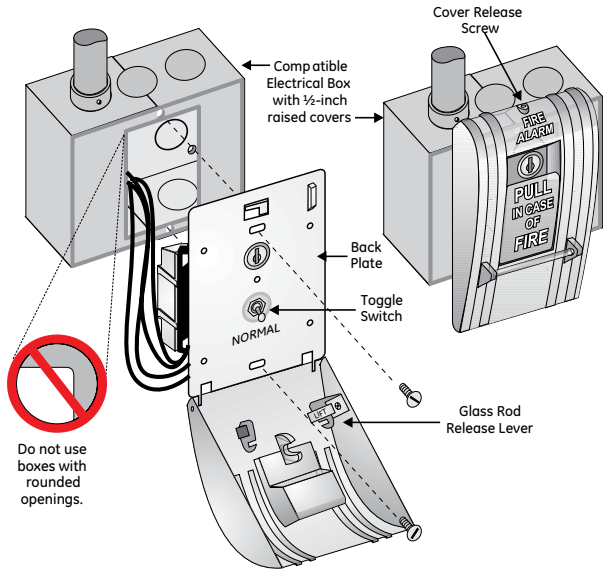

Figure 3. GSA-M270P installation

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8985 Town Center Pkwy,
Bradenton, FL 34202

Specifications

Catalog Number	GSA-M270	GSA-M270P,	GSA-M278
Description	Single Action - One Stage	Single Action -Two Stage (Presignal)	Double Action - One Stage
Addressing Requirements	Uses 1 Module Address	Uses 2 Module Addresses	Uses 1 Module Address
Operating Current	Standby = 250µA Activated = 400µA	Standby = 396µA Activated = 680µA	Standby = 250µA Activated = 400µA
Construction & Finish	Diecast Zinc - Red Epoxy with aluminum markings		Lexan - Red with white markings
Type Code	Factory Set		
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)		
Storage and Operating Environment	Operating Temperature: 32ºF to 120ºF (0ºC to 49ºC) Storage Temperature: -4ºF to 140ºF (-20ºC to 60ºC) Humidity: 0 to 93% RH		
LED Operation	On-board Green LED - Flashes when polled On-board Red LED - Flashes w hen in alarm		
Compatibility	Use With: Signature Loop Controller		
Agency Listings	UL, ULC, MEA, CSFM, FM		

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
GSA-M270	One Stage Fire Alarm Station, English Markings - UL/ULC Listed	1 (0.5)
GSA-M270P	Two Stage (Presignal) Fire Alarm Station, English Markings - UL/ULC Listed	
GSA-M278	Double Action (One Stage) Fire Alarm Station, English Markings - UL/ULC Listed	

Accessories	
270-GLR	20 Glass Rods - for GSA-M270 series (USA ONLY)
276-GLR	20 Glass Rods - for GSA-M278 series

ELECTRONIC
Compatible with VS & VM control systems
ADDRESSING

Technology that saves lives

Intelligent Heat Detectors

KI-HRD, KI-HFD

KI-HFD shown

S853

Overview

The KI Series smoke detectors bring advanced sensing technology to a practical design that increases efficiency, saves installation time, cuts costs, and extends property protection capabilities. Continuous self-diagnostics ensure reliability over the long-haul, while the latest thermister technology makes these detectors ideal wherever dependable heat detection is required.

The KI-HRD is an intelligent fixed temperature/rate-of-rise fire detector. It monitors the temperature of the surrounding air and analyzes the data from the sensor to determine whether to initiate an alarm. The rate-of-rise heat function quickly detects a fast, flaming fire. The fixed-temperature heat function detects fire when the air temperature near the detector exceeds the alarm point.

The KI-HFD is an intelligent fixed-temperature heat detector that contains a fixed-temperature heat sensor rated at 135 °F (57.2 °C). It does not have a rate-of-rise function. The heat sensor monitors the temperature of the air in its surroundings and the detector analyzes the data to determine when the air temperature near the detector exceeds the device's alarm point.

