

Fire Department & Project Submittal

for

**Remote Station Monitoring of the Facility Fire Alarm
Submitted per NFPA 72 & NFPA 13**

At

**Lee's Summit Hyundai
NW Blue Parkway & NW Ward Road
Lee's Summit, MO 64086**

Remote Monitoring Central Station:

Via Dual Path LTE/IP Commercial Fire Communicator

**Alarm Central
13700 E. 42nd Terrace S. - PO Box 3272
Independence, MO 64055
UUFX-S7249-1
816-861-1500**



**Archway Technology
1818 Linn Street
North Kansas City, MO 64116
816-215-3684**



**Jeff Stucker
Archway Systems
17020 East 40 Hwy, Suite #1
Independence, MO. 64055
(816) 709-3358**

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Part one

System Overview Outline

- I. Location
 - Lee's Summit Hyundai,
NW Blue Parkway & NW Ward Road
Lee's Summit, MO 64086

- II. Codes
 - A. NFPA 72 Chapters as Applicable(Remote Station)
 - B. NEC Articles as Applicable
 - C. Local, City, State

- III. Control
 - A. 1 VS1-R One loop system with one 64-point loop installed. 110v, red
 - B. 1 K-RLCD-C LCD text annunciator with common controls. English.
 - C. 1 HWF2-COM LTE/IP Single or Dual Path Commercal Fire Communicator
 - D. 1 FDB-ACE-11 Fire Document Box

Modules

 - A. 1 GSA-CR Control Relay Module (Standard Mount)
 - B. 1 GSA-CT2 Dual Input Module
 - B. 10 GSA-M278 Double Action Single Stage Manual Pull Station

- IV. Fire Alarm Initiating Devices
 - A. 1 KI-OSD Optical Smoke Detector
 - B. 5 KI-HRD Intelligent Fixed Temperature/Rate-Of-Rise Heat Detector
 - C. 6 KI-SB Detector Mounting Base
 - D. 3 GSA-SD Intelligent SuperDuct Detector
 - E. 1 Water Flow Connection Only, Provided by Sprinkler Contractor
 - F. 1 Tamper Switch Connection Only, Provided by Sprinkler Contractor

- V. Fire Alarm Indicating Devices
 - A. 3 SD-TRK Remote Test Station, Key
 - B. 13 EG4AVRF Wall Mount Horn Strobe, Red, Fire
 - C. 13 EG4VRF Standard Wall Mount, Strobe, Red, Fire

- VI. Zones
 - Zoned Per Prints

- VII. Wiring
 - All Circuits and Wiring Shall be "Power Limited"
 - Initiating Zones Shall be 18/2 or 18/4 U.L. FPL Cable
 - Indicating Circuits Shall be 14/2 U.L. FPL Cable
 - System Ground Shall be 14 THHN Green Conductor
 - Under Ground and Outside Wire shall be 14 THHN in Approved Raceway

- VIII. Listings
 - A. All Equipment Shall Be U.L. Listed and Compatible

- IX. Power Supply
 - A. Primary - 110 VAC Dedicated 20 Amp Circuit
 - B. Secondary - 12 Amp Hour Batteries

- X. Alarm Supervision
 - A. Human
 - B. Remote Station Installing Branch/Contractor
 - Alarm Central Archway Technology
 - 13700 E. 42nd Terrace S. - PO Box 3272 1818 Linn Street
 - Independence, MO 64055 North Kansas City, MO 64116
 - UUFX-S7249-1 816-215-3684
 - 816-861-1500

Part Two

Battery Calculations

Standby Battery Calculations

Kidde
VS1-R

Lee's Summit Hyundai,
NW Blue Parkway & NW Ward Road
Lee's Summit, MO 64086

Part Number	Description	Quantity	Standby Per Device	Current All Devices	Alarm Per Device	Current All Devices
VS1-R	One loop system with one 64-point loop installed. 110v,	1	0.155000	0.155000	0.204000	0.204000
K-RLCD-C	LCD text annunciator with common controls. English.	1	0.099000	0.099000	0.115000	0.115000
GSA-CR	Control Relay Module (Standard Mount)	2	0.000090	0.000180	0.000090	0.000180
GSA-M278	Double Action Single Stage Manual Pull Station	10	0.000250	0.002500	0.000399	0.003990
KI-OSD	Optical Smoke Detector	1	0.000320	0.000320	0.000450	0.000450
KI-HRD	Intelligent Fixed Temperature/Rate-Of-Rise Heat Detect	5	0.000051	0.000255	0.000068	0.000340
KI-SB	Detector Mounting Base	6	0.000000	0.000000	0.000000	0.000000
GSA-SD	Intelligent SuperDuct Detector	3	0.000045	0.000134	0.018000	0.054000
SD-TRK	Remote Test Station, Key	3	0.000000	0.000000	0.030000	0.090000
GSA-CT2	Dual Input Module	1	0.000396	0.000396	0.000680	0.000680
				0.000000		0.000000
				0.000000		0.000000
				0.258	Alarm	0.469
Total Aux current		Maximum Amps:	1.0000			

Signal Circuits

Circuit	Device	Quantity	Alarm Per Device	Current All Devices	
Circuit 1	EG4AVRF (15CD)	1	0.050	0.050	
	EG4AVRF (30CD)	1	0.050	0.050	
	EG4AVRF (75CD)	1	0.050	0.050	
	EG4AVRF (110CD)	3	0.050	0.150	
	EG4VRF (15CD)	1	0.036	0.036	
	EG4VRF (30CD)	5	0.036	0.180	
	EG4VRF (110CD)	1	0.036	0.036	
Total 1	Maximum Amps:	2.5000		0.552	
Circuit 2	EG4AVRF (30CD)	1	0.050	0.050	
	EG4AVRF (110CD)	5	0.050	0.250	
	EG4VRF (15CD)	3	0.036	0.108	
	EG4VRF (30CD)	1	0.036	0.036	
	EG4VRF (110CD)	2	0.036	0.072	
Total 2	Maximum Amps:	2.5000		0.516	
Totals			Maximum Amps:	6.0000	Notification Alarm Total Alarm Amps 1.068

	Circuit 1	Circuit 2
Max Wire Run Distance For AWG 14	1136	1215
Actual Wire run Distance	475	520
Voltage Drop for 14 AWG wire	1.673	1.712
Voltage Drop = 2 * Wire Run Distance * 3.07 Ohms Per 1000 ft 14 AWG * Total Current for Circuit / 1000		

Standby Hours	24
Standby Battery Draw	0.258
Standby Amp Hrs	6.187

Alarm Minutes	5
Alarm Current	2.005
Alarm Current by Minutes	0.166

Battery Size Required with Alarm Time Minutes and 25% Reserve	7.942
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Batteries Size Supplied	12	Amp Hours
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Current Draws for Fire Communicator

HWF2-COM

Device	Device Standby Current	Device Alarm Current	Quantity	Total Standby Draw	Total Alarm Draw	Wire Size	Alarm Min
HWF2-COM	0.23	0.95	1	0.23	0.95	18	5
				0	0		
				0	0		
				0	0		
				0	0		
				Total Battery Calculation Standby: 5.520		Standby Hours: 24	
				Alarm Current Min: 0.079		Alarm Current: 0.950	
						Battery size Required: 6.999	
						Batteries Supplied (AH): 7	

Part Three

U.L. Certificates



Party Site No.: **607913**
Expires: **31-Dec-2025**

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY that the Alarm / Service Company identified below is included by - UL Solutions (UL) in its UL Product iQ directories as eligible to use the UL Listing Mark in connection with Certificated Systems. The only evidence of compliance with UL's requirements is the issuance of a UL Certificate for the System and the Certificate is active under UL's Certificate Verification Service. This Certificate does not apply in any way to the communication channel between the protected property and any facility that monitors signals from the protected property.

Listed Service From: INDEPENDENCE , MISSOURI

Alarm / Service Company: (607913)

ALARMCENTRAL L L C
13700 E 42ND TER S
PO BOX 3272
INDEPENDENCE , Missouri 64055 UNITED STATES

The Alarm / Service Company is Listed in the following Certificate Service Categories:

<u>File</u>	<u>Vol No.</u>	<u>CCN</u>	<u>Listing Category</u>
BP9514	1	CVSU	Monitoring Stations, Residential
S7249	1	UUFX	Central-station Protective Signaling Services



*****THIS CERTIFICATE EXPIRES ON 31-DEC-25*****

"LOOK FOR THE UL ALARM / SYSTEM CERTIFICATE"

Part Four

Equipment Data Sheets

Technology that saves lives

Intelligent Fire Alarm Systems

VS1, VS4


FDNY
COA 6229

 7165-1657:
0244

ULC
S3000

Overview

Kidde brand intelligent life safety systems offer the power of high-end intelligent processing in configurations that deliver uncomplicated solutions for small to mid-sized applications. With intelligent detection, electronic addressing, automatic device mapping, optional Ethernet® connectivity, and a full line of easily-configured option cards and modules, these flexible systems offer versatility that benefits building owners and contractors alike.

The VS1 provides one Class A or Class B intelligent device loop that supports up to 64 device addresses, and two Class B Notification Appliance Circuits (NACs). Optional Class A device wiring is available with the use of a module.

The VS4 provides one Class A or Class B intelligent device loop that supports up to 250 device addresses. Loop controller modules may be added in combination to expand total system capacity in 250-point increments to up to 1,000 device addresses. VS4 panels include four NACs that may be wired for either Class A or Class B operation.

The RZ116-2 module adds even more capacity to VS installations by adding up to 16 conventional device circuits and two additional notification appliance circuits. This makes them ideal retrofit solutions that can accommodate new intelligent detectors, as well as existing conventional devices.

VS Series supports a wide range of high-end features, including:

- Intelligent modules, detectors, and bases
- GSA-REL Releasing Modules
- R-Series remote annunciators
- Integrated Carbon Monoxide gas sensing with KI-OSCD detectors including distinct audible signaling

Features

- Auto-programming speeds installation time
- Supports V-Series intelligent modules and detectors
- Form C contacts for alarm and trouble, Form A for supervisory
- Electronic addressing with automatic device mapping
- Optional Ethernet port (SA-ETH) for central station monitoring service, programming, diagnostics and a variety of system reports
- Two programmable switches with LEDs and custom labeling
- Supports Genesis horn silence over two wires, and UL 1971-compliant strobe synchronization
- Supports GSA-REL releasing module for fire suppression
- Class B or Class A wiring
- Ground fault detection by module
- Optional multi-protocol Field Server Bridge for interface to 3rd party Building Management Systems
- Supports up to eight serial annunciators (LCD, LED-only, and graphic interface)
- Can use existing wiring for most retrofit applications
- Upload/download remotely or locally
- Optional USB module for local printing or programming using the configuration utility on a technician's laptop
- Two-level maintenance alert reporting
- Pre-alarm and alarm verification by point
- Adjustable detector sensitivity
- 4 x 20 character backlit LCD display
- Optional earthquake hardening: seismic Importance Factor 1.5
- Standalone operation
- Transmission test frequency by hour
- *Alarm ON* command manually activates alarm condition

Application

Kidde VS Series life safety systems are powerful intelligent solutions for small to mid-sized buildings. Advanced intelligent technology delivers the benefits of flexible system installation, while clean and easy-to-operate user interfaces make panel operation and system maintenance quick and intuitive.

The smart choice

Electronic addressing eliminates the tedium of setting dipswitches, and automatic device mapping ensures that each device resides on the system at its correct location. Meanwhile, innovative programming allows the designer to customize the system to precisely suit the needs of the building owner.

Reliability you can count on

The inherent fault-tolerant characteristics of Analog/Addressable Technology boosts the reliability of Kidde fire alarm systems. When combined with VS Series smoke and heat detectors, these systems deliver a level of dependability not previously available for small to mid-sized applications. All Kidde systems are built to exacting reliability benchmarks and meet international standards for quality, in addition to agency listings for dependability.

Clear-cut remote annunciation

Remote annunciation is a strong suit of the VS Series fire alarm systems. Up to eight annunciators can be installed on a single system. Compatible annunciators include a range of LED and LCD models that provide zone or point annunciation, as well as common control capabilities. VS control panels also supports graphic annunciation with optional graphic annunciator interface modules. Each interface provides common control and 32 LEDs.

Signals with a difference

VS Series NACs are configurable to fully support the advanced signaling technology of Kidde Genesis and Enhanced Integrity notification appliances. These devices offer precision synchronization of strobes to UL 1971 standards. For Genesis devices, enabling this feature allows horns to be silenced while strobes on the same two-wire circuit continue to flash until the panel is reset.

Programming and remote diagnostics

Kidde VS Series life safety systems are simple to set up, yet offer advanced programming features that put these small building panels into a class of their own. The auto-programming feature quickly gets the panel operational using factory default settings. Basic zone and point settings can be programmed through the front panel interface, so the system is up and running in no time.

For more advanced system configuration and correlation groups programming, VS Series systems interface to a PC running compatible VS-CU software. This option offers full system configuration in the familiar Windows® operating environment. Connection is made to a laptop through the panel's optional RS-232 communications port, which can also be used to connect a system printer.

Among the many innovative features of VS Series control panels is the optional network card. This module provides a standard 10/100 Base T Ethernet® network connection that permits access to the control panel from any remote location with the correct communications protocols. The connection can be used to download to the panel from the VS-CU, or upload and view system reports using the VS-CU.

Available system reports include: Correlation groups, Device details, Device maintenance, History, Internal status, System configuration, System status, Walk test, Dialer, and CO runtime.

Flexibility built right in

Two fully-programmable front panel switch/LED combinations provide an added measure of flexibility. Their slide-in labels take the mystery out of custom applications, and present a clean finished appearance.

Perfect for retrofits

Kidde VS Series control panels are 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 VS technology without the expense or disruption of rewiring the entire building. VS control panels also support the ingenious RZ116-2 zone module, which adds up to 16 conventional circuits and two NACs. This combination easily accommodates new intelligent detection alongside existing conventional circuits, making it an superior solution in the retrofit market.

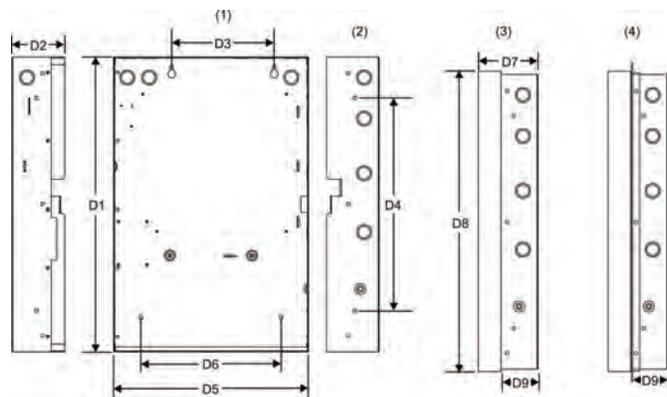
Scalable IP and Cellular Communications

The panel supports IP connectivity using the SA-ETH option card for monitoring services by a supervising station to meet NFPA 72 Chapter 26. The Ethernet card uses the FIBRO protocol to communicate with Sur-Gard System receivers (see page 5 for compatible receivers). Several popular third-party IP/Cellular communicators have been tested with the VS control panels 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 VS control panel compatibility documentation part number 3102354-EN for a full list of compatible communicators.

A complete line of accessories

VS Series life safety systems are supported by a complete line of analog/addressable detectors, modules and related equipment. Consult the Ordering Information section for details.

Dimensions



(1) Surface Mounting Holes

(3) Backbox with Door Attached

(2) Semi-flush Mounting Holes

(4) Backbox with Door and Trim Kit attached.

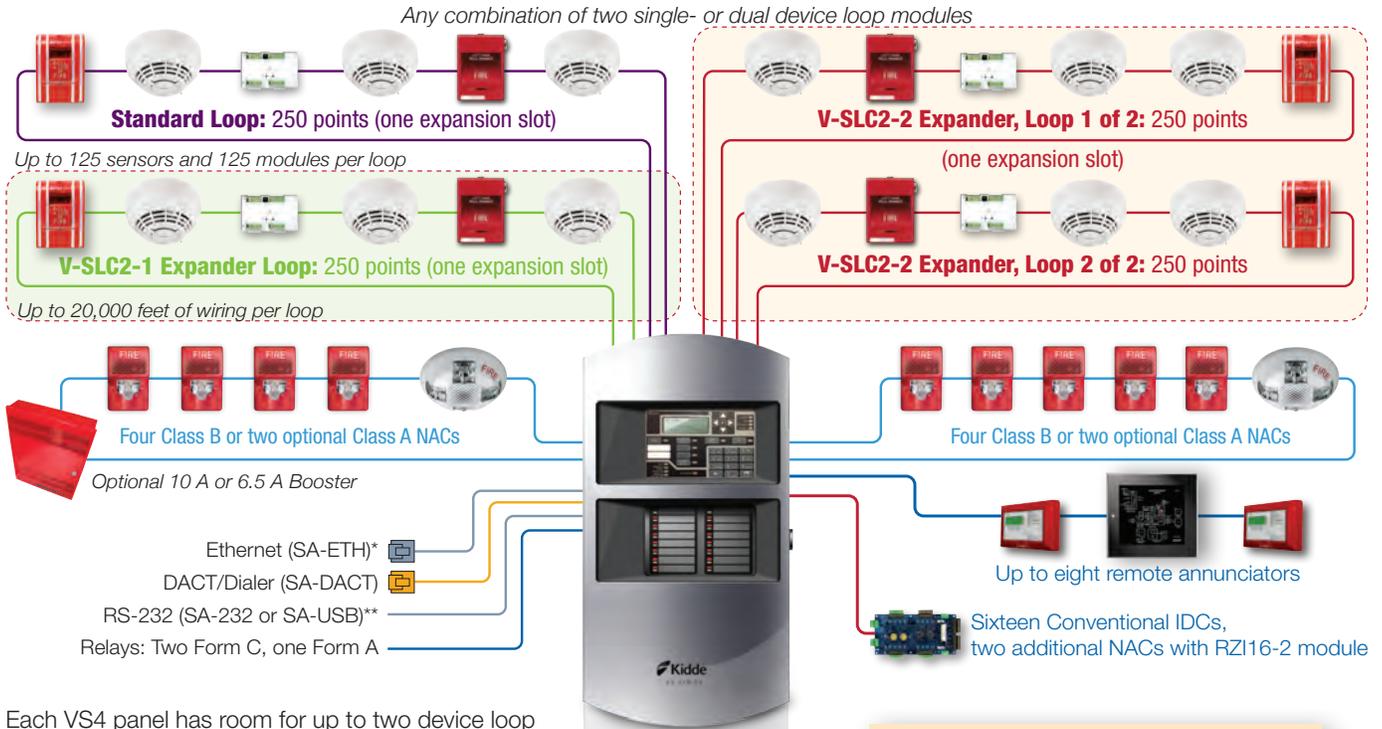
Panel dimensions, in (cm)

Model	D1*	D2	D3	D4	D5*	D6	D7	D8	D9
VS4	28.0 (71.1)	3.85 (9.8)	9.0 (22.8)	22.0 (55.8)	15.75 (40.0)	10.25 (26.0)	4.9 (12.4)	30.1 (76.4)	2.7 (6.8)
VS1	21.5 (54.6)	3.85 (9.8)	7.5 (19.0)	15.5 (39.4)	14.25 (36.2)	10.25 (26.0)	4.9 (12.4)	23.6 (59.9)	2.7 (6.8)

* Add 1-1/2 in. (3.81 cm) to D1 and D5 dimensions for trim kit. The trim kit provides 0.75 inches (1.9 cm) of trim to the top, bottom, and sides of the backbox.

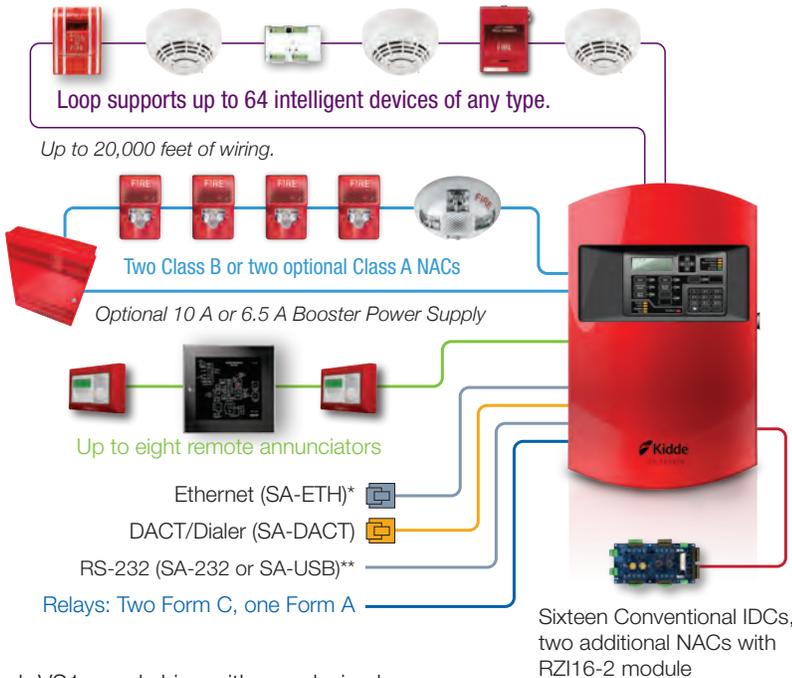
System Layout

VS4



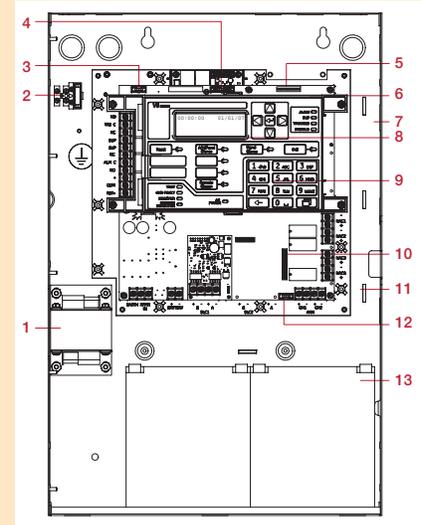
Each VS4 panel has room for up to two device loop controller modules in any combination of single or dual 250-device loops. VS4 comes with one loop that supports up to 125 detectors and 125 modules.

