12/18/2024

Project Name:

Lillington-Shawtown ES
GYM - EST3 Extension Add

Prepared For:

Pavion
114 Mackenan Dr #300
Cary, NC 27511

Prepared By:

PAVION
114 SUITE 300 MACKENAN DR. CARY, NC 27511
919-266-9908

RANDY PURVIS
randy.purvis@pavion.com

Table of Contents

LIFE SAFETY & INCIDENT MANAGEMENT

Signature Driver Controller Modules

3-SSDC2, 3-SDDC2, 3-SDC1

Approvals

EST4 | EST3

S3000 | S3000

7165-1657: 0186/0306

Overview

The 3-SSDC2 and 3-SDDC2 Signature Driver Controller modules provide an intelligent interface between the CPU module and Signature Series devices. Each module contains its own microprocessor used to coordinate, process and interpret information received from and sent to Signature devices. Power and communications is received directly from the control panel rail assembly. The 3-SSDC2 Single Signature Driver Controller module supports one Signature Data circuit, while the 3-SDDC2 Signature Dual Driver Controller module supports two Signature circuits. Both modules occupy one rail space in the fire alarm control cabinet and provide removable field wiring terminals to aid installation.

Innovative design gives the 3-SSDC2/3-SDDC2 and Signature devices truly “distributed intelligence”. Signature detectors and modules have their own on-board microprocessor communicating with the loop controller in a fully digital communication format. This increases the accuracy of the information coming to and from the loop controller by reducing the effects of capacitance and noise.

With decentralized intelligence much of the decision making moves from the loop controller to the devices. Advanced fire detection algorithms processed within the Signature devices effectively end unwanted alarms. Environmental compensation and multiple sensing element decision making operations are resident in the devices. Intelligent devices allow the Signature Controllers to execute communication and system functions with greater speed and low baud rates, increasing the accuracy of information transmitted between the loop controller and devices.

Standard Features

- One or two circuit versions
- Dedicated microprocessor control
- Full digital communication
- Specialized communication protocol
  – Less sensitive to cable characteristics
  – Utilize existing wiring in most applications
- Device location supervision
  – Unexpected additional device addresses
  – Missing device addresses
  – Switched device locations
  – Programmed device parameters
- Automatic nonvolatile as-built mapping
  – Stores “actual” and “expected” device data
  – Stores physical connection sequence including “T” taps
- Automatic day/night sensitivity
- Supports up to 250 intelligent Signature detectors and 250 Intelligent Signature Modules
- Up to five 3-SDDC2s or ten 3-SSDC2s per node
  – Maximum of 10 signature circuits per cabinet
- Removable field wiring terminal blocks
- Multiple survival modes — stand alone
- Fully backward compatible with 3-SSDC, 3-SDDC, 3-SSDC1, and 3-SDDC1
- Supports the full line of Signature devices, including carbon monoxide detection

Application

Up to 125 detectors and 125 modules are supported over a single pair of wires by the 3-SDC1 Signature Cards that plug into the Signature controller modules. Loop distances over 11,000 feet (3300m) are possible. Class B wiring, Class A and Class X wiring are supported.

The 3-SSDC2 and 3-SDDC2 use advanced communication formats that provide exceptional response. Using a “BROADCAST POLL” the loop controller checks the entire device circuit for any changes of state. Should one or more devices report a change the 3-SSDC2/3-SDDC2 uses “DIRECT ADDRESS SEARCH” to find reporting device(s). Devices that have entered the alarm state or become active are located nearly instantaneously.

The unique use of “BROADCAST POLLING” combined with “DIRECT ADDRESS SEARCH” ensures that only new information is transmitted allowing a reduced baud rate with fast response time. The low baud rate is ideal for retrofit applications since in most applications existing wiring can be used.

To enhance survivability of the system the 3-SSDC2/3-SDDC2 supports a standalone mode for Signature devices. Two catastrophic failure modes are supported. If the CPU fails, the loop controller will continue to poll its devices. If an alarm is detected it will be sent on the local rail communication bus and received by other local rail modules. A common alarm condition throughout the panel will result. If the local rail module (3-SSDC2/3-SDDC2) fails, and a device (smoke or module) detects an alarm, specialized circuitry will make the node aware of the alarm condition. The CPU will communicate the alarm condition to the rest of the network. Having multiple redundant modes is paramount in a life safety system.

Every time the 3-SSDC2/3-SDDC2 communicates with a detector a green LED on the detector flashes. Normal green LED activity is not disturbing to building occupants, but can be quickly spotted by a maintenance technician. A red LED on the detector turns on only in the alarm condition.

The 3-SSDC2/3-SDDC2 also supervises the device wiring, physical location of each device and the programmed device characteristics. This EDWARDS/Signature Series unique characteristic is accomplished by “MAPPING” the Signature circuit and committing the map to memory. Upon power up the loop controller will scan device serial numbers and map their physical location sequence on the loop, including “T” taps. After mapping is complete the controller automatically addresses each detector and module through downloading over the loop. There are no switches or dials to set. Each device is assigned a unique soft address generated by the site specific program.