Standard Features

Note: *Some features described here may not be supported by all control systems. Check your control panel's Installation and Operation Guide for details.*

- Next generation heat sensing technology
- 135 °F (57 °C) fixed temperature alarm point (HRD and HFD)
- 15 °F (8.3 °C) per minute rate-of-rise alarm point (HRD)
- Uses existing wiring
- Automatic device mapping
- Sensor Markings Provide Easy Testing Identification
- Up to 250 total devices per loop
- Non-volatile memory
- Electronic addressing
- Bicolor (green/red) status LED
- Cover marking for easy identification during testing
- Standard, relay, fault isolator, and audible mounting bases
- 50 foot (15.2 meter) spacing

DATA SHEET K85001-0647
Not to be used for installation purposes. Issue 1

Application

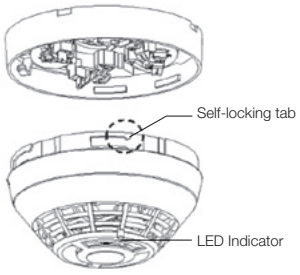
The KI-HRD combination fixed temperature/rate-of-rise heat detector provides a 15 °F (9 °C) per minute rate-of-rise heat sensor for the detection of fast-developing fires, as well as a 135°F (57°C) fixed temperature sensor for slow building-fires. The KI-HFD fixed temperature detector provides a 135°F (57°C) fixed temperature sensor for slow building-fires.

Compatibility

The KI-HRD detector is compatible with Kidde VS and VM series panels.

Installation

KI Series detector bases mount to North American 1-gang boxes, 3-1/2 inch or 4 inch octagon boxes, and to 4 inch square electrical boxes 1-1/2 inches (38 mm) deep. They mount to European BESA and 1-gang boxes with 60.3 mm fixing centers. See mounting base installation and wiring for more information.



Sensing and reporting technology

The microprocessor in each detector provides additional benefits - Self-diagnostics and History Log, Automatic Device Mapping, and Fast, Stable Communication.

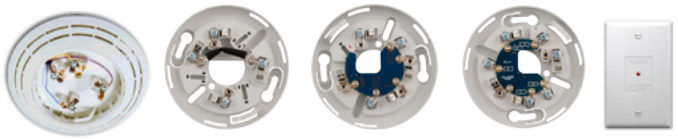
Self-diagnostics and History Log - Each KI Series detector constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in the detector's non-volatile memory.

Automatic Device Mapping - The loop controller learns where each device's serial number address is installed relative to other devices on the circuit. The mapping feature provides supervision of each device's installed location to prevent a detector from being reinstalled (after cleaning etc.) in a different location from where it was originally.

Fast Stable Communication - On-board intelligence means less information needs to be sent between the detector and the loop controller. Other than regular supervisory polling response, the detector only needs to communicate with the loop controller when it has something new to report.

Accessories

Detector mounting bases have wiring terminals that are accessible from the "room-side" after mounting the base to the electrical box. The bases mount to North American 1-gang boxes and to 3½ inch or 4 inch octagon boxes, 1½ inches (38 mm) deep. They also mount to European BESA and 1-gang boxes with 60.3 mm fixing centers. The KI-SB4, KI-RB4, and KI-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the GSA-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The KI-ABST mounts to a 4 inch square box only.



KI-ABST/T/LF Audible Base | **KI-SB** Standard Base | **KI-IB** Isolator Base | **KI-RB** Relay Base | **GSA-LED** Remote LED

Remote LED GSA-LED - The remote LED connects to the KI-SB or KI-SB4 Standard Base only. It features a North American size 1-gang plastic faceplate with a white finish and red alarm LED.

GSA-TS4 Trim Skirt - Supplied with 4 inch bases, it can also be ordered separately to use with the other bases to help hide surface imperfections not covered by the smaller bases.

Sounder Bases - KI Series sounder bases are designed for use where localized or group alarm signaling is required.