VS1



Each VS1 panel ships with one device loop controller that supports 64 devices of any type. This panel's device capacity cannot be expanded.

Panel Layout



- 1 Transformer
- 2 Main AC wiring block & fuse holder
- 3 RS-232 card connector (J3)
- 4 Dialer card connection (J8)
- 5 Ethernet card connector (J1)
- 6 Main circuit board
- 7 Panel backbox enclosure
- 8 Operator interface
- 9 SLC card connector (J7)
- 10 Class A card connector (J2)
- 11 Tie wrap mounts
- 12 LED expander connector (J6)
- 13 Standby batteries

*SA-ETH supports: (1) remote connectivity for diagnostics & programming, (2) Central station monitoring to Sur-Gard IP Receivers.

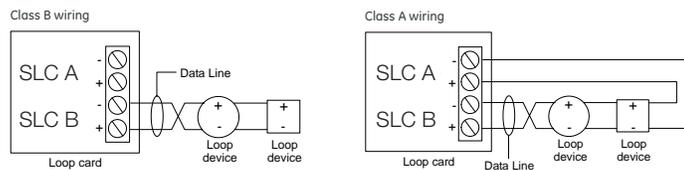
**RS-232 supports: (1) Printer, (2) Programming Interface, (3) Use of Field Server Bridge (SA-FSB) for 3rd party Building Management Systems interface.

Wiring & Configuration

Device loop

The system provides one device loop circuit with a total capacity of 125 detectors and 125 module addresses. The loop circuit is supervised for opens, shorts, and grounds.

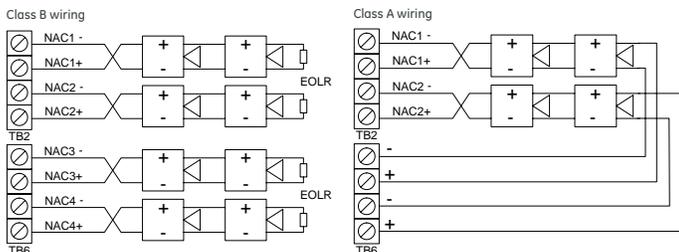
Circuit specifications	VS4	VS1
Device loops	One Class B or A loop, supporting 125 detectors and 125 modules. Expandable to four loops.	One Class B or A loop, supporting 64 devices of any kind.
Communication line voltage	Maximum 20 V peak-to-peak	
Circuit current	0.5 A max	
Circuit impedance	66Ω total, 0.5 μF, max	
Isolators	64 maximum	
Signal Synchronization	Supported on a system-wide basis (all device loops) when using an addressable notification appliance circuit (NAC) module and Genesis or Enhanced Integrity notification appliances.	



Notification appliance circuits (TB2)

VS4 control panels come equipped with four notification appliance circuits. VS1 control panels come with two NACs. Each circuit can be individually configured for continuous, temporal, synchronized, and coded output.

Specifications	VS4	VS1
Circuit Type	4 Class B or 2 Class A	2 Class B or 2 Class A with SA-CLA module
Voltage	24 VFWR	
Current	6.0 A total, 2.5 A max. per circuit at 120/230 VAC 60 Hz. 5.0 A total, 2.5 A max. per circuit at 230 VAC 50 Hz.	3.75 A total, 2.5 A max. per circuit at 120/230 VAC 60 Hz. 3.0 A total, 2.5 A max. per circuit at 230 VAC 50 Hz.
Impedance	26 Ω total, 0.35 μF max	
EOLR	15 K Ω, 1/2 W	
Synchronization	Supported system-wide	



Marking indicates output signal polarity when the circuit is active. Polarity reverses when the circuit is not active. Wire notification appliances accordingly. Notification appliance polarity shown in active state.

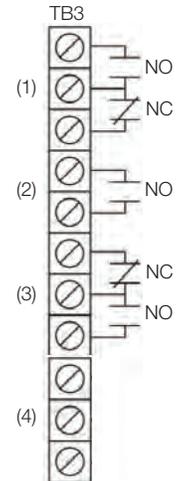
Auxiliary & smoke power outputs (TB3)

The control panel provides two auxiliary power outputs that can be used for powering ancillary equipment such as remote annunciators and two wire smoke detectors. Aux 2 can be software selected to operate continuously. The circuit is supervised for shorts and grounds.

Circuit specifications

Circuit voltage range	21.9 to 28.3 V
Resettable circuit (Aux power 2)	24 VDC nominal at 500 mA
Continuous circuit (Aux power 1)	24 VDC nominal at 500 mA. Use this circuit for powering two-wire smoke detectors.

Note: Any current above 0.5 amp connected to both Aux 1 and 2 will reduce the total available NAC power by that amount.



- (1) Trouble
- (2) Supervisory
- (3) Alarm
- (4) Smoke/Aux

Alarm, trouble, and supervisory relay (TB3)

The trouble relay is normally-open, held closed, and opens on any trouble event or when the panel is de-energized. The supervisory relay is normally-open, and closes on any supervisory event. The alarm relay changes over on any alarm event.

Relay specifications

	Alarm	Trouble	Supervisory
Type	Form C		Form A
Voltage	24 VDC at 1 A resistive		24 VDC at 1 A resistive

Relay circuits can only be connected to power-limited sources.

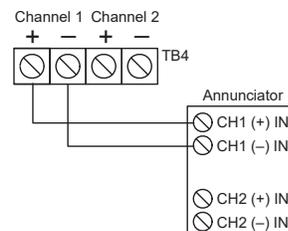
Annunciator loop (TB4)

The control panel provides a connection for up to eight serially driven and supervised remote annunciators.

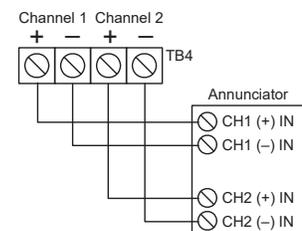
Circuit specifications

Device loops	Class B (Style Y) or Class A (Style Z)
Circuit voltage	2.55 V
Circuit current	30 mA max
Circuit impedance	Up to 8 annunciators or 4000 feet

Class B



Class A



Option Cards

Kidde VS Series panels are supported by a complete line of modules and related equipment that enhance performance and extend system capabilities. Option cards plug directly into the control panel main circuit board or are connected to it with a ribbon cable. After installation, terminals remain accessible. The cabinet provides ample room for wire routing, keeping wiring neat at all times.

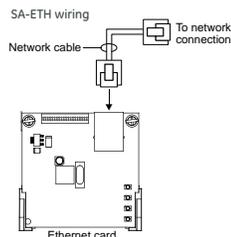
Single and Dual Loop Controller Cards

The V-SLC2-1 is a single loop controller card that can be used with the VS1 as a replacement for the standard 64-point loop, or with the VS4 as a 250-point expansion module.

The V-SLC2-2 is a 500-point dual loop controller card for the VS4 that provides two IDC circuits, each with 125 detector addresses and 125 module addresses.

Specifications	V-SLC2-1	V-SLC2-2
Device Addresses	VS4: one loop, 250 device addresses VS1: 64 addresses	VS4: two loops, 500 device addresses
Wiring	Class B or Class A	
Operating Voltage	24 VDC	
Operating Current (fully loaded loop)	Standby: 55 mA Alarm: 80 mA	Standby: 45 mA Alarm: 70 mA
<i>Note: These ratings do not include the use of two-wire smoke modules.</i>		
Communication Line Voltage	Max. 20.6 V peak-to-peak	
Terminal Rating	12 to 18 AWG (0.75 to 2.5 mm ²)	
Circuit Current	0.5 A max.	
Max total loop resistance	66 Ω	
Max total loop capacitance	0.5 μF	
Isolators	64 isolators maximum per loop (total both isolator bases and modules)	
Ground Fault Impedance	0 to 5 kΩ	
Operating Environment	32 to 120°F (0 to 49°C) 0 to 93% noncondensing at 90°F (32°C)	

SA-ETH Ethernet Interface Card/IP Communicator



The SA-ETH card provides a standard 10/100 Base T Ethernet network connection for connecting to an intranet, a local network, or the Internet. The card supports IP connectivity for monitoring services by a supervising station to meet NFPA 72 Chapter 26. The Ethernet card uses the FIBRO protocol to communicate with Sur-Gard System receivers (see below). The card can be used to download configuration programming from the VS-CU to the panel.

The Ethernet card is installed on the plastic assembly and connects to the main circuit board via a ribbon cable.

SA-ETH specifications

Ethernet	10/100 Base-T
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)
Compatible Sur-Gard Receivers	SG-System I, II, III, IV and 5

RZI16-2 Remote Zone Interface Module



The RZI16-2 Addressable Remote Zone Interface Module is an addressable device that provides connections for sixteen Class B Initiating Device Circuits and two Class B Supervised Output Circuits. The inputs and outputs can be configured individually for several device types.

The RZI16-2 requires 18 consecutive addresses on the Signaling Line Circuit (SLC). Addresses are assigned electronically. There are no address switches to set.

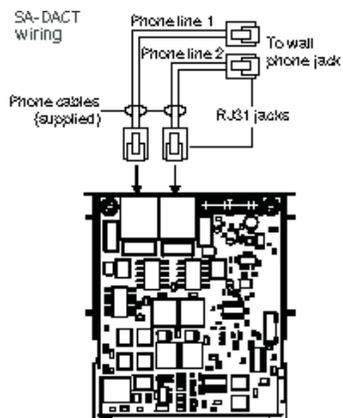
The RZI16-2 incorporates two 8-segment DIP switches that are used to select the Alarm or Supervisory default device type for each of the 16 IDC circuits. The module also includes one 4-segment DIP switch used to select the default Relay or NAC output device type. Device types other than the default are accomplished through programming.

RZI16-2 Specifications

Voltage	
24V/Aux nominal:	24 VDC
Supervisory current:	250 mA at 24 VDC nominal
Alarm current:	1000 mA
24V/Aux minimum:	18.4 VDC
24V/Aux maximum:	26.4 VDC
NAC1, NAC2 nominal:	24 VDC
Current	
Standby current for 4.7 k EOL (U.S.)	4.8 mA/ circuit
Standby current for 3.9 k EOL (Canada)	5.7 mA/ circuit
Alarm current at nominal voltage	31.1 mA/ circuit
Relay outputs	
Quantity	2
Type Rating (pilot duty)	Programmable 24 VDC at 2.5 A
Input circuit wiring resistance	25 Ω per wire
Initiating device circuits	
Quantity	16
EOL resistor	4.7 kΩ (U.S.); 3.9 kΩ Canada
Zone voltage	22.78 V for 4.7 kΩ (U.S.) 22.08 V for 3.9 kΩ (Canada)
Alarm current	31.1 mA/ channel at nominal voltage
Alarm impedance range	< 680 Ω
Trouble impedance range	> 5.55 kΩ
Supervised output circuits	
EOL resistor	15 kΩ
Quantity	2
Short circuit detection	< 2.6 kΩ
Open circuit detection	> 61.9 kΩ
Contact ratings	24 VDC at 2.5 A (5 A for two NACs)
Compatible cabinets	MFC-A, VS4, APS

SA-DACT Dialer

The SA-DACT provides communications between the control panel and the central station over a telephone line system. It transmits system status changes (events) to a compatible digital alarm communicator receiver over the public switched telephone network. The dialer is capable of single, dual, or split reporting of events to two different account and telephone numbers. The modem feature of the SA-DACT can also be used for uploading and downloading panel configuration, history, and current status to a PC running the VS-CU.



The dialer phone lines connect to connectors on the dialer's main circuit board. Phone line 1 connects to connector J4 and phone line 2 connects to connector J1.

The SA-DACT queues messages and transmits them based on priority (alarm, supervisory, trouble, and monitor). Activations are transmitted before restorations.

The SA-DACT is installed on the plastic assembly and connects to the main circuit board via a ribbon cable.

SA-DACT specifications

Phone line type	One or two loop-start lines on a public, switched network
Phone line connector	RJ-31/38X (C31/38X)
Communication formats	Contact ID (SIA DC-05)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

Compatible DACRs

Receiver	Models	Formats
Ademco	685	Contact ID
FBII	CP220	Contact ID
Osborne-Hoffman	OH 2000	Contact ID
Bosch	D6600	Contact ID
Silent Knight	9800	Contact ID
Sur-Gard	SG-MLR1, MLR2	Contact ID

The SA-USB Interface Card

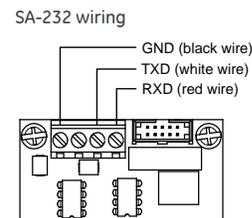
The SA-USB Interface Card provides a USB connection to a supported printer or a connection to a PC. The card can be used for connecting a printer to the control panel to print system events. The card can also be used for uploading and downloading panel configuration, history, and current status to a PC running the configuration utility (CU).

SA-USB Specifications

Operating voltage	24VDC
Current Standby/Alarm	13 mA, max 20mA
Universal Serial Bus (USB) ports	1 USB Type A – host port J3 (printer connection) 1 USB Type B – device port J4 (CU connection)
Supported Printer	PT-1S
Printer communication speed	9600 baud
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing

SA-232 RS-232 interface

The SA-232 card provides an RS-232 interface with VS panels. It can be used for connecting a printer to the control panel to print system events. The card also can be used for connecting a computer to download a configuration program from the VS-CU to the control panel.



The RS-232 card is installed on the plastic assembly and connects to the main circuit board via a ribbon cable.

SA-232 specifications

Operating voltage	Standard EIA-232
Terminal rating	12 to 18 AWG (0.75 to 2.5 sq mm)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

SA-CLA Class A Module (VS1 only)

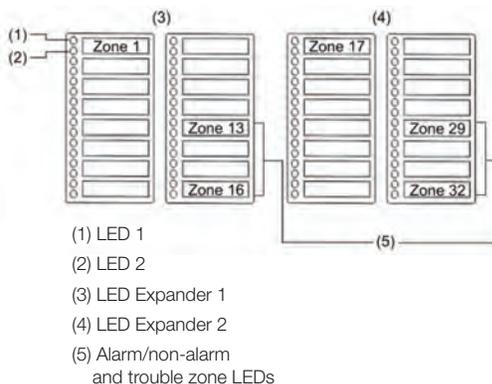
The SA-CLA card provides Class A capability for NAC wiring. Its terminal block provides the wiring connection for NAC return wiring. The card is required for annunciator Class A wiring even though this wiring does not return to the SA-CLA card. The SA-CLA is compatible with VS1 control panels only. VS4 panels are Class A Ready. The SA-CLA is installed directly to the control panel circuit board using its plastic standoffs and plug connection.

SA-CLA specifications

Operating voltage	24 VFWR
Operating current	3.75 A FWR total at 120/230 VAC 60 Hz 3.0 A FWR total at 230 VAC 50 Hz 2.5 A max per circuit
Circuit impedance	26 ohms, 0.35uF
Terminal rating	12 to 18 AWG (0.75 to 2.5 sq mm)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

D16L-VS LED Display Expander (VS4 only)

The D16L-VS LED Display Expanders provide LED annunciation for up to 16 zones. It provides two LEDs for each zone. Two D16L-VS LED display expanders can be installed in each VS4 panel.



Specifications

	VS1	VS4
Device loops	1 loop Class B or Class A (Styles 4, 6, 7) supporting up to 64 device addresses (any combination of detectors and modules) Maximum T-taps: 63 (each device can be on its own branch)	1 loop, expandable to 4, Class A or B (Styles 4, 6, 7), each loop supporting up to 250 device addresses (125 detectors and 125 modules max.). Addresses 1 to 125 are for detectors and addresses 126 to 250 are for modules Maximum T-taps/loop: 124
Notification appliance circuits	2 Class B (Style Y), Class A (Style Z) optional 3.75 A FWR total at 120/230 VAC 60 Hz 3.0 A FWR total at 230 VAC 50 Hz 2.5 A FWR each max. per circuit	4 Class B (Style Y) or 2 Class A (Style Z) 6.0 A FWR total at 120/230 VAC 60 Hz 5.0 A FWR total at 230 VAC 50 Hz 2.5 A FWR each max. per circuit
Primary power	120 VAC, 60 Hz, 1.3 A max. 230 VAC, 50-60 Hz, 0.62 A max.	120 VAC, 60 Hz, 2.0 A max. 230 VAC, 50-60 Hz, 0.97 A max.
Base panel current standby	155 mA	172 mA
Base panel current alarm	204 mA	267 mA
Input zones	16 max.	32 max.
Remote annunciator	8 drops max., RS-485 Class B, Class A is optional Data line length: 4,000 ft. (1,219 m)	8 drops max., RS-485 Class A or B Data line length: 4,000 ft. (1,219 m)
Operating voltage	24 VDC panel	
Auxiliary power output circuit	Aux power 1: 500 mA, 24 VDC Aux power 2: 500 mA, 24 VDC (1 A possible if you reduce total available NAC power by 500 mA) Output: 28.3 to 21.9 VDC, special application Note: For a list of compatible devices, see the VS1 and VS4 Series Compatibility List (PIN 3102354-EN)	
Loop circuit	Maximum loop resistance: 66 Ω Maximum loop capacitance: 0.5 μ F Communication line voltage: Maximum 20.6 V peak-to-peak Operating current (fully loaded loop) Stand by: 55 mA/45 mA Alarm: 125 mA/115 mA (not including two-wire smoke modules) Circuit current: 0.5 A max. Style 4, 6, and 7 wiring Max. resistance between isolators: Limited only by overall wire run lengths 64 isolators maximum per loop (total both isolator bases and modules)	
Batteries	Type: Sealed lead acid Voltage: 24 VDC Charging current: 2.47 A max. Amp hour capacity: 26 Ah Standby operation: 24 hour or 60 hour Placement: Up to two 10 Ah batteries will fit in the VS1 control panel cabinet and two 18 Ah batteries will fit in the VS4 control panel cabinet. If larger batteries are required, use a battery cabinet.	
SA-DACT dialer	Phone line type: One or two loop-start lines on a public, switched network Phone line connector: RJ-31/38X (C31/38X) Communication formats: Contact ID (SIA DC-05) Operating current Standby/Alarm: 41 mA Max.: 100 mA FCC registration number: GESAL01BSADACT Industry Canada Registration number: 3944A-SADACT Ringer equivalence number: 0.1B	
Ground fault impedance	0 to 5 k Ω	
Alarm contact	Form C N.O. 24 VDC at 1 A (resistive load)	
Trouble contact	Form C 24 VDC at 1 A (resistive load)	
Supervisory contact	Form A N.O. 24 VDC at 1 A (resistive load)	
Environmental	Temperature: 0 to 49°C (32 to 120°F) Relative humidity: 0 to 93% noncondensing	
Terminal rating	All terminals rated for 12 to 18 AWG (0.75 to 2.5 mm ²)	



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Ordering Information

Part	Description
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VS4 Fire Alarm Systems

VS4-G	Four loop system with one 250-point loop installed. 110v, gray door.
VS4-G-2	Four loop system with one 250-point loop installed. 230v, gray door.
VS4-G-2-PG	Four loop system with one 250-point loop installed. 230v, gray door, Portuguese.
VS4-G-2-SP	Four loop system with one 250-point loop installed. 230v, gray door, Spanish.
VS4-GC	Four loop system, one 250-point loop installed. 110v, gray door, LED strips, Canada.
VS4-GF	Four loop system, one 250-point loop. 110v, gray door, LED strips, French Canada.
VS4-G-PG	Four loop system with one 250-point loop installed. 110v, gray door, Portuguese.
VS4-G-SP	Four loop system with one 250-point loop installed. 110v, gray door, Spanish.
VS4-R	Four loop system with one 250-point loop installed. 110v, red door.
VS4-R-2	Four loop system with one 250-point loop installed. 230v, red door.
SA-TRIM2	VS4 Flush mount trim, black.