The 3-SSDC2/3-SDDC2 then compares the “Actual” physical device data to the “Expected” site specific program data. If any correlations are different, the loop controller issues a trouble to the CPU identifying the devices which do not match and posting a map fault. Through the CPU port a graphical map of the loop can be uploaded depicting each device’s location on the loop, including branches (T-Taps) and all of the physical attributes associated with the device. This diagnostic information is unparalleled in the fire detection industry and vital for keeping accurate records on how the system was installed.

During installation a common problem with analog/ addressable systems is locating ground faults. The 3-SSDC2 and 3-SDDC2 controllers have the ability to locate ground faults by specific module, speeding up the troubleshooting process. Another significant advantage of the 3-SSDC2/3-SDDC2 controllers during commissioning is electronic addressing and mapping. This eliminates duplicate addresses, which are also very difficult for most systems to locate.

During maintenance, should groups of detector heads be removed for service and returned into the wrong smoke detector base (location), the 3-SSDC2/3-SDDC2 will automatically detect the problem. If the attributes of the switched devices are the same, the system will automatically download the correct soft addresses and algorithms to the devices (maintaining location supervision).

If the attributes are not the same the 3-SSDC2/3-SDDC2 will send a map fault indication to the CPU and post a trouble indicating the specific devices in fault.

The 3-SSDC2/3-SDDC2 also monitors the Signature Series devices for maintenance and trouble conditions. Each smoke detector contains intelligence to adjust with environmental changes. This expands the amount of time required between cleaning while maintaining a constant alarm threshold. As the detector begins to exhaust the environmental compensation, and reaches the 80% level, the 3-SSDC2/3-SDDC2 will indicate a maintenance alert or dirty condition to the CPU and indicate the specific device requiring cleaning. If cleaning is not performed the detector will continue to operate until all of its environmental compensation is utilized. At this point the 3-SSDC2/3-SDDC2 sends a dirty trouble indication to the CPU and posts a trouble condition.

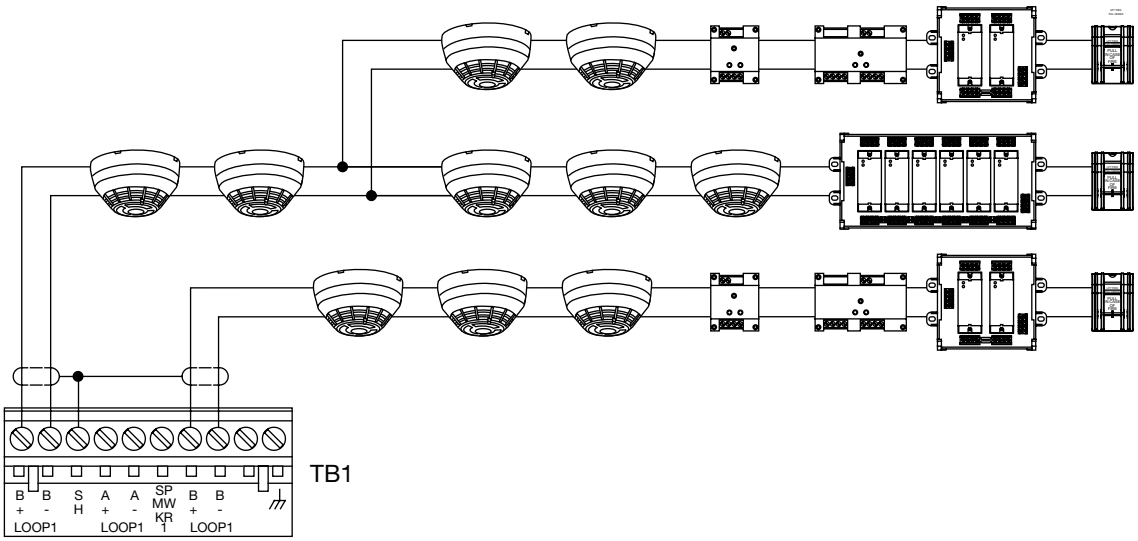
When a detector includes carbon monoxide (CO) detection, the detector monitors its CO life remaining for the CO sensor element and provides this information automatically to the panel. For maintenance of the system the CO life remaining is also available by simply running a maintenance report at the panel or through the FireWorks graphical interface. A unique CO maintenance signal is automatically generated by the panel approximately 6 months before the CO sensor reaches its end of life to allow for time to plan maintenance and replacement of the CO detector before it reports a CO sensor ‘End of Life’ trouble.

Remote test capability permits devices to be put in alarm, pre-alarm, supervisory, monitor, or security alarm, or trouble from the panel menu or controls. This facilitates testing of smoke and heat detectors as well as monitor and security devices. Fast test is also provided for CO detectors allowing these devices to be tested quickly in the field.