- **KI-ABST** bases provide sounder capability to KI Series to heat and smoke detectors. They are not intended for use with combination carbon monoxide detectors in Fire-plus-CO mode.
- **KI-ABDT** bases provide sounder capability to KI Series smoke and heat detectors, as well as carbon monoxide detectors when used with a GSA-T3T4 Temporal Pattern Generator.
- **KI-ABLT** bases provide 520 Hz low frequency sounder capability to KI Series smoke and heat detectors, as well as carbon monoxide detectors when used with a GSA-T3T4 Temporal Pattern Generator. The KI-ABLT is suitable for applications requiring low frequency audible tones.

Warnings & Cautions

- This detector does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with the local fire protection specialist.
- This detector does not sense fires in areas where heat cannot reach the detector. Heat from fires in walls, roofs, or on the opposite side of closed doors may not reach the detector.
- This heat detector by itself does not provide life safety protection Use this detector with ionization and/or photoelectric smoke detectors.
- This detector does not detect oxygen levels, smoke, toxic gases, or flames. Use this device as part of a broad-based life safety program which includes a variety of information sources pertaining to heat and smoke levels, extinguishment systems, visual and audible devices, and other safety measures.
- Independent studies indicate that heat detectors should only be used when property protection alone is involved. Never rely on heat detectors as the sole means of fire protection.

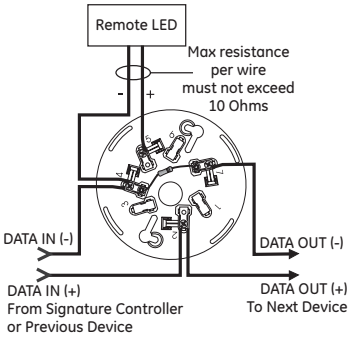
Typical Wiring

The detector mounting bases accept #18 AWG (0.75mm^2), #16 (1.0mm^2), #14 AWG (1.5mm^2), and #12 AWG (2.5mm^2) wire sizes. Sizes #16 AWG (1.0mm^2) and #18 AWG (0.75mm^2) are preferred for ease of installation.

Standard Detector Base, KI-SB, KI-SB4

This is the basic mounting base for Kidde KI Series detectors. The GSA-LED Remote LED is supported by this Base.

Term	Description
1	Not Used
2	DATA IN/OUT (+)
3	Not Used
4	DATA IN (-)
4	Remote LED (-)
5	Remote LED (+)
6	Not Used
7	DATA OUT (-)



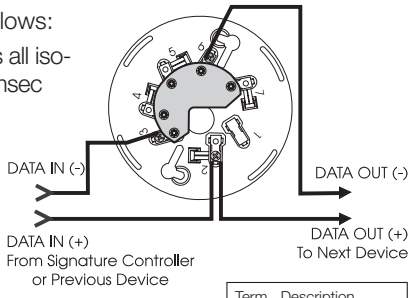
Isolator Detector Base, KI-IB, KI-IB4

This base includes a built-in line fault isolator for use on Class A circuits. A detector must be installed for it to operate. The isolator base does not support the GSA-LED Remote LED.

The isolator operates as follows:

- a short on the line causes all isolators to open within 23 msec
- at 10 msec intervals, beginning on one side of the Class A circuit nearest the loop controller, the isolators close to provide the next isolator down the line with power
- when the isolator next to the short closes, it reopens within 10 msec.

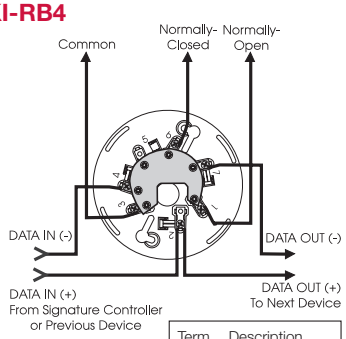
The process repeats beginning on the other side of the loop controller.