VS1 Fire Alarm Systems

VS1-G	One loop system with one 64-point loop installed. 110v, gray door.
VS1-G-2	One loop system with one 64-point loop installed. 230v, gray door.
VS1-G-2-PG	One loop system with one 64-point loop installed. 230v, gray door, Portuguese.
VS1-G-2-SP	One loop system with one 64-point loop installed. 230v, gray door, Spanish.
VS1-GL	One loop system, one 64-point loop installed. 110v, gray door, English Canada.
VS1-GL-F	One loop system, one 64-point loop installed. 110v, gray door, French Canada.
VS1-G-PG	One loop system with one 64-point loop installed. 110v, gray door, Portuguese.
VS1-G-SP	One loop system with one 64-point loop installed. 110v, gray door, Spanish.
VS1-R	One loop system with one 64-point loop installed. 110v, red door.
VS1-R-2	One loop system with one 64-point loop installed. 230v, red door.
SA-TRIM1	VS1 Flush mount trim, black

Option Cards

V-SLC2-1	Expansion module, one 250-device loop. For VS4 only.
V-SLC2-2	Expansion module, two 250-device loops, 500 devices total. For VS4 only.
RZ116-2	Remote Zone Interface Module. 16 Class B IDCs, 2 Class B Output. Bracket included.
SA-DACT	Dual Line Dialer/Modem, supports Contact ID, mounts in cabinet on base plate.
SA-232	RS-232 Serial Port for connection to printers & computers, mounts in cabinet.
SA-ETH	Ethernet Port, IP Communicator, mounts in cabinet on base plate.
SA-FSB	Field Server Bridge for connection to 3rd Party Building Management Systems. Supports BACnet and Modbus protocols. Mounts in the MFCA cabinet using the FSB-BRKT2 mounting plate. See separate SA-FSB datasheet K85010-0157 for additional information
SA-CLA	Class A adapter module. Provides Class A capacity on NACs. Mounts in cabinet on main board. VS1 systems only.
SA-USB	RS-232 Serial port for connection to printers & computers, mounts in cabinet
D16L-VS	LED Annunciator module, 16 X 2-LED zones (4 programmable for sup). Mounts in cabinet to right of LCD display. For VS4 only.
D8RY-VS	Canada only: LED Annunciator module, two LEDs per zone, 16 zones (4 alarm only, 8 supervisory only, 4 alarm or supervisory). Mounts in cabinet. For VS4 only.

Accessories

CTM	City Tie Module. 2-gang. Connection to a local energy fire alarm box.
MFC-A	Multifunction Fire Cabinet, 8" x 14" x 3.5" - red.
BC-1	Battery Cabinet. 14.0" x 18.25" x 7.25". Holds two 12V24A batteries.
BC-1R	Battery Cabinet - Red. 14.0" x 18.25" x 7.25". Holds two 12V24A batteries.
GSA-REL	Releasing Module
BC-1EQ	Seismic hardening Kit for VS Series panels. Includes battery hardening for BC-1 enclosure and components to harden panel internal components.

Programming Tools

VS-CU	VS Series configuration and diagnostics utility.
260097	RS232 cable, 4 conductor, DB9 PC interface

Technology that saves lives

R-Series Remote Annunciators

RLCD, RLCD-C, RLED, RLED-C, RLED24, GCI



Overview

Kidde R-Series Annunciators are high-performance remote annunciators that provide status indication and common controls for compatible fire alarm control panels. This family of annunciators offers LCD or LED annunciation. Models are available with and without common controls.

There are three R-Series annunciator models, plus an LED-based expander. Up to two expanders can be connected to any annunciator. The expander includes 24 pairs of LEDs that extend the capabilities of any of the annunciators.

All annunciator models include status LEDs and an internal buzzer. Two models have an LCD text display, and one has 16 pairs of LEDs for zone annunciation. LCD models feature a large back-lit, four by twenty character per line, super-twist liquid crystal display.

R-Series annunciators and expanders are mounted on a standard 4-inch square electrical box, using the included mounting ring. They can also be surface mounted in locking steel enclosures. Three different enclosures are available.

A keyswitch and graphic annunciator interface is available for R-Series annunciator applications. The keyswitch enables or disables common controls. The graphic annunciator interface cards supports 32 LEDs and 16 switches on the graphic panel display.

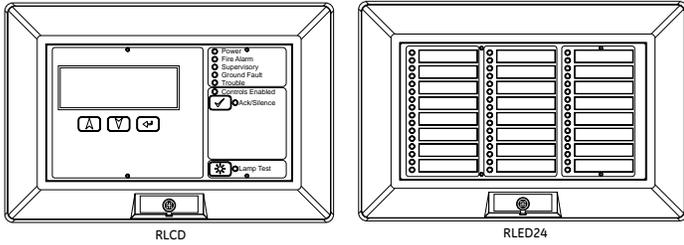
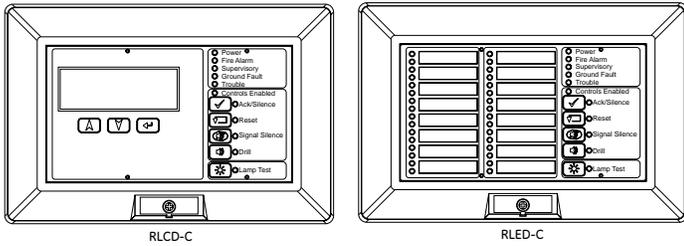
Features

- LCD models feature large 4 x 20 character backlit LCD display
- LED models provide 16 pairs of LEDs for zone annunciation
- Available expander extends capability with 24 pairs of LEDs
- Up to two expanders may be wired to each annunciator
- Status LEDs and internal buzzer standard on all models
- Common controls available for LED and LCD display models
- Available keyswitch for disabling common controls
- Standard 4-inch square electrical box mounting
- Class B or Class A RS485 wiring standard
- One-, two-, and three-position enclosures available
- Graphic Annunciator interface, includes common control, indicators and 32 LEDs
- No programming required, set the address and unit receives all information from panel

Application

R-Series annunciators communicate with the FACP on the RS-485 data riser. This can be configured for Class A or Class B communication. Annunciators do not provide ground fault isolation.

These annunciators are stand-alone units that can be powered by the FACP or by an approved power supply.



Features by model	RLCD	RLCD-C	RLED-C	RLED24
Reset	✓	✓	✓	-
Ack/Silence	✓	✓	✓	-
Fire Alarm	✓	✓	✓	-
Supervisory	✓	✓	✓	-
Ground Fault	✓	✓	✓	-
Trouble	✓	✓	✓	-
Controls Enabled	✓	✓	✓	-
Ack/Silence	✓	✓	✓	-
Reset		✓	✓	-
Signal Silence		✓	✓	-
Drill		✓	✓	-
Lamp Test	✓	✓	✓	-
LCD Display	✓	✓	-	-
Zone Active LEDs	-	-	16 *	24 **
Zone Trouble LEDs	-	-	16	24

* zones 13-16 may be selected as Supervisory on FX-64 and VS1

** zones 13-16 and 29-32 may be selected as Supervisory on FX-1000 and VS4

Graphic Annunciator Interface

The GCI Graphic Annunciator Driver is an interface card that connects the fire alarm control panel to the display panel of an LED-based graphic annunciator.

The annunciator card supports 32 LEDs and 16 switches on the graphic panel display. It includes status LEDs and an internal buzzer.

The graphic interface is supplied with snap track mounting. It is attached to a plastic mounting rail that requires two EIA panels.

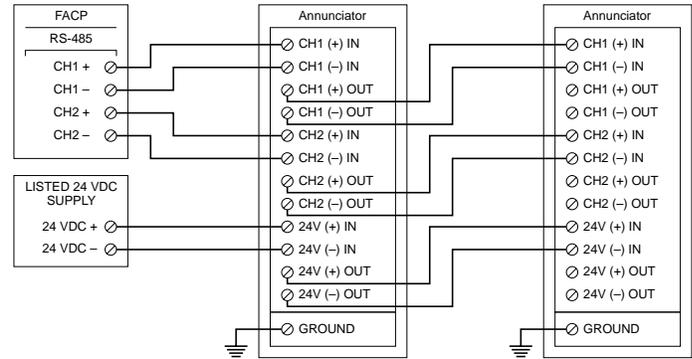
The annunciator communicates with the FACP on the RS-485 data riser. This can be configured for Class A or Class B communication. The annunciator does not provide ground fault isolation. It is a stand-alone unit that can be powered by the FACP or by an approved power supply.

Graphic Annunciator Interface Specifications

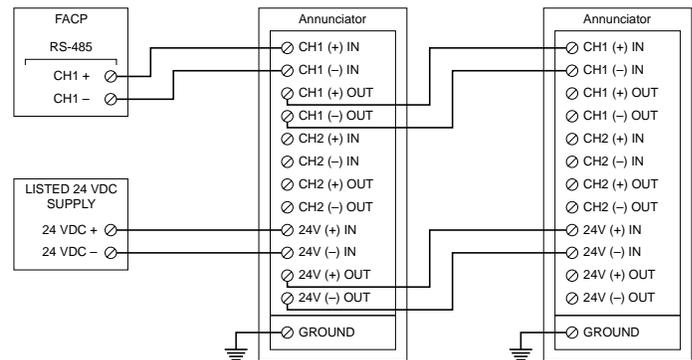
Alarm current	146 mA at 24 Vdc (with 36 LEDs ON)
Standby current	36 mA at 24 Vdc (with no LEDs ON)
Maximum current	10 mA per LED

Annunciator Wiring

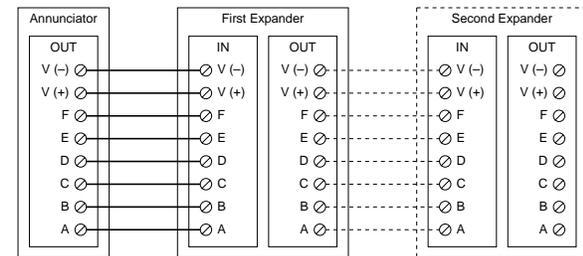
Annunciator, Class A



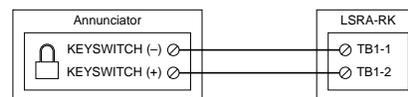
Annunciator, Class B



Expander

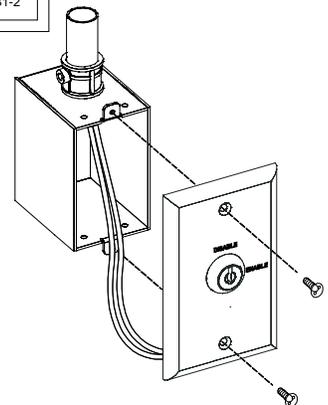


Remote Keyswitch



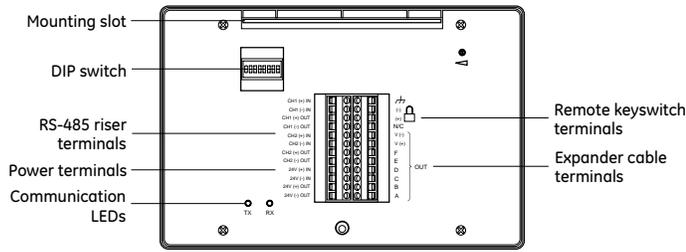
Keyswitch Specifications

Maximum voltage	5 Vdc
Maximum current	200 mA
Mounting	2-1/2 in (64 mm) deep 1-gang box
Termination	Screw terminals
Maximum wire size	12 AWG (2.5 mm sq)
Contact configuration	Normally open

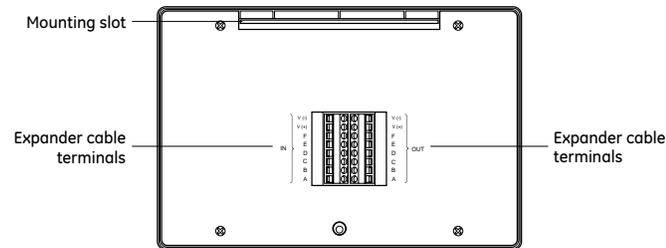


Annunciator Connections

Annunciator



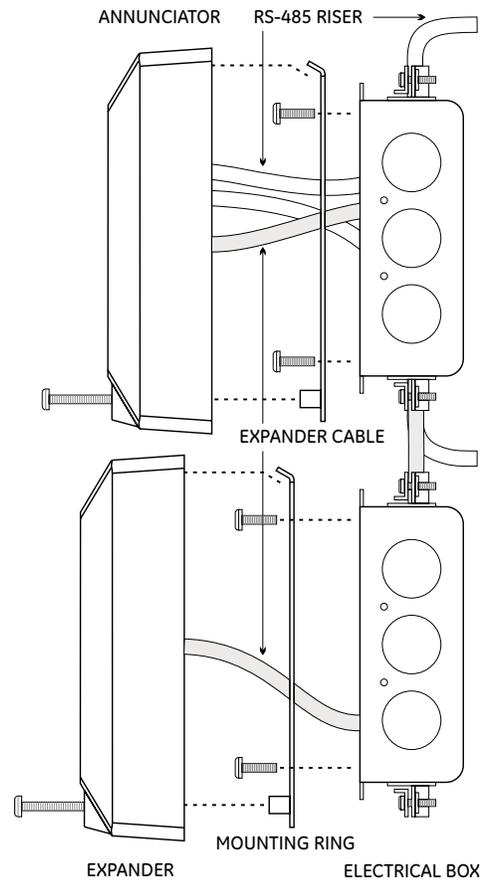
Expander



DIP switch settings

Switch	Description and values
S1 to S5	The annunciator network address (in binary).
Network address	The factory setting is for address 2. Examples: 10000 = 1 01000 = 2 11000 = 3 00100 = 4
S6 Network baud rate	OFF = 9600 baud (factory default setting) ON = 38,400 baud
S7 to S8	Not used

Annunciator Mounting

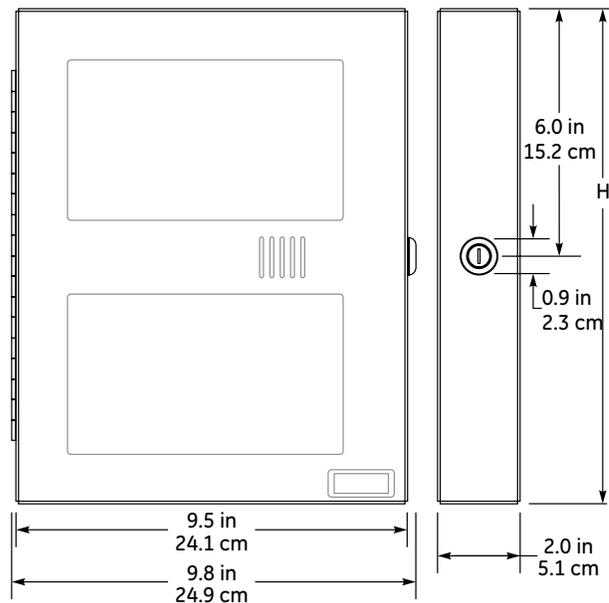
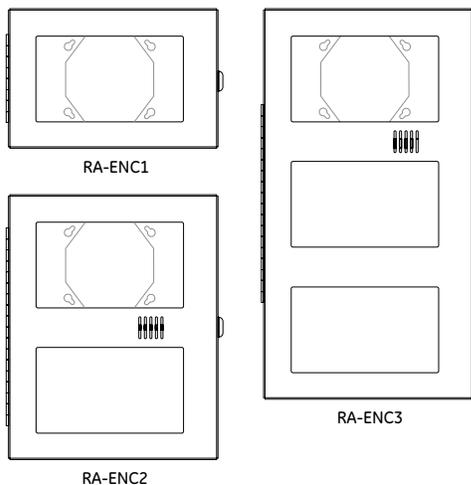


Annunciator Enclosures

The RA Remote Annunciator Enclosures provide secure, surface mounted protection for annunciators and extenders. Each consists of a back plate, hinged cover, and key lock.

The enclosures are 16-gauge welded steel with a white, painted finish. Each enclosure includes a security lock and two keys. The two- and three-position enclosures have wiring channels for correct routing of interconnections.

The enclosures attach to a standard electrical box, and provide a mounting lip that takes the place of the integral mounting ring supplied with the annunciators and expanders.



Dimensions (H x W x D)

RA-ENC1	6.3 x 9.8 x 2.0 in (16.0 x 24.9 x 5.1 cm)
RA-ENC2	12.0 x 9.8 x 2.0 in (30.5 x 24.9 x 5.1 cm)
RA-ENC3	17.7 x 9.8 x 2.0 in (45.0 x 24.9 x 5.1 cm)

Note: Allow approximately 2 inches (50 cm) clearance on both sides of the enclosure, to permit inserting and removing the key, and opening the door through 90 degrees.



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Specifications

	RLCD-C	RLCD	RLED-C	RLED24
Operating voltage	24 VDC, continuous.			
Standby current	99 mA	98 mA	28 mA	6 mA
Alarm current	115 mA	113 mA	62 mA	34 mA
RS-485 communications	Class A or Class B, 9600 baud			
Data wiring	18 to 14 AWG (1.0 to 2.5 sq mm) twisted pair (6 twists per foot minimum). Maximum wire run is 4,000 ft. (1,219 m)			
Remote key switch circuit	5 VDC at 1 mA, power-limited, unsupervised			
Ground fault impedance	0			
Power wiring	18 to 14 AWG (1.0 to 2.5 sq. mm)			
Display area	4 lines of 20 characters each			
Dimensions (H x W x D)	5-5/8 x 8-1/2 x 1-1/2 in. (14.3 x 21.4 x 3.8 cm)			
Mounting	North American 4-inch square electrical box or listed enclosure			
Agency Listing	UL, ULC			
Operating environment	Temperature: 32 to 120°F (0 to 49°C) Humidity: 0 to 93% RH, noncondensing at 90°F (32°C)			

Ordering Information

Part	Description
Remote Annunciators	
K-RLCD	LCD text annunciator without common controls. English.
K-RLCD-R	LCD text annunciator without common controls. English. Red.
K-RLCDF	LCD text annunciator without common controls. French.
K-RLCD-C	LCD text annunciator with common controls. English.
K-RLCD-CR	LCD text annunciator with common controls. English. Red.
K-RLCD-CF	LCD text annunciator with common controls. French.
K-RLED-C	16-pair LED zone annunciator with common controls. English.
K-RLED-CR	16-pair LED zone annunciator with common controls. English. Red.
K-RLED-CF	16-pair LED zone annunciator with common controls. French.
Remote Expanders	
K-RLED24	24-pair LED zone expander with expander cable and zone card insert.
K-RLED24R	24-pair LED zone expander with expander cable and zone card insert. Red.
Enclosures	
RA-ENC1	One-position enclosure for Remote Annunciator.
RA-ENC2	Two-position enclosure for Remote Annunciator and one Remote Expander, including one interconnection cable.
RA-ENC3	Three-position enclosure for Remote Annunciator and two Remote Expanders, including two interconnection cables.
LSRA-MIR-SB	Surface Mount Box - for single R Series annunciator.
Graphic Annunciator Drivers	
GCI	Graphic Annunciator Driver, provides outputs for common indicators and 32 alarm/supv zones as well as inputs for common switches. Provided with a snap track for mounting in custom graphic enclosures.
Accessories	
RKEY	Remote key switch on plate for enabling common controls (Lock/Unlock).
27193-16	Electrical box, surface mount, white, single-gang, for RKEY.

HWF2-COM SERIES

LTE / IP Single or Dual Path Commercial Fire Communicators

The HWF2-COM Series LTE / IP fire communicators are single or dual path commercial fire alarm communicators that offer Contact ID reporting with any FACP (fire alarm control panel) with a built-in dialer.

Models include:

HWF2A-COM (AT&T LTE & IP)

HWF2V-COM (Verizon LTE & IP)

Both models connect directly to the primary or secondary communication ports of a fire panel's digital alarm communicator transmitter (DACT).

Three selectable reporting paths include: LTE cellular only, IP only, or IP primary with LTE cellular backup. All signals from the HWF2-COM Series are delivered to the AlarmNet® network control center which routes highly encrypted, cybersecured Ethernet data packets via a customer-provided Internet connection or LTE cellular network to the appropriate central station. The AlarmNet® network control center is fully redundant and monitored 24/7. Installation and programming are easy using the handheld 7720P Programming tool.



FEATURES AND BENEFITS

- LTE and IP connection tested every day
- Three selectable reporting paths: LTE cellular only, IP only, or IP Primary with LTE cellular backup
- Requires no change to the existing FACP configuration
- Connects directly to the primary and secondary telephone ports of a DACT
- Plan choices range from 5 minute, 60 minute, 6 hour, and 24 hour supervision intervals
- Operates over the following communication protocols: LTE, HSPA+(4G) HSPA (3G)
- Works over any type of customer provided Ethernet 10/100 based network
- connection (LAN or WAN), DSL modem or cable modem
- Data transmits over standard Contact ID protocol but is secured with the industry's advanced encryption standard (AES 256 bit)
- Supports both dynamic (DHCP) or public and private Static IP addressing
- Reliable connection: IP and cellular connection tested every day
- Built-in, standalone power supply module. Onboard charging circuit design accommodates battery backup. Includes primary power and battery supervision
- Diagnostic LEDs indicate signal strength and status
- Choice of LTE provider services
- QOS: Quality of Service diagnostics via AlarmNet conveys vital communicator information including signal strength, message path used, and when the message was received
- 7720P Handheld programmer for easy setup

Honeywell

The HWF2-COM LTE / IP fire communicators operate over the most modern and common cellular networks including LTE, 4G and 3G.