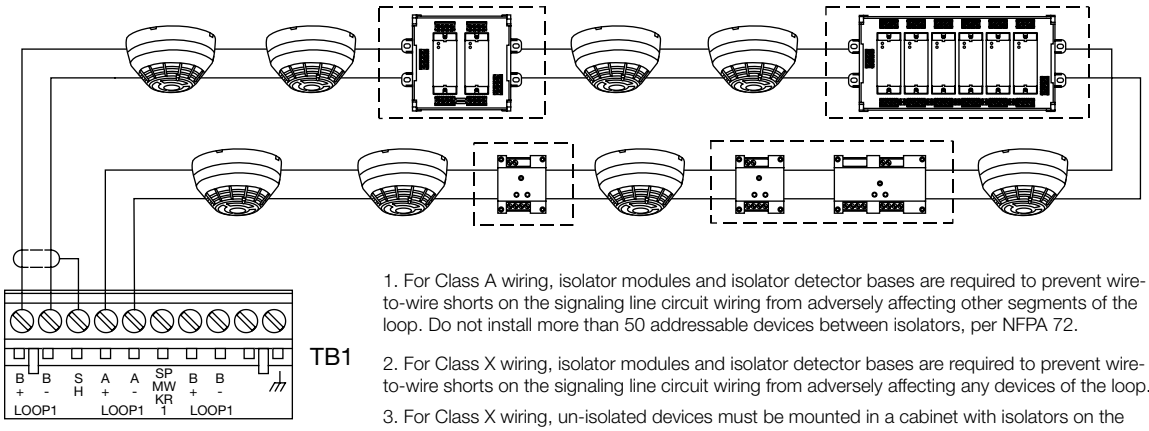
The 3-SSDC2 and 3-SDDC2 local rail modules are fully backwards compatible with the 3-SSDC, 3-SDDC, 3-SSDC1, and 3-SDDC1 respectively local rail modules. 3-SSDC2 and 3-SDDC2 modules provide additional onboard memory to facilitate future Synergy functions. To upgrade a 3-SSDC/3-SDDC, 3-SSDC1/3-SDDC1 to a 3-SSDC2/3-SDDC2 respectively, replace the 3-SSDC1/3-SDDC1 Local Rail Module with a 3-SSDC2-MB Local Rail Module and reuse the 3-SDC1 Signature Device Cards and filters.

Typical Wiring

3-SSDC2 and 3-SDDC2 Class B wiring



3-SSDC2 and 3-SDDC2 Class A and Class X wiring



1. For Class A wiring, isolator modules and isolator detector bases are required to prevent wire-to-wire shorts on the signaling line circuit wiring from adversely affecting other segments of the loop. Do not install more than 50 addressable devices between isolators, per NFPA 72.

2. For Class X wiring, isolator modules and isolator detector bases are required to prevent wire-to-wire shorts on the signaling line circuit wiring from adversely affecting any devices of the loop.

3. For Class X wiring, un-isolated devices must be mounted in a cabinet with isolators on the incoming and outgoing wiring.

Engineering Specification

The communication format between the control panel and analog devices shall be 100% digital.

Loop alarm recognition must be within 750 milliseconds of a device going into the alarm state, with system response time no greater than 3 seconds. All devices shall support remote testing.

It must be possible to wire the circuit as Class B, Class A or Class X with non-shielded, non-twisted wire. It must be possible to wire branches (T-taps) with Class B wiring.

The driver controller must be manufactured in accordance with ISO 9001 standards.

The system must have tolerance to multiple failures. There must be a standalone mode of operation that will ensure the system is aware of alarms even if the local rail or main CPU fails.

Specifications (Signature Circuits)

Charts assume wire and devices are evenly distributed over length of circuit

Non-twisted, non shielded wire

Device type	# of Detectors	# of Module Addresses	#14 AWG (20pf/foot) (2.53 Ohm/1000ft)	#16 AWG (20pf/foot) (4.02 Ohm/1000ft)	#18 AWG (20pf/foot) (6.38 Ohm/1000ft)
Detectors only	125	0	14,752 feet (4,497 meters)	9,275 feet (2,827 meters)	5,839 feet (1,780 meters)
Modules only	0	125	12,599 feet (3,840 meters)	7,921 feet (2,414 meters)	4,986 feet (1,520 meters)
Detectors and Modules	125	125	5,738 feet (1,749 meters)	3,608 feet (1,100 meters)	2,271 feet (692 meters)
Detectors and Modules with 2-wire smokes	63	55 + 9 SIGA-UM	7,623 feet (2,324 meters)	4,793 feet (1,461 meters)	3,017 feet (920 meters)
Modules with 2-wire smokes	0	107 + 9 SIGA-UM	3,798 feet (1,158 meters)	2,388 feet (728 meters)	1,503 feet (458 meters)