Term	Description
1	Not Used
2	DATA IN/OUT (+)
3	DATA IN (-)
4	Not Used
5	Not Used
6	DATA OUT (-)
7	Not Used

Relay Detector Base, KI-RB, KI-RB4

This base includes a relay. Normally Open or Normally Closed operation is selected during installation. The dry contact is rated for 1 amp (pilot duty) @ 30 Vdc. The relay's position is supervised to avoid accidentally jarring it out of position. The KI-RB can be operated as a control relay if programmed to do so at the control panel. The relay base does not support the GSA-LED Remote LED.

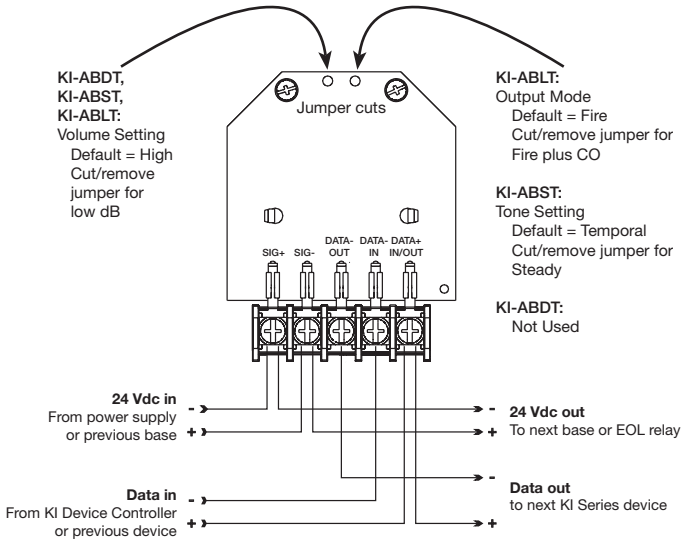


CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

Term	Description
1	Normally Open
2	DATA IN/OUT (+)
3	Common
4	DATA IN (-)
5	Not Used
6	Normally-Closed
7	DATA OUT (-)

Audible Sounder Bases, Fire Mode

ABDT, ABST, ABLT sounder bases



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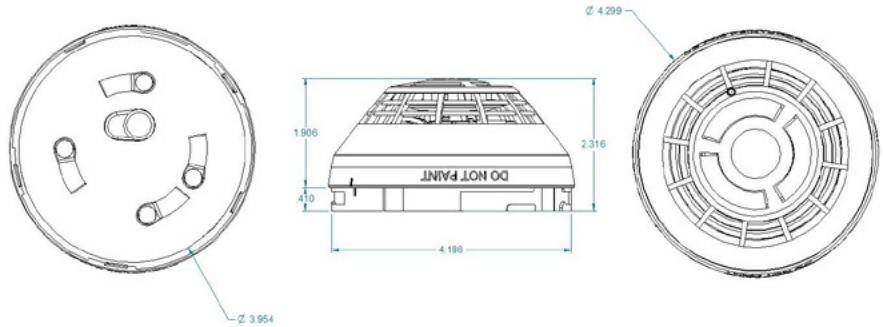
1016 Corporate Park Drive
Mebane, NC 27302

Dimensions



Specifications

	KI- HRD	KI-HFD
Operating voltage	15.20 to 19.95 VDC	
Normal operating current	51 µA	
Alarm current	68 µA	
Vibration level	10 to 35 Hz, with an amplitude of 0.01 in.	
Rate-of-rise rating	15°F/min (8°C/min)	NA
Fixed temperature rating	135°F (57.2°C). Actual alarm point 129 to 141°F (53.9 to 60.6°C).	
Maximum spacing	50 ft. (15.2 m) centers	
Compatible bases	See Ordering Information	
Compatible detector testers	Testifire 1000, Testifire 2000	Testifire 2000
Operating environment	32 to 100°F (0 to 38°C), 0 to 93% RH, noncondensing	
Construction	High Impact Engineering Polymer, White	
Storage temperature	-4 to 140°F (-20 to 60°C)	
Agency Listings	CAN/ULC-S530, UL 521	CAN/ULC-S530-M91, UL 521