They connect to any customer provided Ethernet 10/100 base network connection (LAN or WAN), DSL or cable modem. Selectable reporting path feature allows the radios to be configured for a single or dual path, while providing appropriate supervision intervals based on NFPA 72 requirements. Selectable paths and supervision timing intervals include:

SELECTABLE PATH	DESCRIPTION	SUPERVISION TIMES
2010 Cell	Single path, cellular	5 Minutes
2010 IP	Single path, IP	5 Minutes
2010 IP & Cell	Dual path, IP and cellular	24 Hours
2013 Cell	Single path, cellular	60 Minutes
2013 IP	Single path, IP	60 Minutes
2013 IP & Cell	Dual path, IP and cellular	6 Hours

OPERATION

When an event occurs, the FACP goes off-hook to dial the central station. The HWF2-COM Series dialer capture module detects the off-hook condition and provides the fire panel with a dial tone. When the fire panel detects the dial tone, it begins dialing the central station.

After the dialing is completed, the dialer capture module returns a signal to the fire panel. The fire panel then sends the Contact ID reports to the dialer capture module, which in turn sends a signal after the report is successfully received from the fire panel. The dialer capture module sends the Contact ID reports to the HWF2-COM Series communications module. When all the reports are sent, the fire panel goes on-hook. The HWF2-COM Series communications module then transmits the messages to the central station either over the LTE network or the Internet (depending on configuration).

FIRE COMMUNICATOR / PANEL CAPABILITY

The HWF2-COM Series is compatible with fire alarm control panels that use the Contact ID communications format as described in the SIA DC-05 standard.

EASY TO PROGRAM

The HWF2-COM communicator can be pre-programmed using the 7720P programmer to enter all central station information. This is saved to the HWF2-COM communicator panel memory. When the HWF2-COM is installed at the site and connected to the Internet/ Intranet, it registers with the AlarmNet Receiver.

For most installations, the only required parameters are:

- Primary City ID (two digits), obtained from your monitoring station
- Primary Central Station ID (two digits), obtained from your monitoring station

- Primary Subscriber ID (four digits), obtained from your monitoring station
 - Communication Module MAC ID, and MAC CRC number located on the outside of the box and inside of the module
- All parameters are assigned by the monitoring station.

ALARMNET

AlarmNet communications technology provides a highly reliable alternative for the transmission of alarm signals. The network provides extensive coverage in the United States and Canada. The AlarmNet Network Control Center processes signals from powerful servers in multiple locations equipped with 24/7 infrastructure support. Redundant hardware servers, real-time backup databases, and generators with battery backup at all locations ensure continuity of service. Signals from AlarmNet are transmitted to central station receivers using multiple communication paths consisting of the Internet, LTE radio network, or toll free plain old telephone service (POTS). Visit AlarmNet.com to learn more.

INSTALLATION REQUIREMENTS, UL COMPLIANCE

To meet UL864/NFPA requirements, ensure the following:

- HWF2-COM Series must be installed in accordance with the National Fire Protection Association (NFPA) standards 70 and 72
- HWF2-COM Series must be mounted in the same room and within 20 feet of the fire panel.
- HWF2-COM Series and all equipment used for the IP connection (e.g., router, hub, modem, etc) must be UL-listed, powered from an unswitched branch circuit, and be provided with appropriate standby power.
- HWF2-COM Series must use the 7AH battery (not included) to provide 24 hour backup capability

HWF2-COM SERIES TECHNICAL SPECIFICATIONS

ELECTRICAL

Transformer:

- Primary: 120VAC, 60Hz, 0.5A
- Secondary: 18VDC, 50VA

Battery:

- One 12 V 7.0 AH lead-acid battery: (not supplied)
- Battery charging current: 1 Amp maximum
- Battery discharge current: Standby 230mA, Active 950mA

CABINET SPECIFICATIONS

- Dimensions: 14.875" H x 12.75" W x 3.0" D (37.8cm H x 32.4cm W x 7.6cm D)
- Color: Red

SHIPPING DIMENSIONS

- Weight: 5.3 lbs (6.94kg)
- Dimensions: 15.625" H x 13.79" W x 9.25" D (39.7cm H x 34.9cm W x 23.9cm D)

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 (non-condensing 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.

PRODUCT LINE INFORMATION

HWF2V-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, Verizon LTE / IP

HWF2A-COM: LTE Digital Cellular Fire Alarm Communicator and Internet Panel, AT&T LTE / IP

Both models include:

- Red cabinet with key and lock
- Wall outlet box
- Dialer capture module
- LTE communications module
- Antenna and mounting adapter
- PowerBoost1 power supply
- LED display board
- Transformer
- Manual and required screws
- Cables, etc.

ANTENNA AND EXTERNAL HARDWARE

CELL-ANT3DB: 3dBA gain antenna
WA7626-CA: SMA to N adapter cable
7626-50HC: 50 ft. antenna cable, low loss

Note: The WA7626-CA adapter cable and 7626-50HC antenna cable are only required when installing the CELL-ANT3DB antenna remotely.

OTHER ACCESSORIES

7720P: HWF2V-COM, HWF2A-COM and IPGSM-4G handheld programmer

HPTCOVER: Plug-in transformer box for HWF2V-COM, HWF2A-COM, and IPGSM-4G communicators

BAT-1270: Battery 12 Volts, 7AH, sealed

AGENCY LISTINGS AND APPROVALS

The listings and approvals below apply to the HWF2-COM Series communicators. In some cases, certain modules may not be listed by certain approval agencies, or listing may be in process. Consult the factory for latest listings.

UL Listed: S789

CSFM: 7300-1645:0511

FDNY: Approved

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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.

Country of origin: USA

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SIGNALING



FDB
ACE-11

FIRE DOCUMENT BOX



The FDB is the perfect fit to meet the demanding code requirements today. SAE's number one goal is to manufacture code compliant solutions and this product allows you to do just that. NFPA 72 2007 section 6.2.2.1 states, "A record of installed software and firmware version numbers shall be maintained at the location of the fire alarm control unit."

This durable 16 gauge steel enclosure with a solid piano hinge and key lock will keep all of your code required documents in one safe place. Along with your fire alarm software you can store your test & inspection documents, service records, manuals & AS built drawings for the system.

The FDB is designed to hold critical manuals and documents with a durable steel retainer. It has designated hooks to organize key rings and hold important business cards for easy access and reference. Inside the cover it has a organized note table that allows for documentation for passwords and other critical system information.

Standard Features:

- 2 Key ring hooks to hold system keys
- Business card holder for key contacts
- Overall Dimensions are 12" x 13" tall and 2 ¼ deep
- 16 gauge steel box and cover for security
- Durable powercoat baked on finish other colors available
- Standard ¾" cat 30 key lock other lock assemblies available
- Solid stainless steel piano hinge
- Permanently screened white ink 1" high "Fire Alarm Documents"
- Legend sheet for passwords and system information



ISO 9001
REGISTERED
COMPANY

ACEBOX

Space Age Electronics, Inc.
www.1sae.com
800.486.1723 Toll Free
508.485.0966 Local
508.485.4740 Fax

Specifications:

The fire alarm documents box (FDB) shall be constructed of 18 gauge cold rolled steel. It shall have a red powder coat epoxy finish. The cover shall be permanently screened with 1" high lettering "FIRE ALARM DOCUMENTS" with white indelible ink. The access door shall be locked with a 3/4" barrel lock and the hinge shall be a solid width 12" stainless steel piano hinge. The enclosure will supply 4 mounting holes. Inside the enclosure will accommodate standard 8 1/2 x 11 manuals and loose document records that will be protected within the enclosure. A legend sheet will be permanently attached to the door for system required documentation, key contacts and system information. The enclosure shall also provide 2 key ring holders with a location to mount standard business type cards for key contact personnel.



Key Ring Hooks

Business Card Holder

For replacement forms order PIN: EA0316 (Qty. 10)

Property Information	Minimum Required Documentation (SIG-FUN)
Name of property: _____ Address: _____ Description of property: _____ Occupancy type: _____	(Reference NFPA-72 2013 Section 7.2.1) 1 Written narrative providing intent and system description <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
Certifications and Approvals 16.1 System Installation Contractor: This system, as specified herein, has been installed and tested according to all NFPA standards cited herein. Signed: _____ Printed name: _____ Date: ___/___/___ Organization: _____ Title: _____ Phone: _____	2 Riser diagram <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
16.5 Authority Having Jurisdiction: I have witnessed a satisfactory acceptance test of this system and find it to be installed and operating properly in accordance with its approved plans and specifications, with its approved sequence of operations, and with all NFPA standards cited herein. Signed: _____ Printed name: _____ Date: ___/___/___ Organization: _____ Title: _____ Phone: _____	3 Floor plan layout showing location of all devices and control equipment <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
Equipment Information ID No 1: _____ Serial: _____ Access code: _____ ID No 2: _____ Serial: _____ Access code: _____	4 Sequence of operation in either an input/output matrix or narrative form <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	5 Equipment technical data sheets <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	6 Manufacturers published instructions, including operation and maintenance instruction <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	7 Battery calculations (where batteries are provided) <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	8 Voltage drop calculations for notification appliance circuits <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	9 Completed record of inspection and testing in accordance with 7.6.6 and 7.8.2 <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	10 Completed record of completion in accordance with 7.5.6 and 7.8.2 <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	11 Copy of site specific software, where applicable <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	12 Record (as-built) drawings <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	13 Periodic inspection, testing, and maintenance documentation in accordance with Section 7.6 <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	14 Records, record retention, and record maintenance in accordance with 7.7 <input type="checkbox"/> N/A <input type="checkbox"/> Enclosed Or Alt. Location
	Signed: _____ Date: ___/___/___

Space Age Electronics, Inc. 58 Chocksett Road Sterling, MA 01564 800-486-1723 www.1sae.com LT10644 Rev. 1

Legend sheet for storing system information including contacts, sign-off, maintenance & test information, and alternate locations of additional records.

Ordering Information:

Part #	Description
SSU00672	Fire Document Box RED
SSU00673	Custom screening with your Logo
EA0315	10 pack door legend sheet

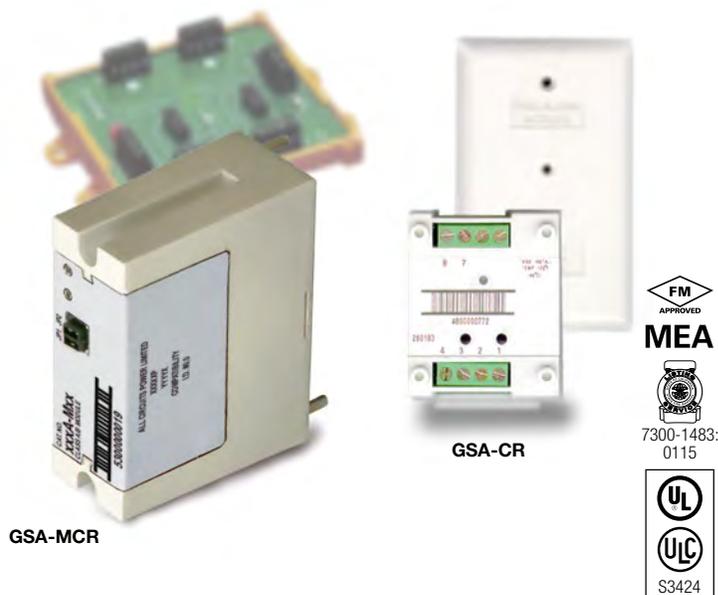
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508.485.4740 Fax

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Technology that saves lives

Control Relay Modules

 GSA-CR, GSA-MCR, GSA-CRR,
 GSA-MCRR


Overview

The Control Relay Module and the Polarity Reversal Relay Module are part of the Signature Series system. They are intelligent analog addressable devices available in either plug-in (UIO) versions, or standard 1-gang mount versions.

The GSA-CR/MCR Control Relay Module provides a Form “C” dry relay contact to control external appliances such as door closers, fans, dampers etc. This device does not provide supervision of the state of the relay contact. Instead, the on-board microprocessor ensures that the relay is in the proper ON/OFF state. Upon command from the loop controller, the GSA-CR/MCR relay activates the normally open or normally-closed contact.

The GSA-CRR/MCRR Polarity Reversal Relay Module provides a Form “C” dry relay contact to power and activate a series of GSA-AB4G Audible Sounder Bases. Upon command from the Signature loop controller, the GSA-CRR reverses the polarity of its 24 Vdc output, thus activating all Sounder Bases on the data loop.

Standard-mount versions (GSA-CR and GSA-CRR) are installed to standard North American 1-gang electrical boxes, making them ideal for locations where only one module is required. Separate I/O and data loop connections are made to each module.

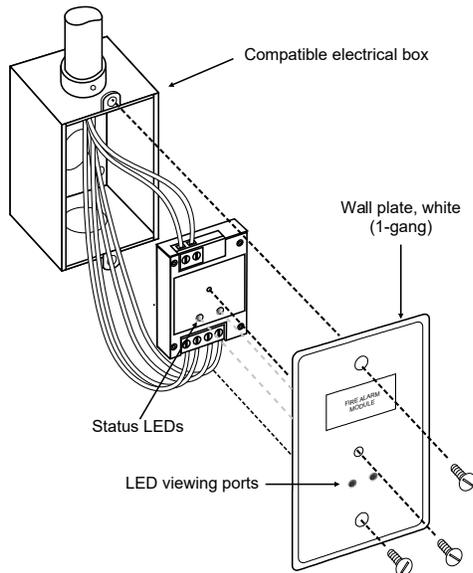
Plug-in UIO versions (GSA-MCR and GSA-MCRR) are part of the UIO family of plug-in Signature Series modules. They function identically to the standard mount versions, but take advantage of the modular flexibility and easy installation that characterizes all UIO modules. Two- and six-module UIO motherboards are available. All wiring connections are made to terminal blocks on the motherboard. UIO assemblies may be mounted in Kidde enclosures.

Standard Features

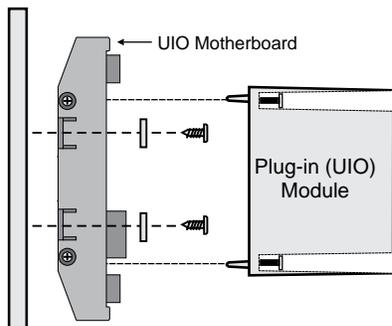
- Provides one no/nc contact (GSA-CR/MCR)**
 Form “C” dry relay contact can be used to control external appliances such as door closers, fans, dampers etc.
- Allows group operation of sounder bases**
 The GSA-CRR/MCRR reverses the polarity of its 24 Vdc output, thus activating all Sounder Bases on the data loop.
- Plug-in (UIO) or standard 1-gang mount**
 UIO versions allow quick installation where multiple modules are required. The 1-gang mount version is ideal for remote locations that require a single module.
- Automatic device mapping**
 Signature modules transmit information to the loop controller regarding their circuit locations with respect to other Signature devices on the wire loop.
- Electronic addressing**
 Programmable addresses are downloaded from the loop controller, a PC, or the SIGA-PRO Signature Program/Service Tool; there are no switches or dials to set.
- Intelligent device with microprocessor**
 All decisions are made at the module to allow lower communication speed with substantially improved control panel response time and less sensitivity to line noise and loop wiring properties; twisted or shielded wire is not required.
- Ground fault detection by address**
 Detects ground faults right down to the device level.

Installation

GSA-CR and GSA-CRR: modules mount to North American 2½ inch (64 mm) deep 1-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 1-gang covers and GSA-MP mounting plates. The terminals are suited for #12 to #18 AWG (2.5 mm² to 0.75 mm²) wire size.



GSA-MCR and GSA-MCRR: mount the UIO motherboard inside a suitable Kidde enclosure with screws and washers provided. Plug the module into any available position on the motherboard and secure the module to the motherboard with the captive screws. Wiring connections are made to the terminals on the motherboard (see wiring diagram). UIO motherboard terminals are suited for #12 to #18 AWG (2.5 mm² to 0.75 mm²) wire size.



Electronic Addressing - The loop controller electronically addresses each module, saving valuable time during system commissioning. Setting complicated switches or dials is not required. Each module 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 modules can be addressed using the SIGA-PRO Signature Program/Service Tool.

Kidde recommends that this module be installed according to latest recognized edition of national and local fire alarm codes.

Application

The operation of Signature Series control relays is determined by their sub-type code or “Personality Code.”

Personality Code 8: CONTROL RELAY (GSA-CR/MCR) - Dry Contact Output. This setting configures the module to provide one Form “C” DRY RELAY CONTACT to control Door Closers, Fans, Dampers, etc. Contact rating is 2.0 amp @ 24 Vdc; 0.5 amp @ 120 Vac (or 0.25A @ 220 Vac for non-UL applications). Personality Code 8 is assigned at the factory. No user configuration is required.

Personality Code 8: POLARITY REVERSAL RELAY MODULE (GSA-CRR/MCRR). This setting configures the module to reverse the polarity of its 24 Vdc output. Contact rating is 2.0 amp @ 24 Vdc (pilot duty). Personality Code 8 is assigned at the factory. No user configuration is required.

Compatibility

These modules are part of Kidde’s Signature Series intelligent processing and control platform. They are compatible with VM, and VS Series control panels.

Warnings & Cautions

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

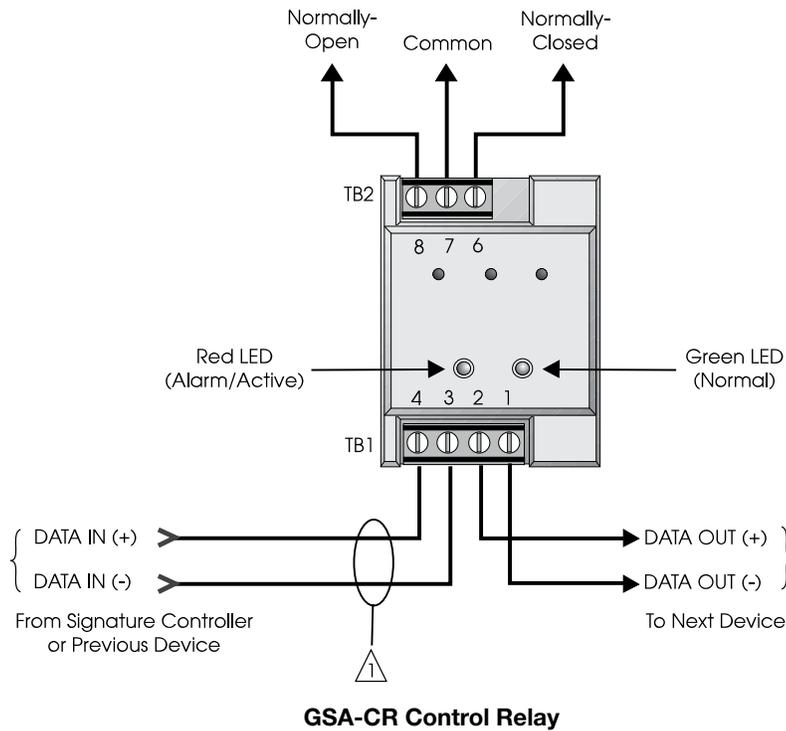
Testing & Maintenance

The module’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 module and other pertinent messages. Single modules may be turned off (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

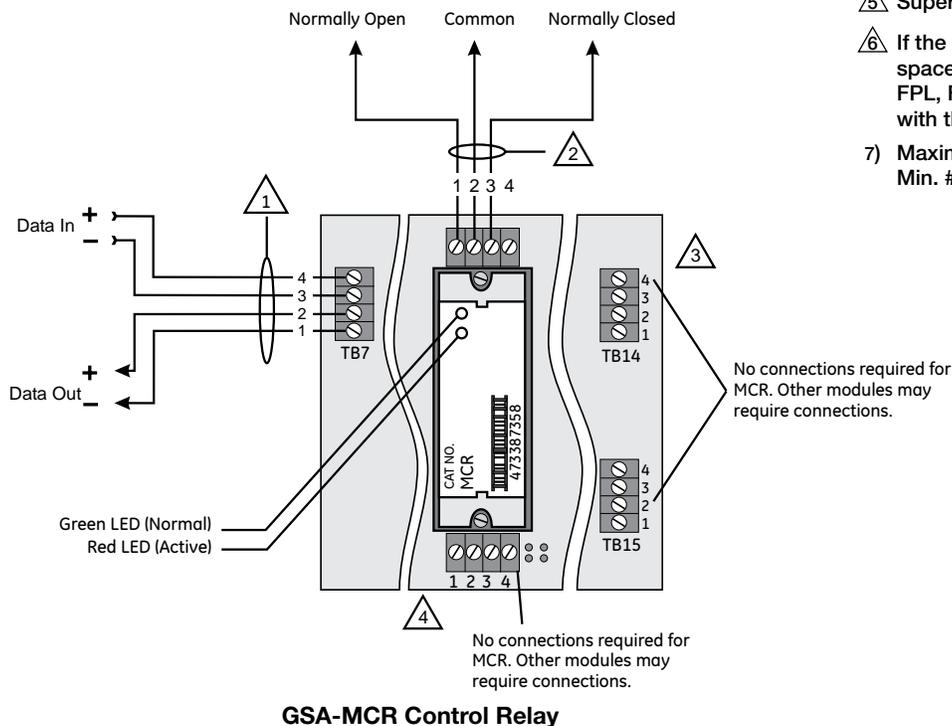
Modules will accept #18 AWG (0.75mm²), #16 (1.0mm²), #14 AWG (1.50mm²) and #12 AWG (2.5mm²) wire sizes.