Twisted pair non shielded wire

Device Type	# of Detectors	# of Module Addresses	#14 AWG (38pf/foot) (2.53 Ohm/1000ft)	1.5mm² (36pf/foot) (3.75 Ohm/1000ft)	#16 AWG (36pf/foot) (4.02 Ohm/1000ft)	1.0mm² (25pf/foot) (5.51 Ohm/1000ft)	#18 AWG (25pf/foot) (6.38 Ohm/1000ft)
Detectors only	125	0	13,157 feet (4,010 m)	9,933 feet (3,028 m)	9,275 feet (2,827 m)	6,760 feet (2,061 m)	5,839 feet (1,780 m)
Modules Only	0	125	12,599 feet (3,840 m)	8,483 feet (2,586 m)	7,921 feet (2,414 m)	5,774 feet (1,760 m)	4,986 feet (1,520 m)
Detectors & Modules	125	125	5,738 feet (1,749 m)	3,864 feet (1,178 m)	3,608 feet (1,100 m)	2,630 feet (802 m)	2,271 feet (692 m)
Detectors and modules with 2-wire smokes	63	55 + 9 SIGA-UM	7,623 feet (2,324 m)	5,133 feet (1,565 m)	4,793 feet (1,461 m)	3,494 feet (1,065 m)	3,017 feet (920 m)
Modules with 2-wire smokes	0	107 + 9 SIGA-UM	3,798 feet (1,158 m)	2,558 feet (780 m)	2,388 feet (728 m)	1,741 feet (531 m)	1,503 feet (458 m)

Twisted pair shielded wire

Device Type	# of Detectors	# of Module Addresses	#14 AWG (84pf/foot) (2.53 Ohm/1,000ft)	#16 AWG (82pf/foot) (4.02 Ohm/1,000ft)	#18 AWG (58pf/foot) (6.38 Ohm/1,000ft)
Detectors only	125	0	5,952 feet (1,814 meters)	6,098 feet (1,859 meters)	5,839 feet (1,780 meters)
Modules Only	0	125	5,952 feet (1,814 meters)	6,098 feet (1,859 meters)	4,986 feet (1,520 meters)
Detectors & Modules	125	125	5,738 feet (1,749 meters)	3,608 feet (1,100 meters)	2,271 feet (692 meters)
Detectors and modules with 2-wire smokes	63	55 + 9 SIGA-UM	5,952 feet (1,814 meters)	4,793 feet (1,461 meters)	3,017 feet (920 meters)
Modules with 2-wire smokes	0	107 + 9 SIGA-UM	2,558 feet (780 meters)	2,388 feet (728 meters)	1,503 feet (458 meters)

Specifications (controllers)

Catalog Number	3-SSDC2	3-SDDC2
Installation	1 LRM Space	1 LRM Space
Module Configuration	1 Addressable circuit (3-SDC1 Card) expandable to 2 circuits.	2 Addressable circuits (3-SDC1 Cards)
Operating Current [Note 2]	Standby 144 mA Alarm 204 mA	Standby 264 mA Alarm 336 mA
Operating Voltage	24 Vdc, Nominal	
Address Requirements	Automatic	
Detectors Supported	125 per 3-SDC1 Card	
Modules Supported	125 Module Addresses per 3-SDC1 Card	
2-Wire Smoke Power Output	100 mA per 3-SDC1 Card (not included in *Operating Current* above	
Conventional detectors supported	Refer to FACU compatibility lists for compatible devices	
Signature Circuit Voltage	20 VDC +/- 5%	
Maximum Signature Circuit Resistance	100 Ohms	
Maximum Signature Circuit Capacitance	0.5 µF	
Communications Format	100% Digital	
Circuit Wiring Styles	Class B, Class A or Class X	
Termination	Removable plug-in terminal strip(s) on module	
Permissible Wire Size	18 to 12 AWG (0.75 to 2.5 mm²)	
Agency Listings	UL, ULC	
Operating Environment	32 °F (0 °C) to 120 °F (49 °C) 93% RH, non-condensing	

Note 1: Other EST3 components are modularly listed under the following standards:
UL 864 categories: UOJZ, UOXX, UUKL and SYZV, UL 294 category ALVY, UL 609 category AOTX, UL 636 category ANET, UL 1076 category APOU, UL 365 category APAW, UL 1610 category AMCX, UL 1635 category AMCX
ULC-S527, ULC-S301, ULC-S302, ULC-S303, ULC-S306, ULC/ORD-C1076, ULC/ORD-C693
Please refer to EST3 Installation and Service Manual for complete system requirements.

Note 2: Current shown Includes full loop of devices.

Ordering Information

Catalog Number	Description	Shipping Wt. lb (kg)
3-SSDC2	Single Signature Driver Controller. Comes with one 3-SDC1 Device Card. Mounts to Local Rail.	0.5 (0.23)
3-SDDC2	Dual Signature Driver Controller. Comes with two 3-SDC1s. Mounts to Local Rail.	0.5 (0.23)
3-SDC1	Signature Device Card - upgrades a 3-SSDC2 to a 3-SDDC2.	0.25 (0.11)
4-FIL	*Blank EST4 filler plate (order separately when no LED or LED/Switch module is installed on the inner door).*	0.1 (0.05)
3-FP	Filler Plate, order separately when no LED or LED/Switch module installed.	0.1 (0.05)

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Sealed Lead-Acid Batteries

Overview

Rechargeable sealed lead-acid batteries are ideal for use as a secondary (standby) power source as defined by NFPA 72. Their low maintenance and high energy density make them ideal for fire alarm signaling applications.