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
KI-HRD	Intelligent fixed temperature/Rate-of-rise heat detector	0.4 (0.16)
KI-HFD	Intelligent fixed temperature heat detector	

Compatible Bases		
KI-SB	Detector Mounting Base - Standard	0.2 (.09)
KI-SB4	4-inch Detector Mounting Base c/w Trim Skirt	
KI-RB	Detector Mounting Base w/Relay	
KI-RB4	4-inch Detector Mounting Base w/Relay, c/w Trim Skirt	
KI-IB	Detector Mounting Base w/Fault Isolator	
KI-IB4	4-inch Detector Mounting Base w/ Fault Isolator, c/w Trim Skirt	
KI-ABST	Audible (Sounder) Base for Fire Detectors	0.3 (0.15)
KI-ABLT	Low Frequency Audible (Sounder) Base for CO and Fire Detectors	
KI-ABDT	Audible (Sounder) Base for CO and Fire Detectors	
GSA-LED	Remote Alarm LED (not for EN54 applications)	0.1 (0.04)
GSA-TS4	Trim Skirt (supplied with 4-inch bases)	
GSA-TS	Trim Skirt (optional for non 4-inch bases)	

Technology that saves lives

Intelligent Smoke Detector

KI-OSD

FM APPROVED 7272-1657: 0511

Overview

The Kidde Intelligent Optica Series KI-OSD smoke detector brings advanced optical (photoelectric) sensing technology to a practical design that increases efficiency, saves installation time, cuts costs, and extends life safety and property protection capabilities. Continuous self-diagnostics ensure reliability over the long-haul, while environmental compensation helps reduce maintenance costs.

Like all Kidde Intelligent Optica Series detectors, the KI-OSD is an intelligent device that gathers analog information from multiple optical sensors, converting this data into digital signals. Utilizing dual optical wavelengths combined with multiple detection angles, the KI-OSD differentiates particles that are not representative of actual smoke. Particle data is input into digital filters which feed a series of ratios removing signal patterns that are typical of nuisance sources, thus reducing unwanted alarms. To make an alarm decision, the detector's on-board microprocessor measures and analyzes all optical sensor readings and compares this information to preprogrammed settings.

Standard Features

- Patented multi-criteria optical smoke sensing technology
- Wide 0.5 to 4.36 %/ft. (1.6 to 13.6 %/m) smoke obscuration
- Uses Existing Wiring
- Integrated nuisance rejection reducing unwanted alarms from general cooking particulates
- Listed to UL 268 7th edition
- Automatic Device Mapping
- Up To 250 Total Kidde Intelligent Addresses Per Loop
- Two Levels of Environmental Compensation
- Two Levels of Dirty Detector Warning
- Twenty Pre-Alarm Settings
- Five Sensitivity Settings
- Non-Volatile Memory
- Electronic Addressing
- Environmental compensation
- Automatic Day/Night Sensitivity Adjustment
- Bicolor (Green/Red) Status LED
- Standard, Relay, Fault Isolator, and Audible Mounting Bases
- Sensor Markings Provide Easy Testing Identification

Note: *Some features described here may not be supported by all control systems. Check your control panel's Installation and Operation Guide for details.*

Application

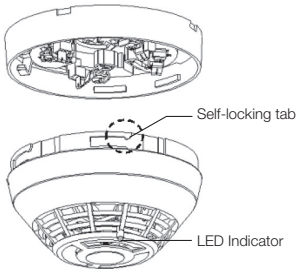
The KI-OSD detects particles from a wide range of combustion sources and will trigger an alarm when smoke density in the chamber reaches preprogrammed level. Thanks to its high-performance patented reflective response technology, the smoke sensor responds quickly and reliably to a wide range of fire types, including both fast and slow burning fires fueled by combustibles typically found in modern multi-use buildings.

Compatibility

The KI-OSD detector is compatible only with control panels using a Kidde Intelligent Loop controller.