Note: Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.



Notes

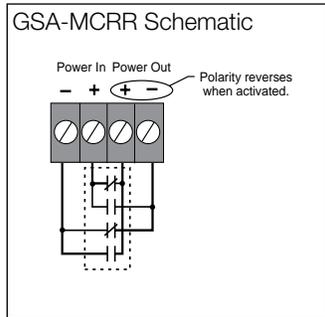
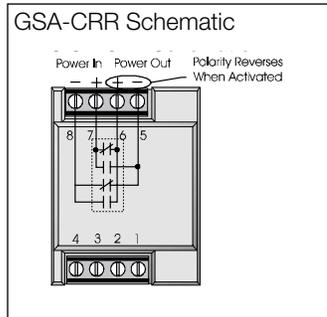
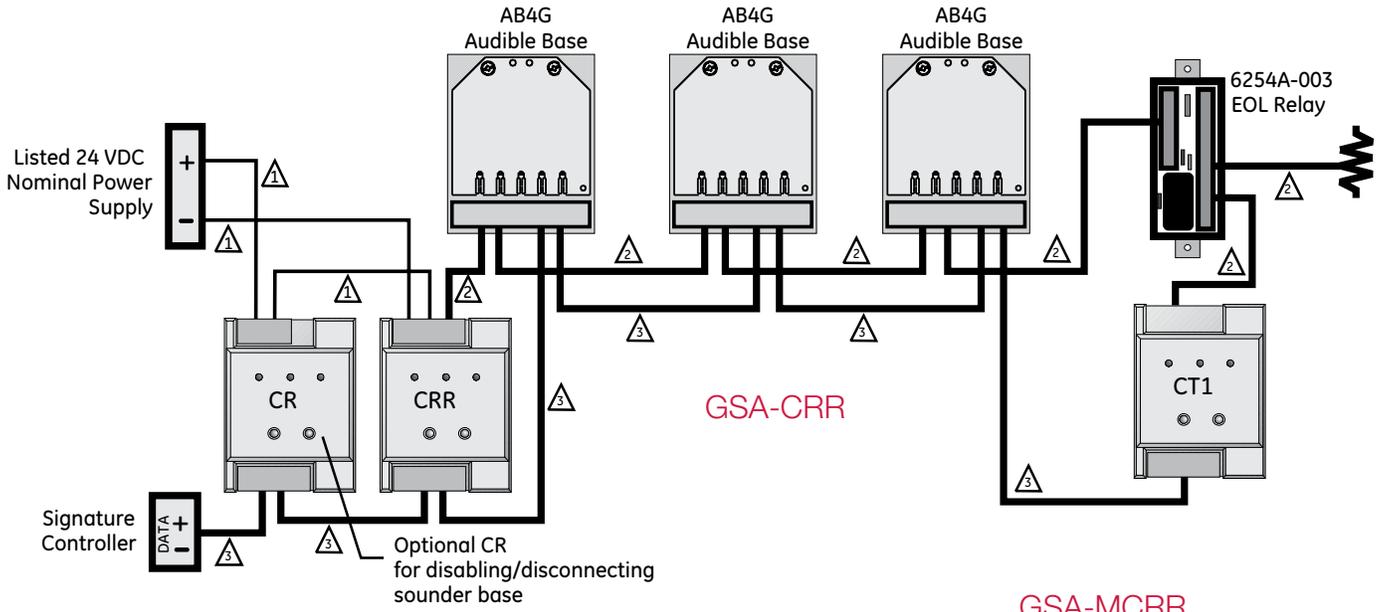
- 1 Refer to Signature Loop Controller Installation Sheet for wiring specifications.
- 2 NFPA 72 requires that the GSA-CR/GSA-MCR be installed in the same room as the device it is controlling. This requirement may not apply in all markets. Check with your local AHJ for details.
- 3 The GSA-UIO6R and the GSA-UIO2R do not come with TB14.
- 4 The GSA-UIO6 does not come with TB8 through TB13.
- 5 Supervised and power-limited.
- 6 If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring or use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electrical Code.
- 7) Maximum #12 AWG (2.5mm²) wire. Min. #18 (0.75mm²).



Typical Wiring

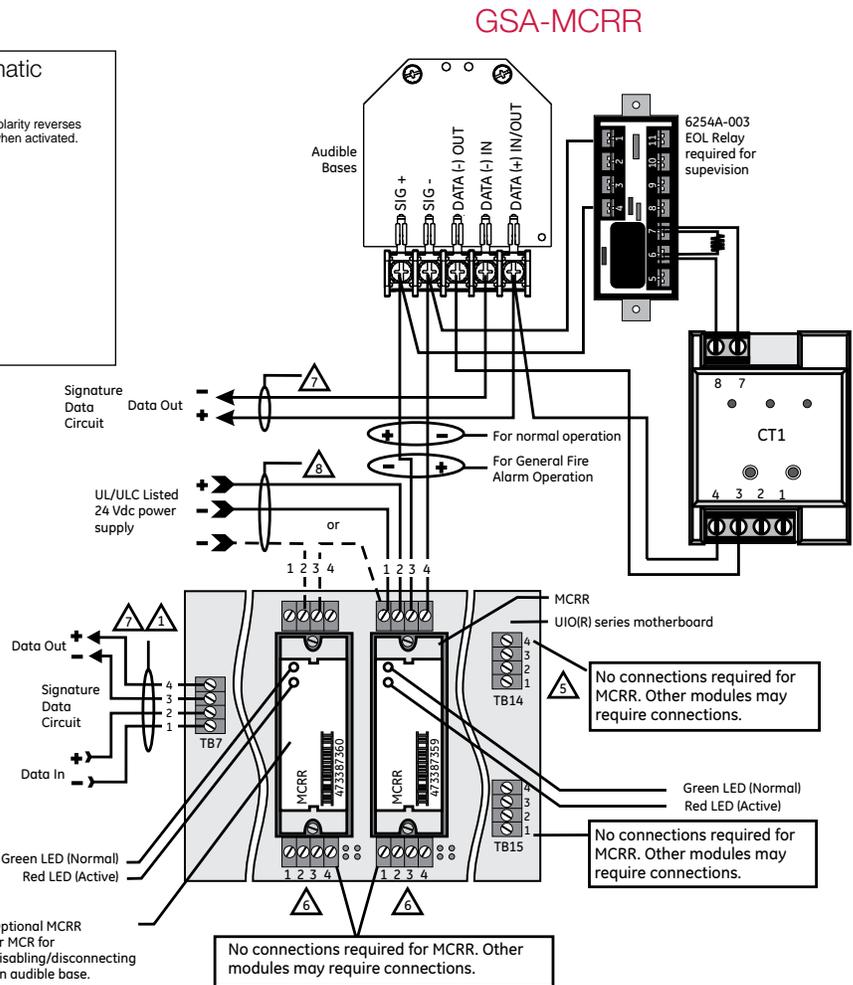
Modules will accept #18 AWG (0.75mm²), #16 (1.0mm²), #14 AWG (1.50mm²) and #12 AWG (2.50mm²) wire sizes.

Note: Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.



Notes

- ⚠ Refer to the Signature controller installation sheet for wiring.
- ⚡ One Pair of Wires (24 Vdc power).
- ⚡ One Pair of Wires (Signature Data).
- ⚡ Single Wire (24 Vdc power).
- ⚠ The GSA-UIO6R and the GSA-UIO2R do not come with TB14.
- ⚠ The GSA-UIO6 does not come with TB8 through TB13.
- ⚠ Supervised and power-limited.
- ⚠ If the source is nonpower-limited, maintain a space of 1/4 inch from power-limited wiring or use FPL, FPLP, FPLR, or an equivalent in accordance with the National Electrical Code.
- 9 Maximum #12 AWG (2.5 mm²) wire; Minimum #18 AWG (0.75 mm²).
- 10 End-of-Line Relay must monitor and report power supply trouble to control panel.
- 11 Class B Data wiring may be "T-tapped."



Specifications

Catalog Number	GSA-CR	GSA-MCR	GSA-CRR	GSA-MCRR
Description	Control Relay		Polarity Reversal Relay	
Type Code	Personality Code 8 (Factory Set)		Personality Code 8 (Factory Set)	
Address Requirements	Uses 1 Module Address			
Operating Current	Standby = 75 μ A Activated = 75 μ A			
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)			
Relay Type and Rating	Form C, 2 Amps @ 24 Vdc (pilot duty), 0.5 Amps @ 120 Vac and 0.25 Amps @ 220 Vac (220 Vac is non-UL). Not rated for capacitive loads.			
Mounting	North American 2½ inch (64 mm) deep 1-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 1-gang covers and GSA-MP mounting plates	Plugs into UIO2R, UIO6R or UIO6 Motherboards	North American 2½ inch (64 mm) deep 1-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 1-gang covers and GSA-MP mounting plates	Plugs into UIO2R, UIO6R or UIO6 Motherboards
Construction & Finish	High Impact Engineering Polymer			
Storage and Operating Environment	Operating Temperature: 32°F to 120°F (0°C to 49°C) Storage Temperature: -4°F to 140°F (-20°C to 60°C) Humidity: 0 to 93% RH			
LED Operation	On-board Green LED - Flashes when polled On-board Red LED - Flashes when in alarm/active			
Compatibility	Use With: Signature Loop Controller			
Agency Listings	UL, ULC, CSFM, MEA			

Ordering Information

Catalog Number	Description	Ship Weight - lbs (kg)
GSA-CR	Control Relay Module (Standard Mount)	0.4 (0.15)
GSA-MCR	Control Relay Module (UIO Mount)	0.18 (0.08)
GSA-CRR	Polarity Reversal Relay Module (Standard Mount)	0.4 (0.15)
GSA-MCRR	Polarity Reversal Relay Module (UIO Mount)	0.18 (0.08)

Related Equipment

27193-11	Surface Mount Box - Red, 1-gang	1 (0.6)
27193-16	Surface Mount Box - White, 1-gang	1 (0.6)
GSA-UIO2R	Universal Input-Output Module Board w/Riser Inputs - Two Module Positions	0.32 (0.15)
GSA-UIO6R	Universal Input-Output Module Board w/Riser Inputs - Six Module Positions	0.62 (0.28)
GSA-UIO6	Universal Input-Output Module Board - Six Module Positions	0.56 (0.25)
GSA-AB4G	Audible (Sounder) Detector Base	0.3 (0.15)

Accessories

MFC-A	Multifunction Fire Cabinet - Red, supports Signature Module Mounting Plates	7.0 (3.1)
GSA-MB4	Transponder Mounting Bracket (allows for mounting two 1-gang modules in a 2-gang box)	0.4 (0.15)
GSA-MP1	Signature Module Mounting Plate, 1 footprint	1.5 (0.70)
GSA-MP2	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.23)
GSA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint	1.02 (0.46)



Technology that saves lives

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Signature Series Overview

The Signature Series intelligent analog-addressable system from Kidde is an entire family of multi-sensor detectors and mounting bases, multiple-function input and output modules, network and non-network control panels, and user-friendly maintenance and service tools. Analog information from equipment connected to Signature devices is gathered and converted into digital signals. An onboard microprocessor in each Signature device measures and analyzes the signal and decides whether or not to input an alarm. The microprocessor in each Signature device provides four additional benefits – Self-diagnostics and History Log, Automatic Device Mapping, Stand-alone Operation and Fast, Stable Communication.

Self-diagnostics and History Log – Each Signature Series device constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in its non-volatile memory. This information is accessible for review any time at the control panel, PC, or using the SIGA-PRO Signature Program/Service Tool. The information stored in device memory includes:

- Device serial number, address, and type
- Time and date of last alarm
- Most recent trouble code logged by the detector — 32 possible trouble codes may be used to diagnose faults.

Automatic Device Mapping –The Signature Data Controller (SDC) learns where each device's serial number address is installed relative to other devices on the circuit. The SDC keeps a map of all Signature Series devices connected to it. The Signature Series Data Entry Program also uses the mapping feature. With interactive menus and graphic support, the wired circuits between each device can be examined. Layout or “as-built” drawing information showing branch wiring (T-taps), device types and their address are stored on disk for printing hard copy. This takes the mystery out of the installation. The preparation of as-built drawings is fast and efficient.

Device mapping allows the Signature Data Controller to discover:

- Unexpected additional device addresses
- Missing device addresses
- Changes to the wiring in the circuit.

Most Signature modules use a personality code selected by the installer to determine their actual function. Personality codes are downloaded from the SDC during system configuration and are indicated during device mapping.

Standalone Operation – A decentralized alarm decision by the device is guaranteed. Onboard intelligence permits the device to operate in standalone (degrade) mode. If Signature loop controller CPU communications fail for more than four seconds, all devices on that circuit go into standalone mode. The circuit acts like a conventional alarm receiving circuit. Each Signature device on the circuit continues to collect and analyze information from its slave devices. When connected to a panel utilizing standalone operation, modules with their “personality” set as alarm devices (IDC) will alarm should their slave alarm-initiating device activate.

Technology that saves lives

Input Modules

GSA-CT1, GSA-CT1HT,
 GSA-CT2, GSA-MCT2



Overview

The GSA-CT1 Single Input Module, GSA-CT1HT High Temperature Single Input Module and GSA-CT2/GSA-MCT2 Dual Input Modules are intelligent analog addressable devices used to connect one or two Class B normally-open Alarm, Supervisory, or Monitor type dry contact Initiating Device Circuits (IDC).

The actual function of these modules is determined by the “personality code” selected by the installer. This code is downloaded to the module from the Signature loop controller during system configuration.

The input modules gather analog information from the initiating devices connected to them and convert it into digital signals. The module’s on-board microprocessor analyzes the signal and decides whether or not to input an alarm.

The GSA-CT1, GSA-CT1HT and GSA-CT2 mount to standard North American 1-gang electrical boxes, making them ideal for locations where only one module is required. Separate I/O and data loop connections are made to each module.

The GSA-CT1HT module operates at an expanded temperature range of 32 °F to 158 °F (0 °C to 70 °C) for those applications requiring more extreme environmental temperature variation.

The GSA-MCT2 is part of the UIO family of plug-in Signature Series modules. It functions identically to the GSA-CT2, but takes advantage of the modular flexibility and easy installation that characterizes all UIO modules. Two- and six-module UIO motherboards are available. All wiring connections are made to terminal blocks on the motherboard. UIO assemblies may be mounted in Kidde enclosures.

Standard Features

- **Multiple applications**
Including Alarm, Alarm with delayed latching (retard) for waterflow applications, Supervisory, and Monitor. The installer selects one of four “personality codes” to be downloaded to the module through the loop controller.
- **GSA-CT1HT rated for high temperature environments**
Suitable for attic installation and monitoring high temperature heat detectors.
- **Plug-in (UIO) or standard 1-gang mount**
UIO versions allow quick installation where multiple modules are required. The 1-gang mount version is ideal for remote locations that require a single module.
- **Automatic device mapping**
Signature modules transmit information to the loop controller regarding their circuit locations with respect to other Signature devices on the wire loop.
- **Electronic addressing**
Programmable addresses are downloaded from the loop controller, a PC, or the Signature Program/Service Tool. There are no switches or dials to set.
- **Ground fault detection by address**
Detects ground faults right down to the device level.

Signature Series Overview

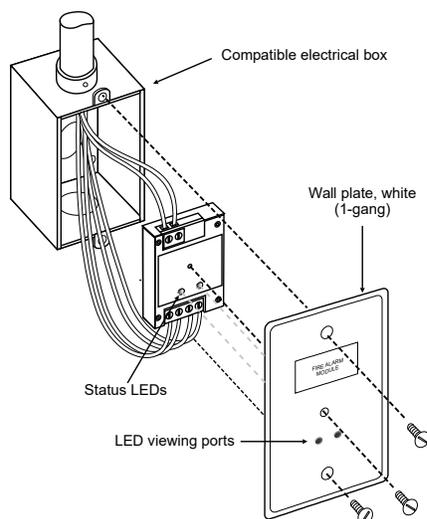
The Signature Series intelligent analog-addressable system from Kidde Security is an entire family of multi-sensor detectors and mounting bases, multiple-function input and output modules, network and non-network control panels, and user-friendly maintenance and service tools. Analog information from equipment connected to Signature devices is gathered and converted into digital signals. An onboard microprocessor in each Signature device measures and analyzes the signal and decides whether or not to input an alarm. The microprocessor in each Signature device provides four additional benefits – Self-diagnostics and History Log, Automatic Device Mapping, and Fast, Stable Communication.

Self-diagnostics and History Log – Each Signature Series device constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in its non-volatile memory. This information is accessible for review any time at the control panel, PC, or using the Signature Program/Service Tool.

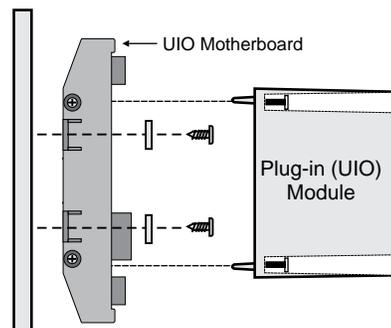
Automatic Device Mapping – The Signature Data Controller (SDC) learns where each device's serial number address is installed relative to other devices on the circuit. The SDC keeps a map of all Signature Series devices connected to it. The Signature Series Data Entry Program also uses the mapping feature. With interactive menus and graphic support, the wired circuits between each device can be examined. Layout or "as-built" drawing information showing branch wiring (T-taps), device types and their address are stored on disk for printing hard copy.

Installation

GSA-CT1, GSA-CT1HT and GSA-CT2: modules mount to North American 2½ inch (64 mm) deep 1-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 1-gang covers and GSA-MP mounting plates. The terminals are suited for #12 to #18 AWG (2.5 mm² to 0.75 mm²) wire size.



GSA-MCT2: mount the UIO motherboard inside a suitable Kidde enclosure with screws and washers provided. Plug the GSA-MCT2 into any available position on the motherboard and secure the module to the motherboard with the captive screws. Wiring connections are made to the terminals on the motherboard (see wiring diagram). UIO motherboard terminals are suited for #12 to #18 AWG (2.5 mm² to 0.75 mm²) wire size.



Electronic Addressing - The loop controller electronically addresses each module, saving valuable time during system commissioning. Setting complicated switches or dials is not required. Each module 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 modules can be addressed using the Signature Program/Service Tool.

Kidde recommends that this module be installed according to latest recognized edition of national and local fire alarm codes.

Application

The duty performed by the GSA-CT1 and GSA-CT2/MCT2 is determined by their sub-type code or "Personality Code". The code is selected by the installer depending upon the desired application and is downloaded from the loop controller.

One personality code can be assigned to the GSA-CT1. Two personality codes can be assigned to the GSA-CT2/MCT2. Codes 1, 2, 3 and 4 can be mixed on GSA-CT2/MCT2 modules only. For example, personality code 1 can be assigned to the first address (circuit A) and code 4 can be assigned to the second address (circuit B).

NORMALLY-OPEN ALARM - LATCHING (Personality Code 1)

- Assign to one or both circuits. Configures either circuit A or B or both for Class B normally open dry contact initiating devices such as Pull Stations, Heat Detectors, etc. An ALARM signal is sent to the loop controller when the input contact is closed. The alarm condition is latched at the module.

NORMALLY-OPEN ALARM - DELAYED LATCHING (Personality Code 2)

- Assign to one or both circuits. Configures either circuit A or B or both for Class B normally-open dry contact initiating devices such as Waterflow Alarm Switches. An ALARM signal is sent to the loop controller when the input contact is closed for approximately 16 seconds. The alarm condition is latched at the module.

NORMALLY-OPEN ACTIVE - NON-LATCHING (Personality Code 3)

- Assign to one or both circuits. Configures either circuit A or B or both for Class B normally-open dry contact monitoring input such as from Fans, Dampers, Doors, etc. An ACTIVE signal is sent to the loop controller when the input contact is closed. The active condition is not latched at the module.

NORMALLY-OPEN ACTIVE - LATCHING (Personality Code 4)

- Assign to one or both circuits. Configures either circuit A or B or both for Class B normally open dry contact monitoring input such as from Supervisory and Tamper Switches. An ACTIVE signal is sent to the loop controller when the input contact is closed. The active condition is latched at the module.