Application

When multiple power supplies are provided, each power supply's battery requirements should be calculated individually. Consult the specific system manual to determine battery capacity requirements.

Standard Features

- Rechargeable
- Non-spillable
- Non-hazardous
- Low maintenance
- High energy density

Safety Information

Due to a battery's low internal resistance and high power density, high levels of short circuit current can develop across battery terminals. Put on protective eye covering and remove all jewelry before working on batteries. Do not rest tools or cables on the battery, and only use insulated tools. Follow all manufacturers installation instructions and diagrams when installing or maintaining batteries.

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

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Phone: 800-655-4497 (Option 4)
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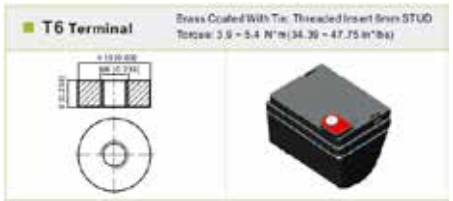
8985 Town Center Pkwy
Bradenton, FL 34202

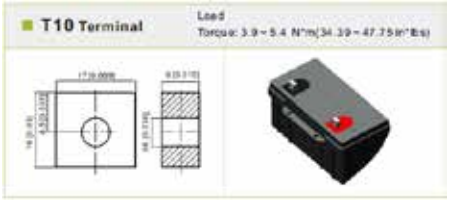
Specifications

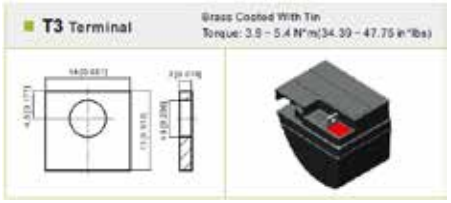
Case Material	ABS Thermoplastic
Regulatory Information	DOT Class 60, Batteries, non-hazardous, non-spillable
Operating Environment	32° F to 120° F (0° C to 49° C) 0 to 93% RH, Non-condensing

Ordering Information

Catalog #	Description	Shipping Weight, lb (kg)	Terminal
12V4A	4.5 Ah Sealed Lead Acid Battery - 12 Vdc	5 (2.27)	T1/T2
12V6A5	7.6 Ah Sealed Lead Acid Battery - 12 Vdc	6 (2.72)	T1/T2
12V10A	10.5 Ah Sealed Lead Acid Battery - 12 Vdc	10 (4.45)	T2
12V17A	18 Ah Sealed Lead Acid Battery - 12 Vdc	13 (5.90)	T3
12V24A	26 Ah Sealed Lead Acid Battery - 12 Vdc	20 (9.07)	T10/M5
12V40A	40 Ah Sealed Lead Acid Battery - 12 Vdc	32 (14.51)	T6/M6
12V50A	50 Ah Sealed Lead Acid Battery - 12 Vdc	40 (18.14)	T6/M6
12V65A	65 Ah Sealed Lead Acid Battery - 12 Vdc	49 (22.23)	T6/M6







EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Auxiliary Power Supplies

APS6A, APS10A

FDNY
COA 6020

7300-1657:
0229

S3424

Overview

The Auxiliary Power Supply (APS) is a UL 864, 9th Edition listed power supply. It is a 24 Vdc filtered-regulated, and supervised unit that can easily be configured to provide additional notification appliance circuits (NACs) or auxiliary power for Mass Notification/ Emergency Communication (MNEC), as well as life safety, security, and access control applications.

The APS contains the circuitry to monitor and charge internal or external batteries. Its steel enclosure has room for up to two 24 ampere-hour batteries. For access control-only applications, the APS can support batteries totaling up to 65 ampere-hours in an external enclosure. The APS has four Class B (convertible to two Class A) NACs. These can be activated in one or two groups from the APS's unique dual input circuits. The APS has a door-mounted AC power indicator LED.

The APS also has room for and can power a number of different modules. These can be Signature AA-30 or AA-50 dual-channel audio amplifiers, SIGA-UIO modules and/or SIGA-RELs. A MN-BKRT3 can also be installed. This bracket can accommodate an MN-NETSW1 Ethernet network switch, an MN-FVPN VoIP module and a MN-COM1S Communications module

The APS is available in 6.5 or 10 ampere models. Each output circuit is has a capacity of three amperes; total current draw cannot exceed the unit's rating.