Installation

Kidde Intelligent Series detectors mount to North American 1-gang boxes, 3-1/2 inch or 4 inch octagon boxes, and to 4 inch square electrical boxes 1-1/2 inches (38 mm) deep. They mount to European BESA and 1-gang boxes with 60.3 mm fixing centers. See mounting base installation and wiring for more information.



Sensing and reporting technology

The microprocessor in each detector provides additional benefits – Self-diagnostics and History Log, Automatic Device Mapping, and Fast, Stable Communication.

Self-diagnostics and History Log - Each Kidde Intelligent Series detector constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in the detector's non-volatile memory

Automatic Device Mapping - The loop controller learns where each device's serial number address is installed relative to other devices on the circuit. The mapping feature provides supervision of each device's installed location to prevent a detector from being reinstalled (after cleaning, etc.) in a different location from where it was originally.

Fast Stable Communication - On-board intelligence means less information needs to be sent between the detector and the loop controller. Other than regular supervisory polling response, the detector only needs to communicate with the loop controller when it has something new to report.

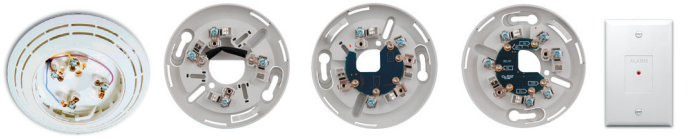
Testing & Maintenance

Each detector automatically identifies when it is dirty or defective and causes a "dirty detector" message. The detector's sensitivity measurement can also be transmitted to the loop controller. A sensitivity report may be printed to satisfy NFPA sensitivity measurements, which must be conducted at the end of the first year and every two years thereafter.

The user-friendly maintenance program shows the current state of each detector and other pertinent messages. Single detectors may be turned off temporarily from the control panel. Availability of maintenance features is dependent on the fire alarm system used.

Accessories

Detector mounting bases have wiring terminals that are accessible from the "room-side" after mounting the base to the electrical box. The bases mount to North American 1-gang boxes and to 3½ inch or 4 inch octagon boxes, 1½ inches (38 mm) deep. They also mount to European BESA and 1-gang boxes with 60.3 mm fixing centers. The KI-SB4, KI-RB4, and KI-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the KI-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The KI-ABST mounts to a 4 inch square box only.



KI-ABST/ABDT/ABLT Audible Base | **KI-SB** Standard Base | **KI-IB** Isolator Base | **KI-RB** Relay Base | **KI-LED** Remote LED

Remote LED GSA-LED - The remote LED connects to the KI-SB or KI-SB4 Standard Base only. It features a North American size 1-gang plastic faceplate with a white finish and red alarm LED.

SIGA-TS4 Trim Skirt - Supplied with 4 inch bases, it can also be ordered separately to use with the other bases to help hide surface imperfections not covered by the smaller bases.

Sounder Bases - Kidde Intelligent Series sounder bases are designed for use where localized or group alarm signaling is required.

- **KI-ABST** bases provide sounder capability to Kidde Intelligent Series to heat and smoke detectors. They are not intended for use with combination carbon monoxide detectors in Fire-plus-CO mode.
- **KI-ABDT** bases provide sounder capability to Kidde Intelligent Series smoke and heat detectors, as well as carbon monoxide detectors when used with a GSA-T3T4 Temporal Pattern Generator.
- **KI-ABLT** bases provide 520 Hz low frequency sounder capability to Kidde Intelligent Series smoke and heat detectors, as well as carbon monoxide detectors when used with a GSA-T3T4 Temporal Pattern Generator. The KI-ABLT is suitable for applications requiring low frequency audible tones.

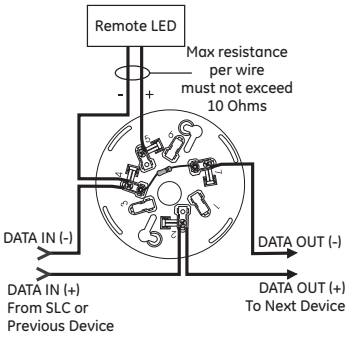
Typical Wiring

The detector mounting bases accept #18 AWG (0.75mm^2), #16 (1.0mm^2), #14 AWG (1.5mm^2), and #12 AWG (2.5mm^2) wire sizes. Sizes #16 AWG (1.0mm^2) and #18 AWG (0.75mm^2) are preferred for ease of installation.