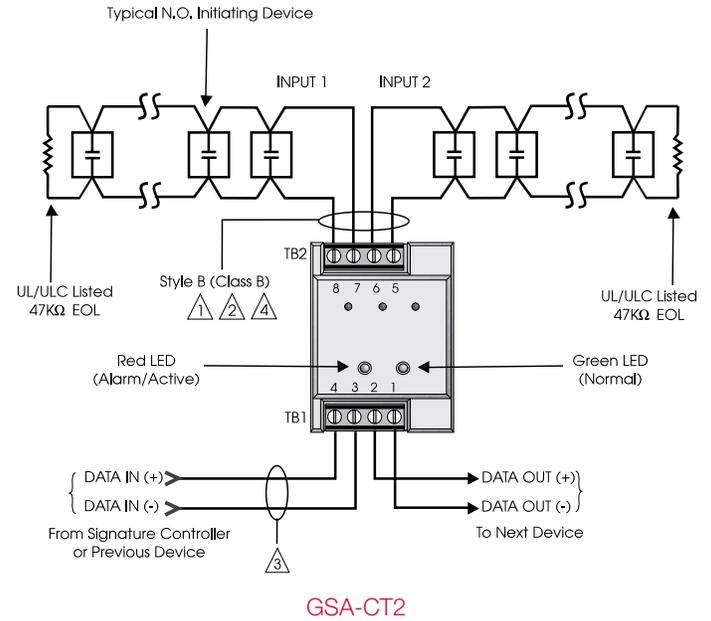
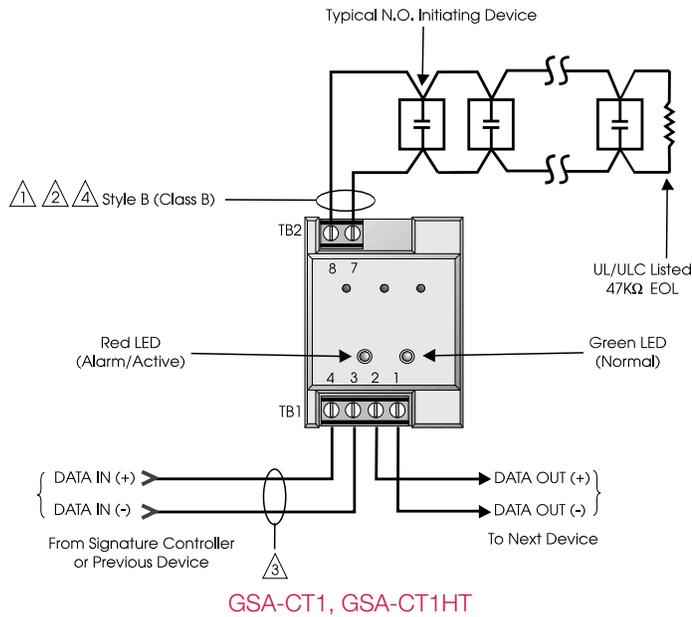
Typical Wiring

Modules will accept #18 AWG (0.75mm²), #16 (1.0mm²), and #14AWG (1.50mm²), and #12 AWG (2.50mm²) wire sizes.

Note: Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.

Initiating (Slave) Device Circuit Wire Specifications

Maximum Allowable Wire Resistance	50 ohms (25 ohms per wire) per Circuit	
Maximum Allowable Wire Capacitance	0.1µF per Circuit	
For Design Reference:	Wire Size	Maximum Distance to EOLR
	#18 AWG (0.75 mm ²)	4,000 ft (1,219 m)
	#16 AWG (1.00 mm ²)	
	#14 AWG (1.50 mm ²)	
	#12 AWG (1.50 mm ²)	



NOTES

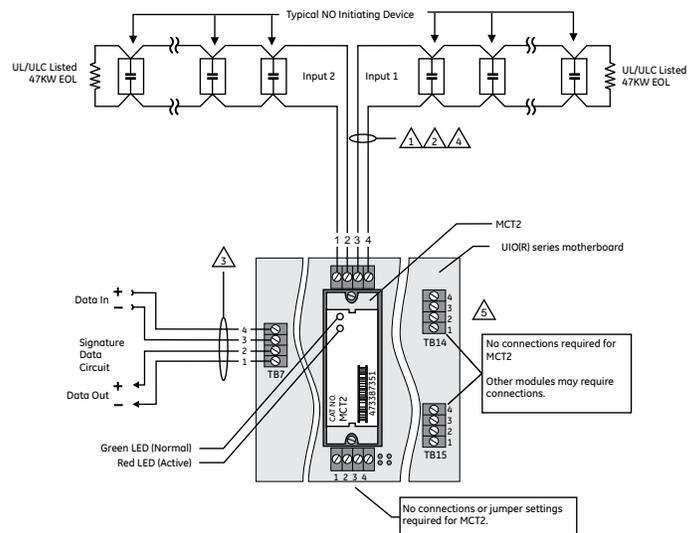
- 1 Maximum 25 Ohm resistance per wire.
- 2 Maximum #12 AWG (2.5 mm²) wire; Minimum #18 AWG (0.75 mm²).
- 3 Refer to Signature controller installation sheet for wiring specifications.
- 4 Maximum 10 Vdc @ 350 µA
- 5 The GSA-UIO6R and the GSA-UIO2R do not come with TB14.
- 6 All wiring is supervised and power-limited.
- 7 These modules will not support 2-wire smoke detectors.

Warnings & Cautions

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

Compatibility

These modules are part of Kidde's Signature Series intelligent processing and control platform. They are compatible with VM, and VS Series control panels.





Technology that saves lives

Contact us

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Specifications

Catalog Number	GSA-CT1HT	GSA-CT1	GSA-CT2	GSA-MCT2
Description	Single Input Module		Dual Input Module	
Type Code	48 (factory set) Four sub-types (personality codes) are available		49 (factory set) Four sub-types (personality codes) are available	
Address Requirements	Uses One Module Address		Uses Two Module Addresses	
Operating Current	Standby = 250µA; Activated = 400µA		Standby = 396µA; Activated = 680µA	
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)			
Construction	High Impact Engineering Polymer			
Mounting	North American 2½ inch (64 mm) deep one-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with one-gang covers and GSA-MP mounting plates			UIO2R/6R/6 Motherboard
Operating Environment	32°F to 158°F (0°C to 70°C)	32°F to 120°F (0°C to 49°C)		
Storage Environment	-4°F to 140°F (-20°C to 60°C); Humidity: 0 to 93% RH			
LED Operation	On-board Green LED - Flashes when polled; On-board Red LED - Flashes when in alarm/active. Both LEDs - Glow steady when in alarm			
Compatibility	Use with Signature Loop Controller			
Agency Listings	UL, ULC, MEA, CSFM	UL, ULC, MEA, CSFM, FM		

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
GSA-CT1	Single Input Module — UL/ULC Listed	0.4 (0.15)
GSA-CT1HT	Single Input Module High Temperature Operation UL/ULC Listed	0.4 (0.15)
GSA-CT2	Dual Input Module — UL/ULC Listed	0.4 (0.15)
GSA-MCT2	Dual Input Plug-in (UIO) Module — UL, ULC Listed	0.1 (0.05)

Related Equipment		
27193-11	Surface Mount Box - Red, 1-gang	1.0 (0.6)
27193-16	Surface Mount Box - White, 1-gang	1.0 (0.6)
GSA-UIO2R	Universal Input-Output Module Board w/Riser Inputs — Two Module Positions	0.32 (0.15)
GSA-UIO6R	Universal Input-Output Module Board w/Riser Inputs — Six Module Positions	0.62 (0.28)
GSA-UIO6	Universal Input-Output Module Board — Six Module Positions	0.56 (0.25)
MFC-A	Multifunction Fire Cabinet — Red, supports Signature Module Mounting Plates	7.0 (3.1)
GSA-MB4	Transponder Mounting Bracket (allows for mounting two 1-gang modules in a 2-gang box)	0.4 (0.15)
GSA-MP1	Signature Module Mounting Plate, 1 footprint	1.5 (0.70)
GSA-MP2	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.23)
GSA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint	1.02 (0.46)



ELECTRONIC
Compatible with VS & VM control systems
ADDRESSING

Technology that saves lives

Manual Pull Stations

GSA-M270, GSA-M270P,
GSA-M278



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 (Personality 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 (0.75mm²) to #12 AWG (2.5mm²) 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.

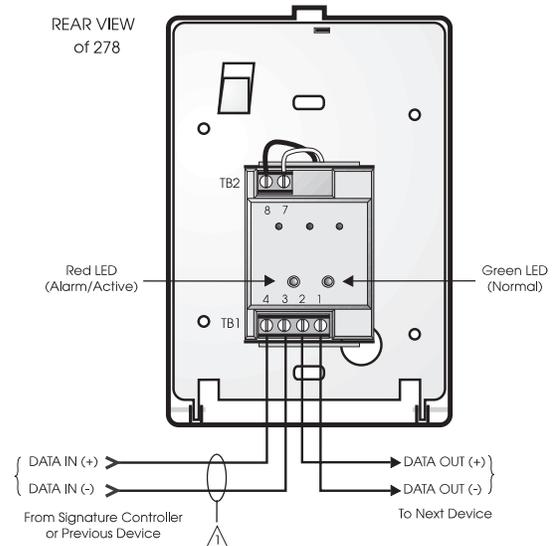


Figure 4. Single Stage Systems

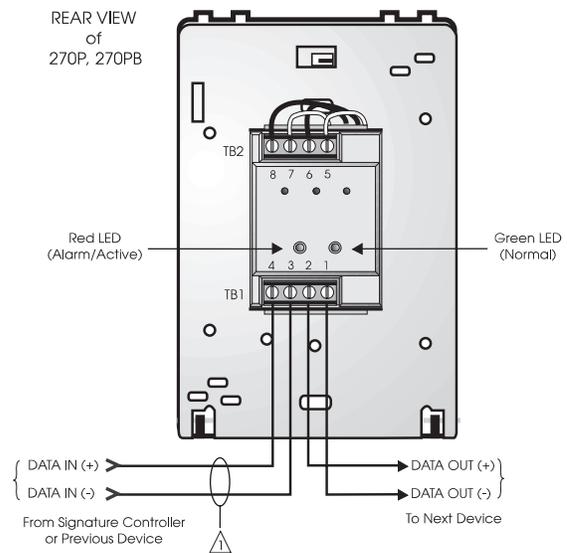


Figure 5. Two Stage Systems

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 mm² to 0.75 mm²) 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.

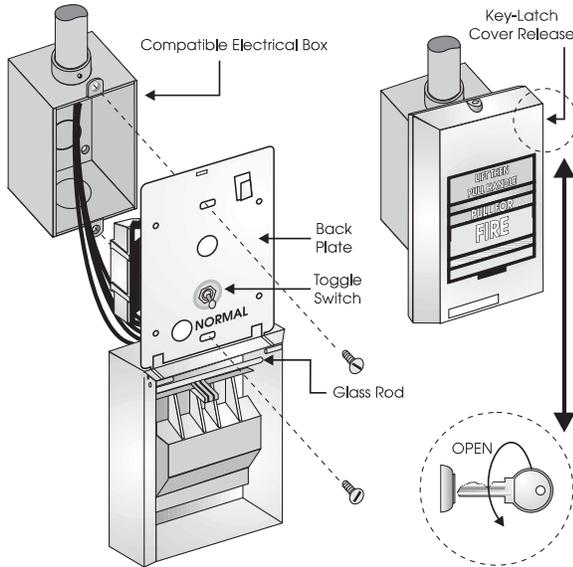


Figure 1. GSA-M278 installation

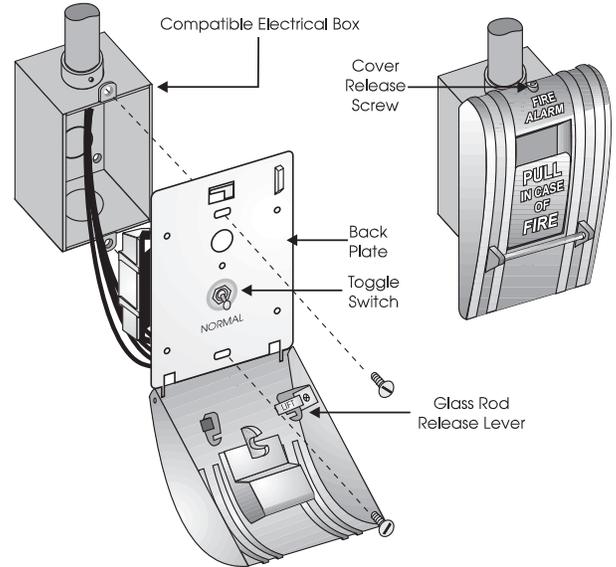


Figure 2. GSA-M270 installation

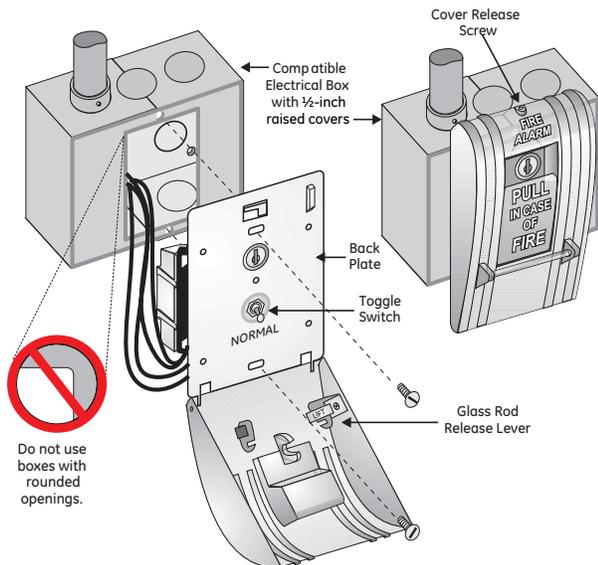


Figure 3. GSA-M270P installation



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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: 32°F to 120°F (0°C to 49°C) Storage Temperature: -4°F to 140°F (-20°C to 60°C) Humidity: 0 to 93% RH		
LED Operation	On-board Green LED - Flashes when polled On-board Red LED - Flashes when 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	
GSA-M270P	Two Stage (Presignal) Fire Alarm Station, English Markings - UL/ULC Listed	1 (0.5)
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



Technology that saves lives

Intelligent Smoke Detector

KI-OSD



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

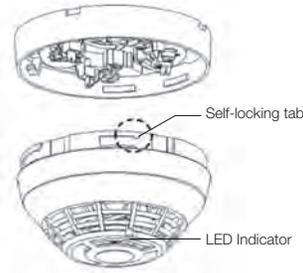
The KI-OSD detects particles from a wide range of combustion sources and will trigger an alarm when smoke density in the chamber reaches preprogrammed level. Thanks to its high-performance patented reflective response technology, the smoke sensor responds quickly and reliably to a wide range of fire 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.



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.

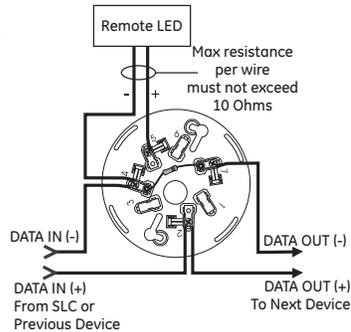
Typical Wiring

The detector mounting bases accept #18 AWG (0.75mm²), #16 (1.0mm²), #14 AWG (1.5mm²), and #12 AWG (2.5mm²) wire sizes. Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) 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 (-)
5	Remote LED (+)
6	Remote LED (-)
7	DATA OUT (-)



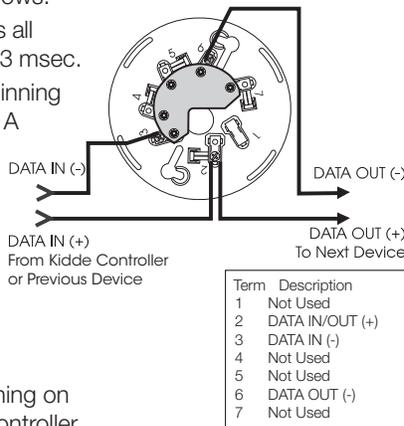
Isolator Detector Base, KI-IB, KI-IB4

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.

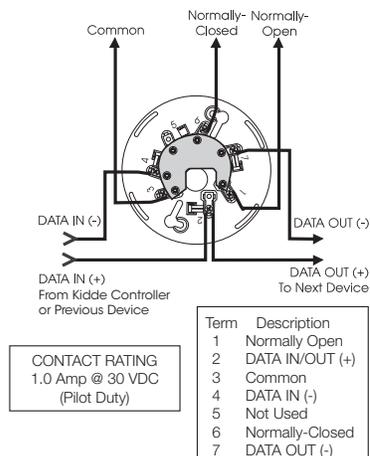
The process repeats beginning on the other side of the loop controller.



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

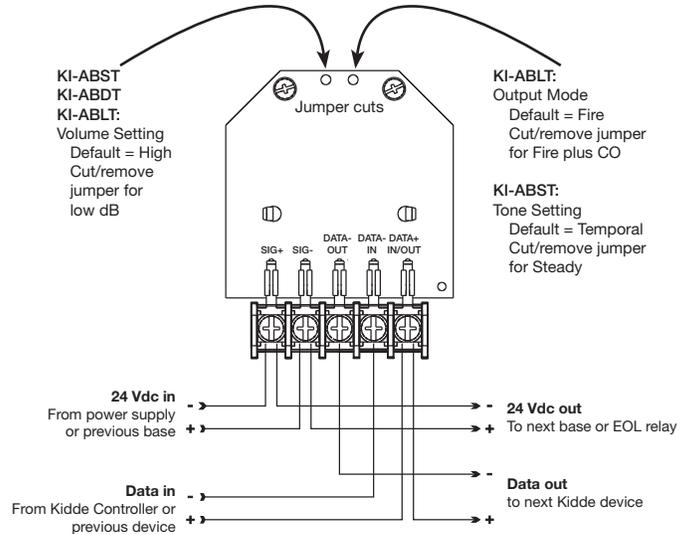
This base includes a relay. Normally Open or Normally Closed operation is selected during installation. The dry contact is rated for 1 amp (pilot duty) @ 30 Vdc. The relay's position is supervised to avoid accidentally jarring it out of position. The KI-RB can be operated as a control relay if programmed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



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

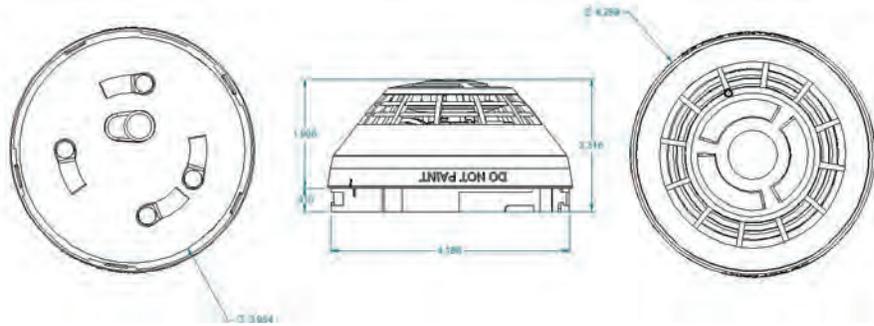
Contact us

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 Website: kidde-esfire.com

Kidde is a Carrier brand.
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Dimensions



Specifications

Operating voltage	15.20 to 19.95 VDC
Normal operating current	32 μ A
Alarm current	45 μ A
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	
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	0.2 (.09)
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	

Technology that saves lives

Intelligent Heat Detectors

KI-HRD, KI-HFD



KI-HFD shown



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

Application

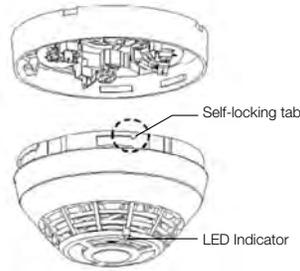
The KI-HRD combination fixed temperature/rate-of-rise heat detector provides a 15 °F (9 °C) per minute rate-of-rise heat sensor for the detection of fast-developing fires, as well as a 135°F (57°C) fixed temperature sensor for slow building-fires. The KI-HFD fixed temperature detector provides a 135°F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



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

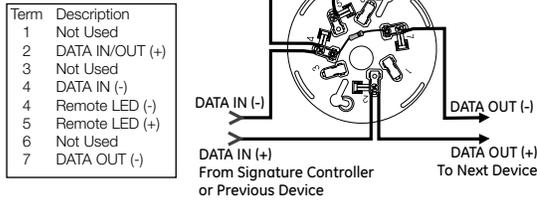
- This detector does not operate without electrical power. As fires frequently cause power interruption, discuss further safeguards with the local fire protection specialist.
- This detector does not sense fires in areas where heat cannot reach the detector. Heat from fires in walls, roofs, or on the 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 (0.75mm²), #16 (1.0mm²), #14 AWG (1.5mm²), and #12 AWG (2.5mm²) wire sizes. Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation.

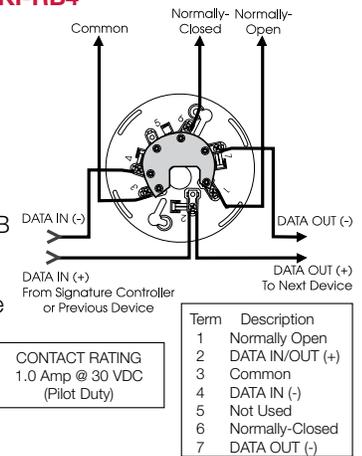
Standard Detector Base, KI-SB, KI-SB4

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



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.