Features

- Allows for reliable filtered and regulated power to be installed where needed
- Cost effective system expansion
- Provides for Genesis and Enhanced Integrity notification appliance synchronization
- Supports coded output operation
- Self-restoring overcurrent protection
- Multiple signal rates
- Can be cascaded or controlled independently
- Easy field configuration
- On-board diagnostic LEDs identify wiring or internal faults
- Standard EDWARDS keyed lockable steel cabinet with removable door
- 110 and 230 Vac models available
- Accommodates 18 to 12 AWG wire sizes
- Optional tamper switch
- Dual battery charging rates
- Optional earthquake hardening: OSHPD seismic pre-approval for component Importance Factor 1.5

The APS meets current UL requirements and is listed as under the following standards:

Standard (CCN)	Description
UL864 9th ed.ition (UOXX)	Fire Alarm Systems
UL636 (ANET, UEHX7)	Holdup Alarm Units and Systems
UL609 (AOTX, AOTX7)	Local Burglar Alarm Units and Systems
UL294 (ALVY, UEHX7)	Access Control Systems
UL365 (APAW, APAW7)	Police Station Connected Burglar Alarm Units and Systems
UL1076 (APOU, APOU7)	Proprietary Burglar Alarm System Units
UL1610 (AMCX)	Central Station Alarm Unit
ULC-S527 (UOXXC)	Control Units, Fire Alarm (Canada)
ULC-S303 (AOTX7)	Local Burglar Alarm Units and Systems (Canada)
C22.2 No. 205	Signaling Equipment (Canada)

Application

The APS provides additional power and circuits for notification appliances and other 24 Vdc loads. It is listed for indoor dry locations and can easily be installed where needed.

Fault conditions are indicated on the on-board diagnostic LEDs, opening the BPS input sense circuit and the trouble relay (if programmed). While this provides indication to the host system, the APS can still be activated upon command. A separate AC Fail contact is available on the APS circuit board, which can be programmed for trouble or AC Fail. There are seven on-board diagnostic LEDs: one for each NAC fault, one for battery fault, one for ground fault, and one for AC power.

The unique dual-input activation circuits of the APS can be activated by any voltage from 6 to 45 VDC (filtered-regulated) or 11 to 33 Vdc (full-wave rectified, unfiltered). The first input circuit can be configured to activate 1-4 of the four possible outputs. The second input circuit can be configured to control circuits 3 and 4. When outputs are configured for auxiliary operation, these circuits can be configured to stay on or automatically deactivate 30 seconds after AC power is lost. This feature makes these circuits ideal for door holder applications. The APS also has a separate 200 mA 24 Vdc output that can be used to power internal activation modules.

APS NACs can be configured for a 3-3-3 temporal or continuous output. California temporal rate outputs are also available on certain models. This makes the APS ideal for applications requiring signaling rates that are not available from the main system.

In addition to the internally generated signal rates, the APS can also be configured to follow the coded signal rate of the main system NACs. This allows for the seamless expansion of existing NACs.

At the top of the steel enclosure, the APS has space and mounting bosses for:

- Up to two SIGA-AA30 or SIGA-AA50 dual-channel audio amplifiers
- One MN-BRKT3 with one MN-NETSW1 Ethernet switch, one MN-FVPN VoIP module, and one MN-COM1S communication module
- One SIGA-UIO6 or SIGA-UIO6R module motherboard
- Up to two SIGA-UIO2R module motherboards
- Up to two SIGA-REL releasing modules
- Up to two SIGA MP2L mounting plates modules

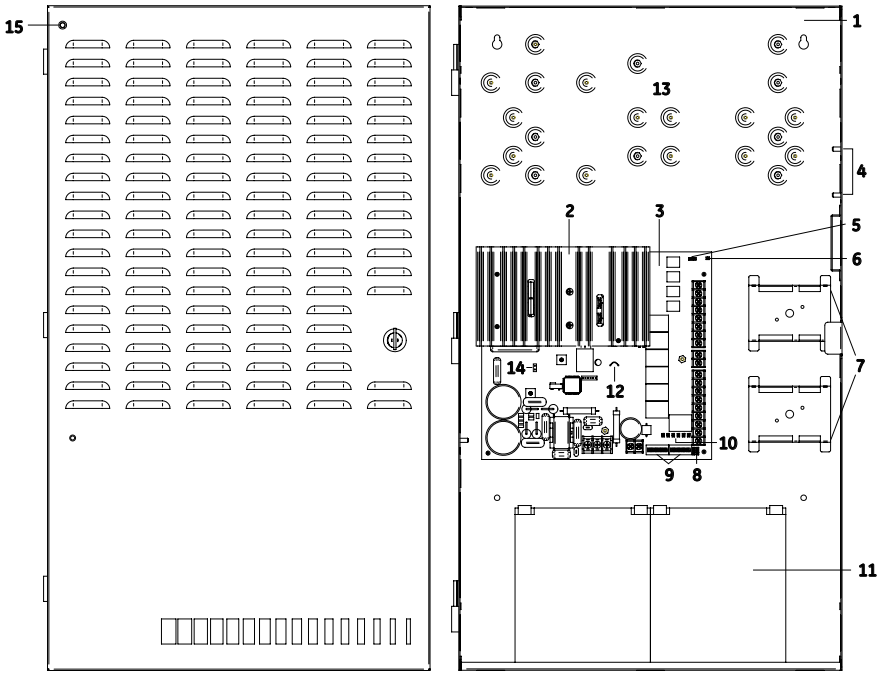
The above devices are in addition to the three factory-installed Signature module mounting brackets to the right of the APS circuit board.