Standard Detector Base, KI-SB, KI-SB4

This is the basic mounting base for KIDDE Intelligent Series detectors. The GSA-LED Remote LED is supported by this Base.

Term	Description
1	Not Used
2	DATA IN/OUT (+)
3	Not Used
4	DATA IN (-)
4	Remote LED (-)
5	Remote LED (+)
6	Not Used
7	DATA OUT (-)



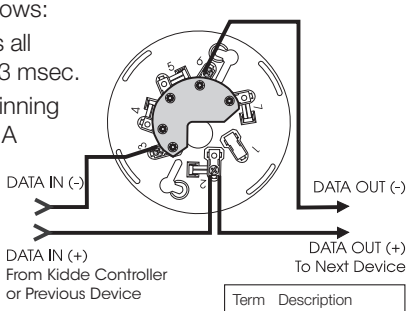
Isolator Detector Base, KI-IB, KI-IB4

This base includes a built-in line fault isolator for use on Class A circuits. A detector must be installed for it to operate. The isolator base does not support the GSA-LED Remote LED.

The isolator operates as follows:

- a short on the line causes all isolators to open within 23 msec.
- at 10 msec intervals,beginning on one side of the Class A circuit nearest the loop controller, the isolators close to provide the next isolator down the line with power.
- when the isolator next to the short closes, it reopens within 10 msec.

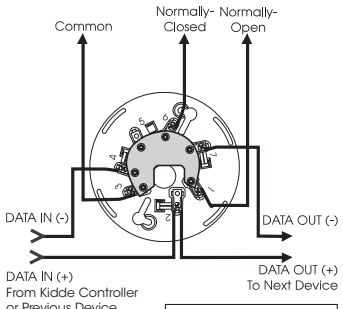
The process repeats beginning on the other side of the loop controller.



Term	Description
1	Not Used
2	DATA IN/OUT (+)
3	DATA IN (-)
4	Not Used
5	Not Used
6	DATA OUT (-)
7	Not Used

Relay Detector Base, KI-RB, KI-RB4

This base includes a relay. Normally Open or Normally Closed operation is selected during installation. The dry contact is rated for 1 amp (pilot duty) @ 30 Vdc. The relay's position is supervised to avoid accidentally jarring it out of position. The KI-RB can be operated as a control relay if programmed to do so at the control panel. The relay base does not support the GSA-LED Remote LED.

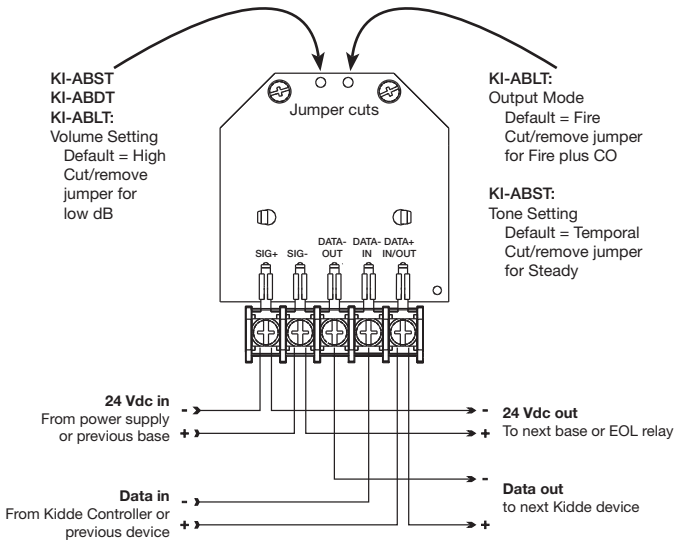


CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

Term	Description
1	Normally Open
2	DATA IN/OUT (+)
3	Common
4	DATA IN (-)
5	Not Used
6	Normally-Closed
7	DATA OUT (-)