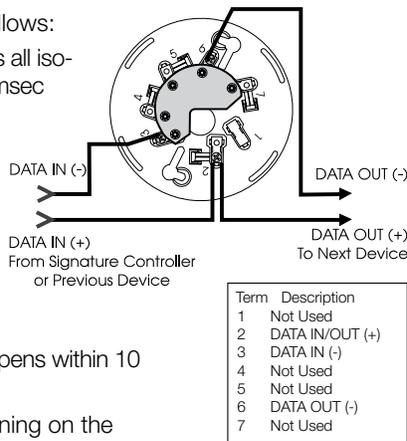
Isolator Detector Base, KI-IB, KI-IB4

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:

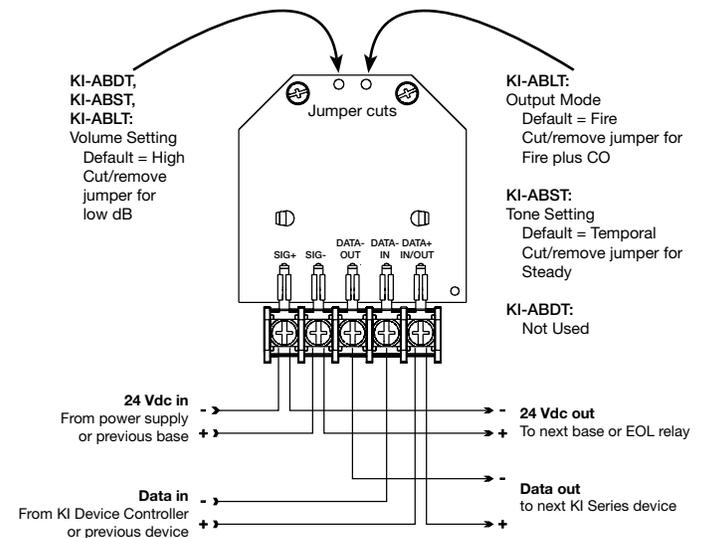
- a short on the line causes all isolators to open within 23 msec
- at 10 msec intervals, beginning on one side of the Class A circuit nearest the loop controller, the isolators close to provide the next isolator down the line with power
- when the isolator next to the short closes, it reopens within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

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



Audible Sounder Bases, Fire Mode

ABDT, ABST, ABLT sounder bases





Technology that saves lives

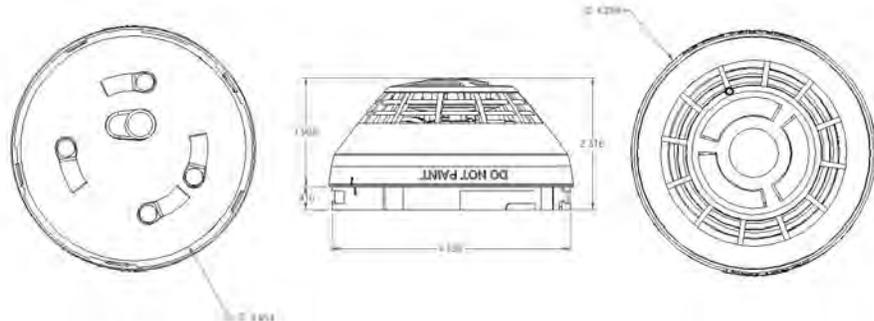
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 Bradenton, FL 34202

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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

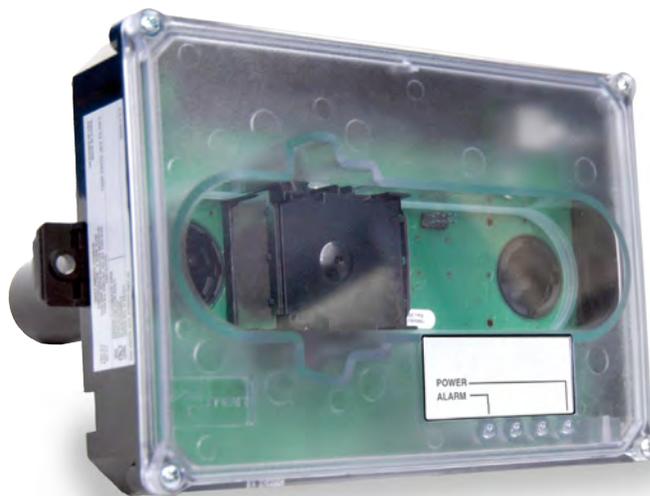
Catalog Number	Description	Ship Wt. lbs (kg)
KI-HRD	Intelligent fixed temperature/Rate-of-rise heat detector	0.4 (0.16)
KI-HFD	Intelligent fixed temperature heat detector	

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

Technology that saves lives

Intelligent Duct Smoke Detector

GSA-SD



Overview

The Kidde *SuperDuct* Signature Series smoke detector is the most advanced and most reliable device in its class. Designed for easy installation and superb reliability, *SuperDuct* represents the perfect balance of practical design and advanced technology.

SuperDuct detectors feature a unique design that speeds installation and simplifies maintenance. Removable dust filters, conformally coated circuit boards, and optional water-resistant gaskets keep contaminants away from components, ensuring years of trouble-free service. When cleaning is required, the assemblies come apart easily and snap back together in seconds.

A **Signature Series photoelectric sensor** is incorporated into the design of each GSA-SD duct smoke detector. This sensor inherits the power and benefits of this exceptional line of intelligent devices.

Signature Series sensors gather analog information from their smoke sensing elements and convert it into digital signals. The sensor measures and analyses these signals and compares the information to historical readings and time patterns to make an alarm decision. Digital filters remove signal patterns that are not typical of fires, which virtually eliminates unwanted alarms.

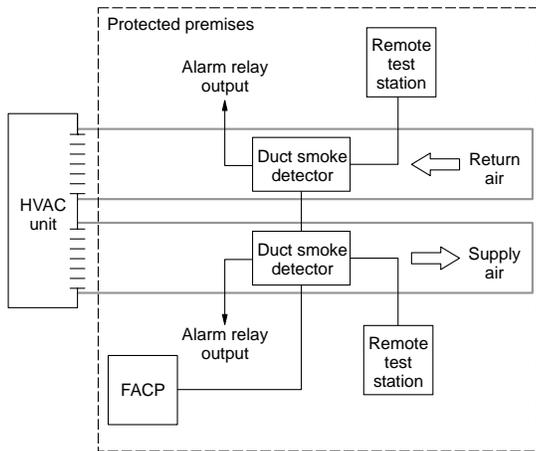
WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases which can build up to hazardous levels in some fires. These devices will not operate without electrical power. As fires frequently cause power interruptions, Kidde suggests you discuss further safeguards with your local fire protection specialist.

Standard Features

- Less than 2" deep for easy installation and applications where space is tight
- -20°F to 158°F (-29°C to 70°C) operating range with 100 ft/min. to 4,000 ft/min air velocity rating assures reliability under harsh environmental conditions
- Status LEDs remain visible through clear assembly cover
- Cover monitor switch for added security
- Standard sampling tube spacing for easy drop-in migration from other detectors
- Sampling tube can be installed with or without the cover in place and can be rotated in 45-degree increments to ensure proper alignment with duct airflow
- 15.2 to 19.95 Vdc operation
- Magnet-activated test switch
- One Form C auxiliary alarm relay for controlling ancillary equipment (e.g., HVAC controls)
- No special tools required for easy access to field connections
- Signature Series intelligence
- Environmental compensation with differential sensing for reliable, stable, and drift-free sensitivity
- Wide 0.79% to 2.46% obscuration/ft. smoke sensitivity
- Identification of dirty or defective detectors

Application

SuperDuct detectors are ideally suited to duct smoke detection applications where early indication of combustion is required within the confined space of ventilation ductwork. Its primary purpose is to provide early warning of an impending fire and to prevent smoke from circulating throughout the building. It is typically used to detect smoke in the supply side of the HVAC system but can provide supervision of the return side as well.



SuperDuct detectors continually sample air flow in the HVAC duct and initiate an alarm condition whenever smoke is detected. An alarm is activated when the quantity (percent obscuration) of combustion products in that air sample exceeds the detector's sensitivity setting.

Signature Series Intelligence

Like all Signature detectors, the GSA-SD features electronic addressing and issues a dirty sensor warning when it reaches its preset limit. The dirty sensor warning indicates the sensor is operating within its specified limits but is in need of servicing. When the detector's ability to compensate for environmental changes has reached its limit, the duct smoke detector signals a trouble condition.

The GSA-SD also uses differential sensing to prevent gradual environmental changes from triggering unwanted alarms. A rapid change in environmental conditions, such as smoke from a fire, causes the detector to signal an alarm state, but dust and debris accumulated over time does not change alarm sensitivity.

Each Signature Series *SuperDuct* detector contains a microprocessor that performs comprehensive self-diagnostics and stores the results in nonvolatile memory. Stored results include details such as hours of operation, last maintenance date, and number of alarms and troubles. This information can be retrieved and reviewed when desired.

Detector Configuration

The detector assembly cover provides easy access to the smoke sensor, its wiring connections, sample and exhaust tubes, and the smoke chamber itself.

Air enters the detector's sensing chamber through a sampling tube (ordered separately) that extends into the duct and is directed back into the ventilation system through an exhaust tube (included). The difference in air pressure between the two tubes pulls the sampled air through the sensing chamber. When a sufficient amount of smoke is detected in the sensing chamber, the detector initiates an alarm.

The sampling tube may be installed from either the duct side of the assembly or from inside the sensor compartment, as preferred by the installer. (The exhaust tube must be installed from the duct side.) Sampling tubes may be rotated in 45-degree increments so that air-holes can be aligned to allow the unit to be mounted at virtually any angle relative to the air flow.

In installations where the duct smoke detector's controls and indicators are hidden from view, a remote test station or an LED indicator can be connected to the detector to provide these functions.

Remote Test Stations

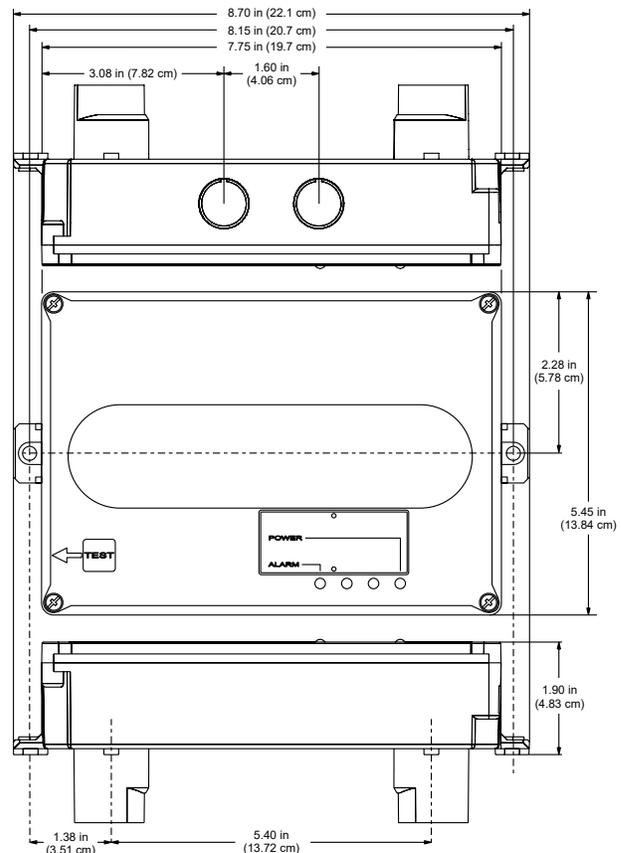


Labor-saving Remote Test/Reset stations provide alarm testing from the convenience of a remote location. Tests can be performed quickly and safely – without having to climb to the roof. Magnetically-operated and key-operated one-gang models are available. Signature *SuperDuct* detectors are also compatible with GSA-LED remote alarm LED.

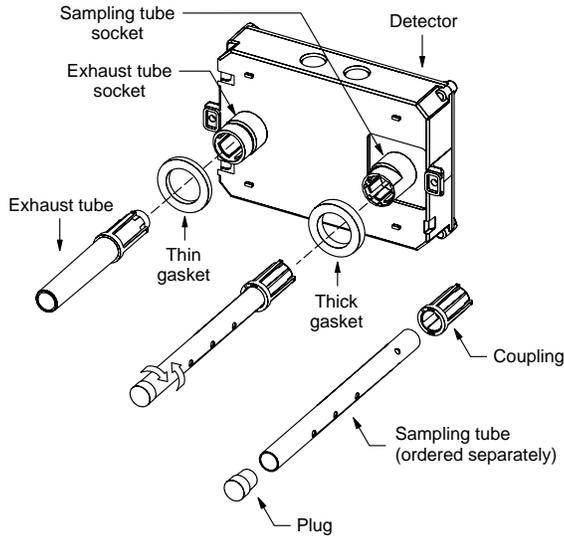
Air velocity in the duct as low as 100 ft/min. maintains adequate air flow into the sensor smoke chamber through air holes in the air sampling tube and discharges through the exhaust tube. *SuperDuct* air sampling tubes must be installed with the inlet holes facing the airstream. Sampling tubes may be rotated in 45-degree increments so that air-holes can be aligned to allow the unit to be mounted in virtually any angle relative to the airflow.

SuperDuct sensors are engineered to operate optimally under the harsh environmental conditions frequently found in HVAC ductwork. Nonetheless, before installing the detector, test the duct air velocity, temperature, and humidity to verify that it is within the operating range of the *SuperDuct* detector. Consult the *SuperDuct* installation sheet for details.

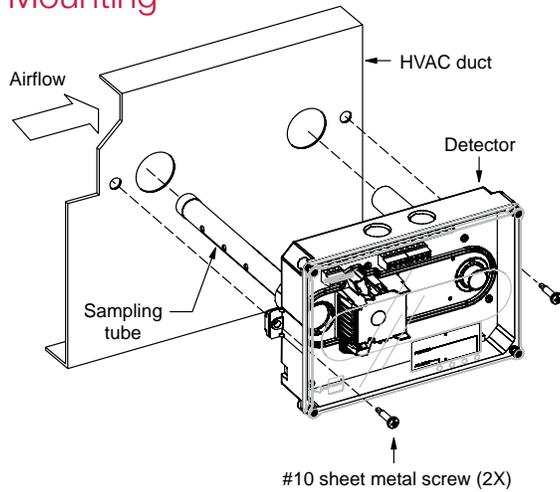
Dimensions



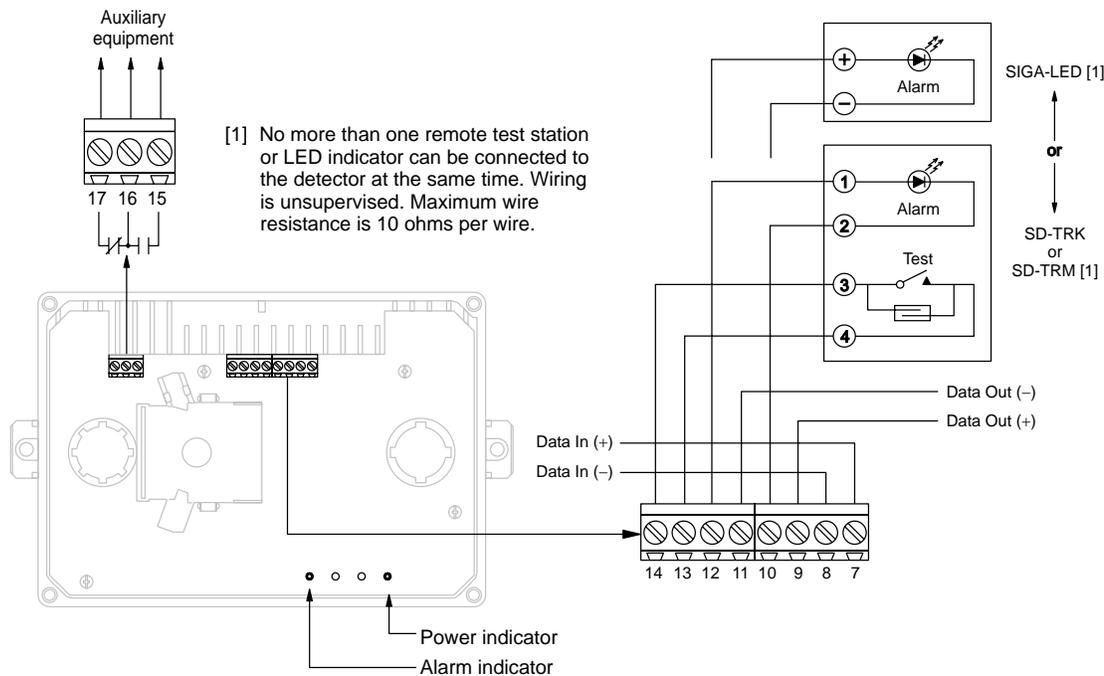
Assembly



Mounting

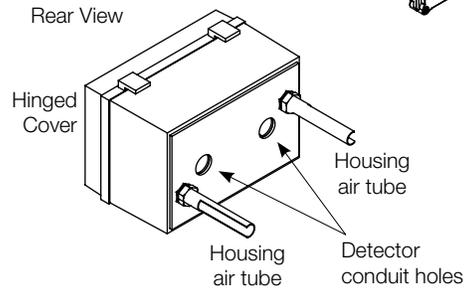
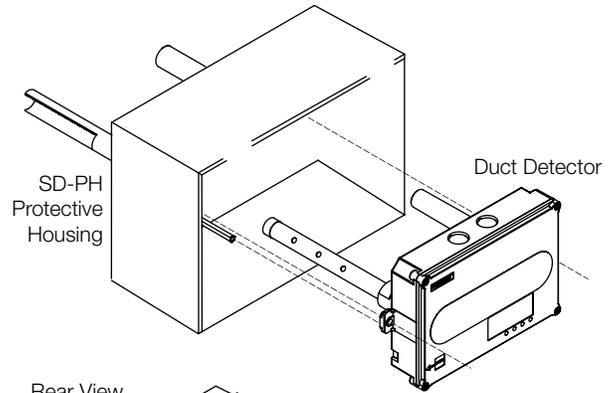


Wiring



High-humidity environments

Use the SD-PH Protective Housing when installing SuperDuct detectors in high-humidity environments. The SD-PH is a weatherized housing that prevents condensation on the device by insulating the detectors and providing circulated air from the monitored HVAC duct. The SD-PH also adds a layer of protection against physical damage to the unit.



The SD-PH is easy to install and service. The hinged and transparent cover provides ready access to the detector, while keeping its status indicators visible at all times.

Note: The SD-PH Protective Housing is weatherized against outdoor air, but it is not intended for direct outdoor exposure.



Technology that saves lives

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Specifications, detector

Dimensions	8.70 x 5.45 x 1.90 inches (221 x 138 x 48 mm)
Wire size	14 to 22 AWG
Detection method	Photoelectric (light scattering principle)
Air velocity rating	100 to 4,000 ft/min and meets the required minimum air pressure differential
Air pressure differential	0.005 to 1.00 inches of water
Sensitivity	0.79 to 2.46 %/ft obscuration
Alarm test response time	5 seconds
LED indicators	Alarm (red), Power (green)
Common alarm relay	Unsupervised and power-limited Quantity: 1 Type: Form C Ratings: 2.0 A at 30 Vdc (resistive)
Operating voltage	15.2 to 19.95 Vdc
Operating current	Standby: 45 µA Alarm: 45 µA Inrush: 1 mA Standalone alarm: 18 mA
Operating environment	Temperature (UL): -20 to 158 °F (-29 to 70 °C). Temperature (ULC): -4 to 120 °F (-29 to 49 °C) Relative humidity: 10 to 93%, noncondensing
Agency listings	UL, ULC, CSFM, FM, MEA

Specifications, test stations

Remote Test/Reset Stations provide alarm test, trouble indication, and reset capability from a remote location. They include a one-gang plate, momentary SPST switch, red alarm LED, and terminal block. Magnetically-operated models (TRM) or key-operated models (TRK) are available.

Compatible electrical boxes	North American 1-gang box Standard 4-in square box, 1-1/2 inches deep, with 1-gang cover
LED indicators	Alarm (red)
LED type	Clear lens
Wire size	14 to 22 AWG
Resistance per wire	10 Ohms, max.
Current requirements	See controller specifications
LED circuit ratings	Voltage: 3 Vdc, max. Current: 30 mA, max.
Switch ratings (SD-TRK)	Voltage: 125 Vdc, max. Current: 4 A, max.
Switch ratings (SD-TRM)	Voltage: 200 Vdc, max. Current: 0.5 A, max.
Compatible detectors	SuperDuct conventional two-wire and Signature duct smoke detectors
Operating environment	-4°F to 158°F (-20°C to 70°C) Humidity: 93% RH, noncondensing
Storage temperature	-4 to 140 °F (-20 to 60 °C)
Agency listings	UL, ULC, MEA, CSFM

Ordering Information

Catalog Number	Description	Ship Wt., lb. (kg)
GSA-SD	Intelligent SuperDuct Detector	2.4 (1.1)
Accessories		
SD-T8	8-inch sampling tube	0.5 (0.2)
SD-T18	18-inch sampling tube	1.5 (0.7)
SD-T24	24-inch sampling tube	2.7 (1.2)
SD-T36	36-inch sampling tube	3.0 (1.4)
SD-T42	42-inch sampling tube	3.5 (1.6)
SD-T60	60-inch sampling tube	5.8 (2.6)
SD-T78	78-inch sampling tube	7.5 (3.4)
SD-T120	120-inch sampling tube	11.5 (5.2)
SD-PH	Protective housing for high humidity environments	5.5 (2.5)
GSA-LED	Remote alarm LED	1.0 (0.5)
SD-TRM	Remote test station, magnetic	1.0 (0.5)
SD-TRK	Remote test station, keyed	1.0 (0.5)
SD-VTK	Air velocity test kit (stoppers only, etc)	1.0 (0.5)
SD-GSK	Cover gasket kit	0.5 (0.2)
SD-MAG	Test magnet kit	0.5 (0.2)
GSA-SDPCB	Replacement PCB/Signature sensor kit	1.0 (0.5)

Technology that saves lives

Wall Mount Signaling Appliances

Genesis LED EG4 Series



Overview

Genesis LED EG4 Series horns and LED strobes feature a sleek low profile design and energy-efficient technology that makes them less expensive to install and operate by reducing overhead. High performance LEDs require fewer power supplies, backup power, and batteries. These new appliances are designed with, energy-efficiency, and life safety in mind.