Engineering Specification

Supply, where needed, EDWARDS APS Series Auxiliary Power Supplies (APS) that are interconnected to and supervised by the main system. The APS shall function as a stand-alone auxiliary power supply with its own fully-supervised battery compliment. The APS battery compliment shall be sized to match the requirements of the main system. The APS shall be capable of supervising and charging batteries having the capacity of 24 ampere-hours for Mass Notification/Emergency Communication (MNEC), life safety and security applications, and the capacity of 65 ampere-hours for access control applications.

<<The APS shall be capable of installation for a seismic component Importance Factor of 1.5.>>The APS shall provide a minimum of four independent, fully supervised Class B circuits that can be field configurable for notification appliance circuits or auxiliary 24 Vdc power circuits. APS NACs shall be convertible to a minimum of two Class A NACs. Each APS output circuit shall be rated at 3 amperes at 24 VDC. Each output circuit shall be provided with automatically restoring overcurrent protection. The APS shall be operable from the main system NAC and/or EDWARDS Signature Series control modules. APS NACs shall be configurable for continuous, 3-3-3 temporal or optionally, California rate. Fault conditions on the APS shall not impede operation of main system NAC. The APS shall be provided with ground fault detection circuitry and a separate AC fail relay.

Cabinet Layout



1 Enclosure: Houses the electronics and two standby batteries

2 Heat sink: Distributes heat away from the circuit board

3 Circuit board: Provides connections for all circuits

4 Tamper switch standoffs: 3-TAMP mounting standoffs

5 Jumper JP3: Ground fault enable or disable option

6 AC LED: AC power on

7 Mounting brackets: Option module mounting brackets

8 Jumpers JP1 and JP2: Class A or Class B NAC option

9 DIP switches: Two eight-position DIP switches used for configuration

10 Circuit LEDs: NAC, battery, and ground fault trouble LEDs

11 Batteries: Up to two 12 V 24 Ah batteries fit in the enclosure. For larger batteries, use an external battery cabinet (BC-1 or BC-2).

12 Jumper JP4: Battery charging jumper

13 Option module (SIGA-REL, SIGA-UIO6/6R/2, SIGA-MP2L) and MN-BRKT3 mounting area

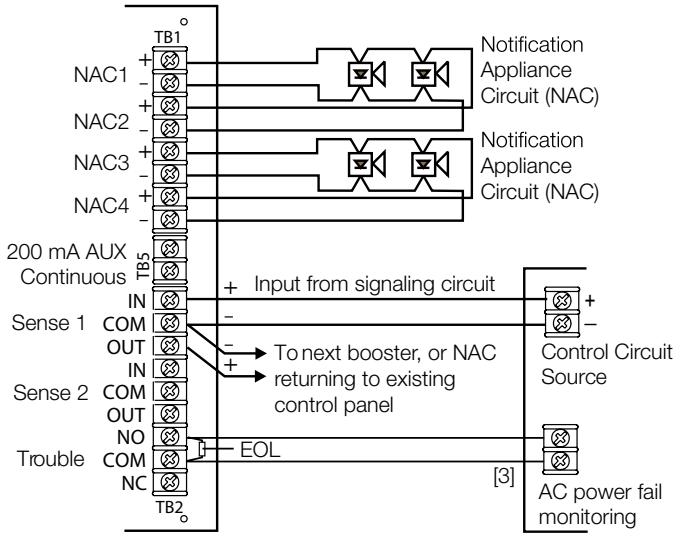
14 Remote LED wiring harness connection

15 Remote LED: Indicates AC power is on

Typical Wiring

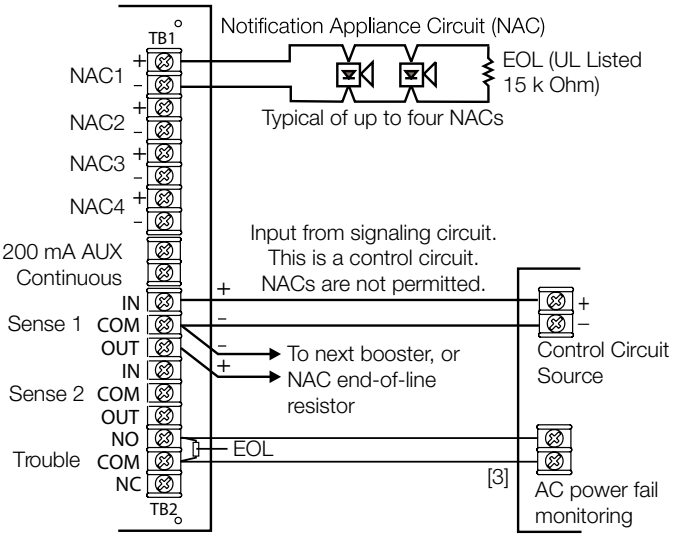
NAC Class A wiring

Connect one NAC circuit to one NAC output, either NAC1 or NAC3. Terminate the circuit at the NAC2 or NAC4 terminal screw, respectively.