Audible Sounder Bases, Fire Mode

ABST, ABDT, ABLT sounder bases



Warnings & Cautions

- This detector does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with the local fire protection specialist.
- This detector does not sense fires in areas where smoke cannot reach the detector. Smoke from fires in walls, roofs, or on the opposite side of closed doors may not reach the detector.
- In Canada, install according to CAN/ULC-S524 Standard for the Installation of Fire Alarm Systems, CSA C22.1 Canadian Electrical Code, and the local authority having jurisdiction.

Technology that saves lives

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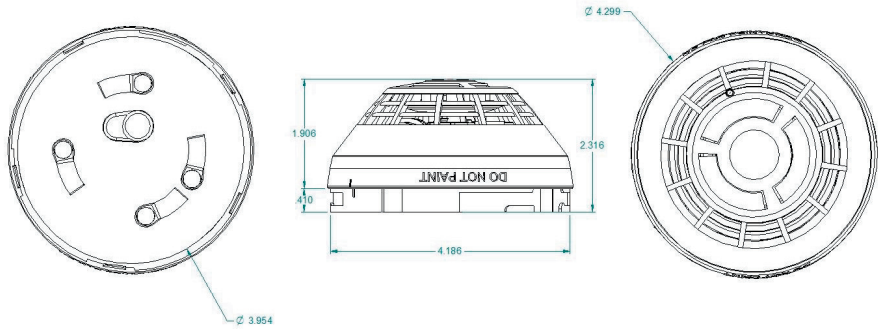
Dimensions



Specifications

Operating voltage	15.20 to 19.95 VDC
Normal operating current	32 µA
Alarm current	45 µA
Smoke Sensitivity Range	UL/ULC: 0.5 to 4.36 %/ft. (1.6 to 13.6 %/m) obscuration
Vibration level	10 to 35 Hz, with an amplitude of 0.01 in.
Air velocity	0 to 4,000 ft./min (0 to 20 m/s)
Wall mounting	12 in. (305 mm) max. from ceiling
Compatible bases	See Ordering Information
Compatible detector testers	Testifire 1000, Testifire 2000
Operating environment	32 to 120°F (0 to 49°C), 0 to 93% RH, noncondensing
Construction	High Impact Engineering Polymer, White
Storage temperature	-4 to 140°F (-20 to 60°C)
Environmental compensation	Automatic
Agency Listings	CAN/ULC-S529, UL 268-7, UL 268A, CSFM, FM

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
KI-OSD	Intelligent Optical Smoke Detector	0.4 (0.16)
Accessories		
KI-SB	Detector Mounting Base - Standard	0.2 (.09)
KI-SB4	4-inch Detector Mounting Base c/w Trim Skirt	
KI-RB	Detector Mounting Base w/Relay	
KI-RB4	4-inch Detector Mounting Base w/Relay, c/w Trim Skirt	
KI-IB	Detector Mounting Base w/Fault Isolator	
KI-IB4	4-inch Detector Mounting Base w/ Fault Isolator, c/w Trim Skirt	
GSA-LED	Remote Alarm LED	
KI-ABST	Audible (Sounder) Base for Fire Detectors	0.3 (0.15)
KI-ABLT	Low Frequency Audible (Sounder) Base for CO and/or Fire Detectors	0.3 (0.15)
KI-ABDT	Audible (Sounder) Base for CO and/or Fire Detectors	0.3 (0.15)
GSA-TS4	Trim Skirt (supplied with 4-inch bases)	0.1 (0.04)
GSA-TS	Trim Skirt - (optional for non 4-inch bases)	0.1 (0.04)
GSA-DMP	Detector Mounting Plate	3.0 (1.4)
SIGA-RTA	Detector Removal Tool	
SIGA-VA	Detector Cleaning Tool	