Genesis LED EG4 Series uses high efficiency optics, combined with patented electronics, to deliver a highly controlled and efficiently focused light distribution pattern in exchange for lower current requirements. Strobes feature field-selectable 15, 30, 75, or 110 cd light output.

Compared with Xenon-type strobes, Genesis LED EG4 Series appliances need fewer power supplies and often smaller wire gauge, which lightens conduit requirements. They are also backwards compatible with legacy strobes, so there's no need to replace all your existing devices to upgrade to new LED technology. In fact, EG4 strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED EG4 Series ideal for new installations and retrofits alike.

Field-configurable sound output levels provide the flexibility modern life safety projects demand, while the Genesis LED control protocol keeps multiple strobes on compatible NAC circuits synchronized to well within NFPA 72 requirements.

Serviceability is another area where EG4 Series appliances shine. The universal room side wiring plate allows for pre-installation and electrical wiring as well as checking continuity with the included diagnostics check bar. EG4 Series devices can then be easily snapped into place with the confidence of knowing the wiring is correct. The innovative under-cover diagnostic test points provide easy access to device circuit testing while mounted.

Standard Features

- **High Performance LED Strobe Technology**
 - Ultra low device current consumption allows:
 - More devices per circuit
 - Ability to use lower gauge wire
 - Longer wire runs
 - Fewer booster power supplies
 - High efficiency optics
 - Selectable 15, 30, 75, or 110 cd light output
 - LED devices may be mixed with legacy Xenon strobes
- **Efficient Audible Output**
 - Selectable high or low dB horn output
 - Selectable temporal or steady horn output
 - Improved audio frequency range for better wall penetration
- **Low-profile Design**
 - Ultra-slim... protrudes about 1.5" from the mounting surface
 - Attractive appearance... no visible mounting screws
- **Multiple Marking Options**
 - Order in red or white with or without FIRE markings
 - Change markings at any time with replaceable quick-swap covers
- **Easy to Install**
 - Pre-install and pre-wire with convenient universal room side wiring plate
 - Check electrical continuity on room side wiring plate with included diagnostics check bar
 - Diagnostics port streamlines device circuit testing
 - Fits 1-gang, 2-gang, 3.5-inch octagon, and 4-inch square electrical boxes
 - Optional red and white trim plates available
 - Slide switches for field configuration
 - 12 to 18 AWG in-out screw terminals for quick wiring

Application

Strobes

Genesis EG4 Series strobes are UL 1971-listed for use indoors as wall-mounted public-mode notification appliances for the hearing impaired. Prevailing codes require strobes to be used where ambient noise conditions exceed 105 dBA (87 dBA in Canada), where occupants use hearing protection, and in areas of public accommodation as defined in the *Americans with Disabilities Act*.

Synchronization is important in order to avoid triggering seizures in people with photosensitive epilepsy. All Genesis strobes exceed UL synchronization requirements (within 10 milliseconds over a two-hour period) when used with a synchronization source. See the specifications table for a list of compatible sources.

Horns

Genesis horn output reaches as high as 92 dBA and features an improved audio frequency range compared with other Genesis horns. This results in excellent sound penetration through walls and a clear warning of danger. Horn only models may be configured for either coded or non-coded notification appliance circuits. They can also be set for high or low dBA output. This setting reduces horn output by about 6 dBA. Horn-only models may be ceiling-mounted or wall-mounted.

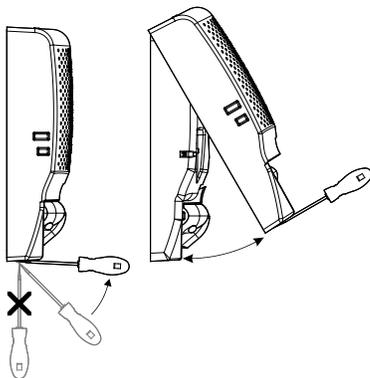
The suggested sound pressure level for each signaling zone used with alarm signals is at least 15 dBA above the average ambient sound level, or 5 dBA above the maximum sound level having a duration of at least 60 seconds, whichever is greater. These values are measured at five feet (1.5 m) above the floor. The average ambient sound level is A-weighted, fast response sound pressure measured over a 24-hour period.

Doubling the distance from the signal to the ear will theoretically result in a 6 dBA reduction of the received sound pressure level. The actual effect depends on the acoustic environment in the space. A 3 dBA difference represents a barely noticeable change in volume.

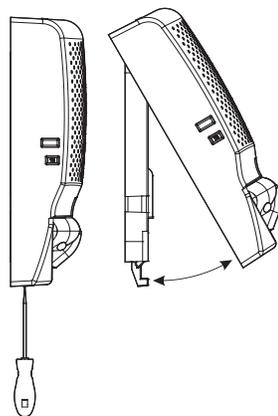
Installation

Genesis EG4 horns and strobes mount to the required GP10 room side wiring plate. The GP10 mounting plate is included with the device for convenient pre-installing and pre-wiring. The device can be removed easily from the room side wiring plate by pushing up with a screwdriver. The cover can also be removed from the device easily with a screwdriver to access the light and sound output settings and a diagnostics test port for voltage testing.

Removing Cover

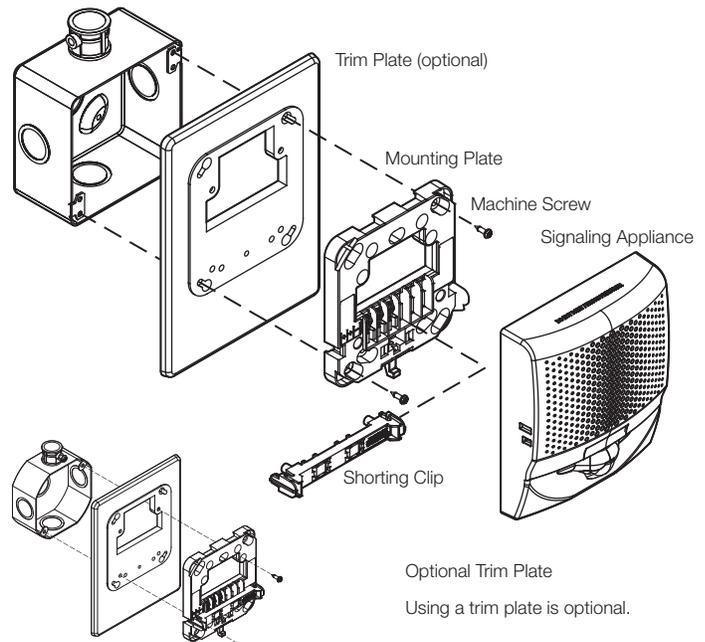


Removing Device

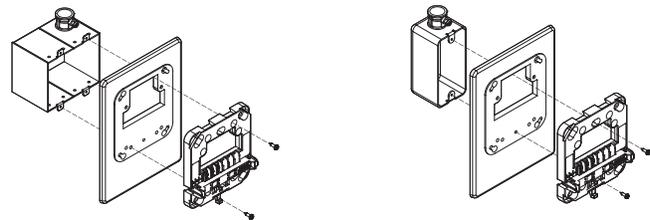


Genesis LED EG4 Series horns, strobes, and horn-strobes mount to any standard one-gang, two-gang, 3.5-inch octagon, and 4-inch square electrical box. Matching optional EG4T trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available.

Double Gang Electrical Box



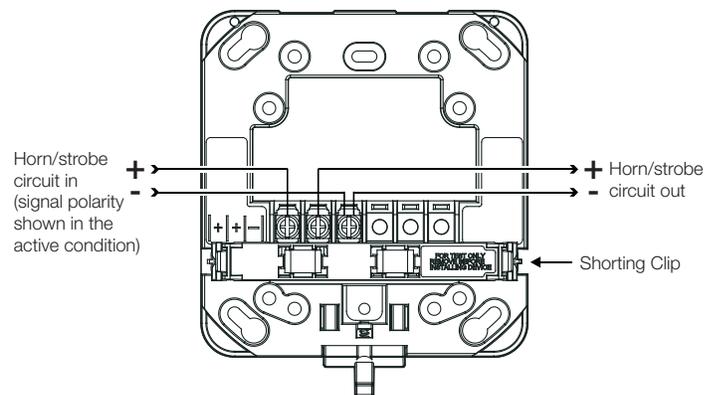
3.5-inch Octagon Electrical Box



Two-gang Electrical Box

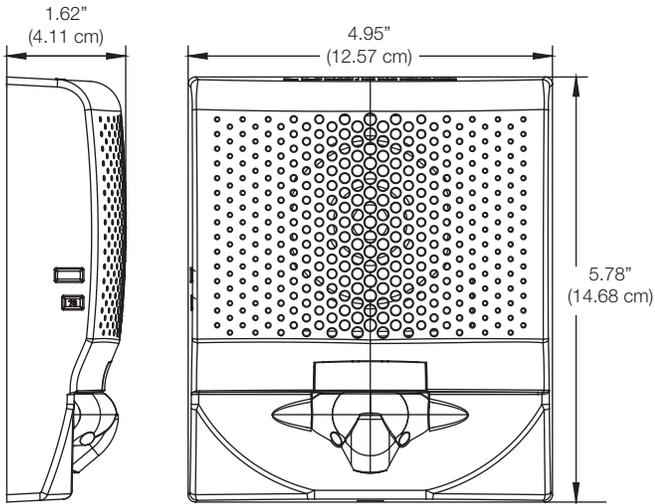
One-gang Electrical Box

Wiring

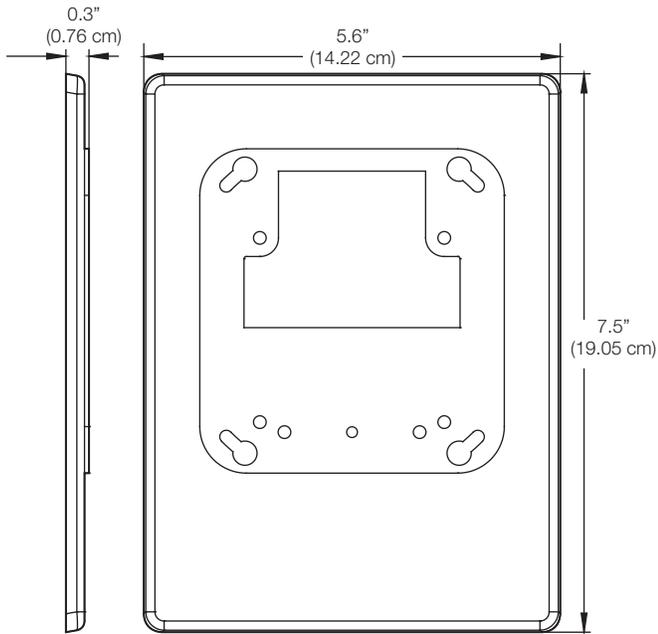


Dimensions

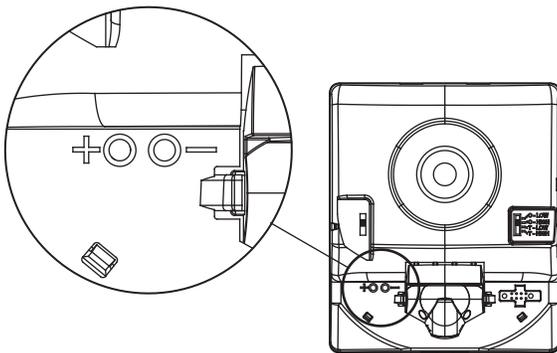
EG4 Notification Appliances



EG4T Trim Plate (optional)



Diagnostics



Test points indicated above are used to validate the Notification Appliance Circuit and verify device function.

Field Configuration

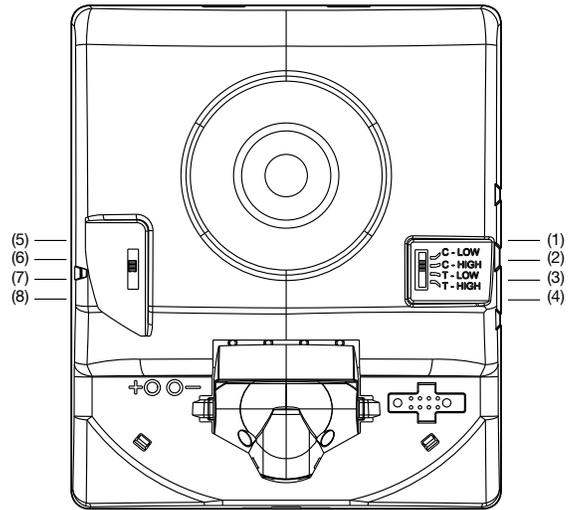
Temporal horn and horn-strobe models are factory set to sound in a three-pulse temporal pattern. By sliding the tone selector switch, horn only models may be configured for constant horn output that can be coded at precise intervals by KIDDE control panels and control modules.

Note: Temporal 3 coding is the required output for fire notification devices per NFPA 72. Any device coding other than temporal 3 is at the discretion and approval of the local authority having jurisdiction (AHJ).

Horns and horn-strobes are factory set for high dB output. Low dB output may be selected by sliding the tone selector switch. This reduces the output by about 6 dBA.

Genesis LED clear strobes and horn-strobes may be set for 15, 30, 75, or 110 candela output. The output setting is changed by simply removing the cover and sliding the candela switch to the desired setting. The device does not have to be removed from the wall to change the output setting. The setting remains visible through a small window on the left-hand side of the device after the cover is closed.

Light and Sound Output Settings



- (1) Constant, low dB
- (2) Constant, high dB
- (3) T3 temporal, low dB
- (4) T3 temporal, high dB
- (5) 110 candela
- (6) 75 candela
- (7) 30 candela
- (8) 15 candela

Operating current

Horns

Sound setting	16 to 33 VDC	16 to 33 VFWR
C-Low, T-Low	18 mA	22 mA
C-High, T-High	28 mA	38 mA

Strobes

Strobe setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 110	28 mA	36 mA

Horn-Strobes

Strobe setting	Sound setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 110	C-Low, T-Low	40 mA	48 mA
	C-High, T-High	50 mA	65 mA

Sound Output

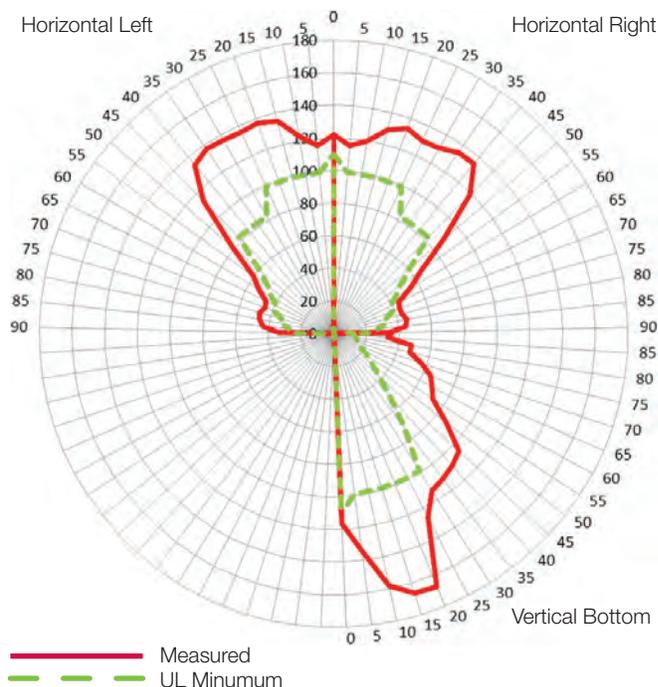
Horn & Horn-Strobe

Sound setting	Reverberant (UL464)	Anechoic (CAN/ULC - 5925)
C-Low, T-Low	80 dBA	86 dBA
C-High, T-High	85 dBA	92 dBA

Sound pattern (ULC)

Axis	Angle	Change in output
Horizontal	135° and 45°	-3 dBA
	150° and 30°	-6 dBA
Vertical	135° and 40°	-3 dBA
	150° and 30°	-6 dBA

Light Distribution



Specifications

Operating voltage	16 to 33 VDC, 16 to 33 VFWR
Horn signal type	Constant or TC3 temporal
Light output	15, 30, 75, or 110 candela
Strobe flash rate	1 fps (flash per second) approx.
Synchronization	20 Ω max. between any two devices. To determine allowed wire resistance, refer to these specifications, and the specifications for the synchronized signal source.
Synchronization Sources	Kidde CC Series Signal Modules, Booster and Auxiliary Power Supplies, Intelligent and Conventional Control Panels
Wire size	12 to 18 AWG (0.75 to 2.50 mm ²)
Dimensions (W×H×D)	4.95 x 5.78 x 1.62 in (12.57 x 14.68 x 4.11 cm)
Strobe-to-box center offset	-1.70 inches (-4.32 cm)
Compatible electrical boxes [1]	1-gang, 2-gang, 3.5-inch octagon, 4-inch square
Trim plates	EG4TR, EG4TW (5.6 x 7.5 x 0.3 in (14.22 x 19.05 x 0.76 cm))
Operating environment	
Temperature	32 to 122°F (0 to 50°C)
Relative humidity	0 to 93% noncondensing
Storage Temperature	-40 to 158 F (-40 to 70 C)

[1] Electrical boxes must be at least 1-1/2 in. (3.81 cm) deep.

Ordering Information

FOR REFERENCE ONLY

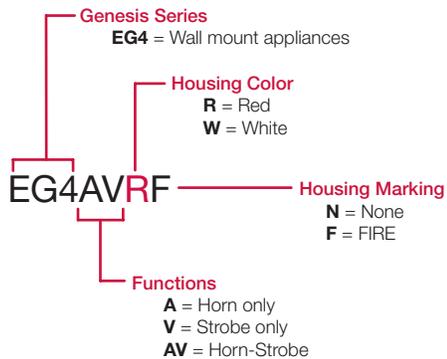
Notification Appliances	Color	Marking
 <p>Horns</p>	EG4ARF	Red FIRE
	EG4ARN	Red None
	EG4AWF	White FIRE
	EG4AWN	White None
 <p>Strobes</p>	EG4VRF	Red FIRE
	EG4VRN	Red None
	EG4VWF	White FIRE
	EG4VWN	White None
 <p>Horn-strobes</p>	EG4AVRF	Red FIRE
	EG4AVRN	Red None
	EG4AVWF	White FIRE
	EG4AVWN	White None

Replacement Appliance Covers	Color	Marking
 <p>Horn Covers</p>	EG4ARF-CVR	Red FIRE
	EG4ARN-CVR	Red None
	EG4AWA-CVR	White ALERT
	EG4AWF-CVR	White FIRE
 <p>Strobe Covers</p>	EG4AWN-CVR	White None
	EG4VRF-CVR	Red FIRE
	EG4VRN-CVR	Red None
	EG4VWA-CVR	White ALERT
 <p>Horn-strobe Covers</p>	EG4VWF-CVR	White FIRE
	EG4VWN-CVR	White None
	EG4AVRF-CVR	Red FIRE
	EG4AVRN-CVR	Red None
<td>EG4AWA-CVR</td> <td>White ALERT</td>	EG4AWA-CVR	White ALERT
	EG4AWF-CVR	White FIRE
	EG4AVWN-CVR	White None

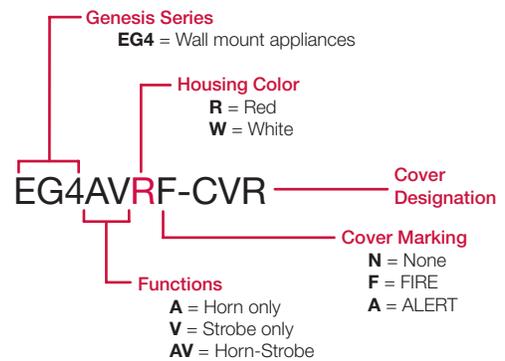
Accessories

 <p>GP10 Room Side Wiring Plate (required, included with device)</p>	 <p>EG4TR Trim plate, G4 Series, red</p>	 <p>EG4TW Trim plate, G4 Series, white</p>
	27193-21 Two-gang surface mount box, red	27193-26 Two-gang surface mount box, white

Model Number Syntax, Appliances



Model Number Syntax, Replacement Covers





Technology that saves lives

Contact us

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Part Five

Floor Plan Layout