NAC Class B wiring

Connect a single NAC circuit to one NAC output. Terminate the circuit with a 15 k Ohm EOL resistor.



NAC wiring notes:

1. A trouble on the APS is sensed on the existing control panel's NAC circuit causing a NAC trouble on that panel. This removes the need to separately monitor the trouble contact except for AC power failure (see [3] below).

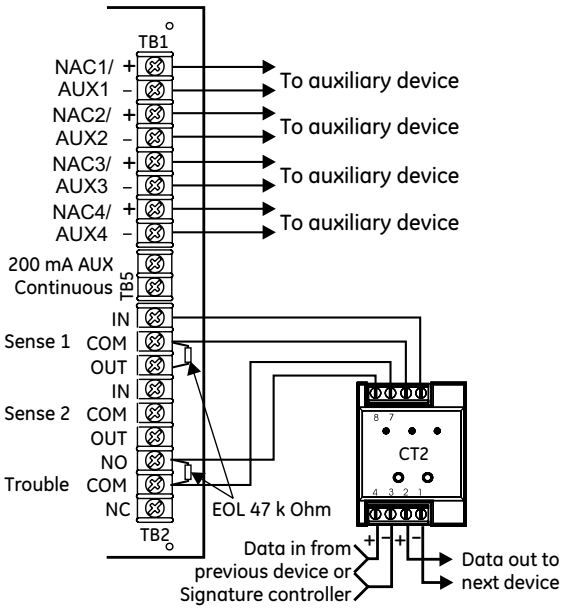
   In an alarm condition, the APS allows NAC current to move downstream to devices connected to the existing control panel's NAC circuit.

2. Refer to the connected control panel's documentation for more details on NAC wiring.

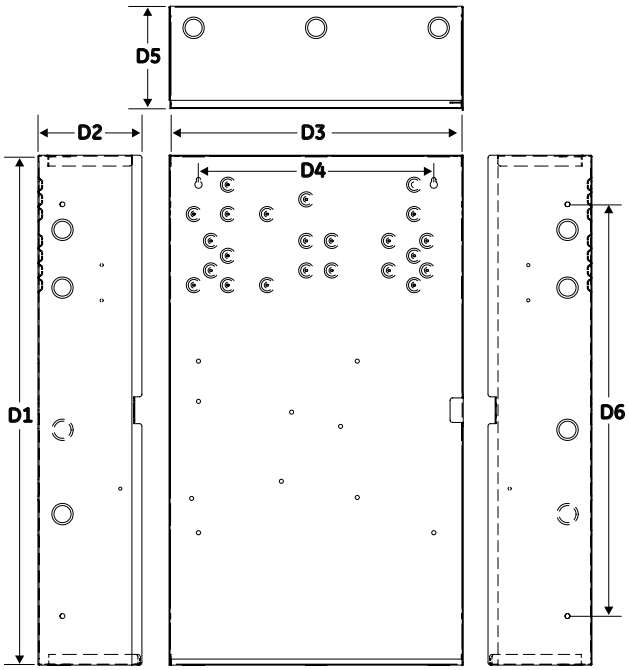
[3] The AC power failure panel connection annunciates at the panel but does not report off premises for a predetermined time period in U.S. fire applications.

Trouble relay wiring with four AUX circuits

When all four NAC/AUX circuits are configured as AUX circuits and DIP switch SW2-6 is ON, a SIGA-CT2 module must be used to monitor the sense 1 trouble contacts and the trouble relay.



Dimensions



D1	D2	D3	D4	D5	D6
26.0 in (66 cm)	5.3 in (13.5 cm)	15.0 in (38 cm)	12 in (30.5 cm)	5.3 in (13.5 cm)	21.0 in (53.3 cm)

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Specifications

Model	6.5 amp APS	10 amp APS
AC Line Voltage	120VAC or 220-240VAC 50/60Hz 390 watts	120VAC or 220-240VAC 50/60Hz 580 watts
Sense voltage (input)	6 to 45 Vdc, 11 to 33 Vrms (FWR and unfiltered DC)	
Sense current (input)	6 mA @ 24 Vdc, 3 mA @ 12 Vdc, 12 mA @ 45 Vdc	
Input Current (from an existing NAC)	3mA @ 12Vdc, 6mA @ 24Vdc	
Booster Internal Supervisory Current	70mA + 35 mA for each circuit set to AUX	
Booster Internal Alarm Current	270mA	
NAC/AUX output voltage	19.1 to 26.85 Vdc	
NAC/AUX output current	3.0 A max. per circuit (10 A or 6.5 A max. total for all NACs) (10 A or 6.5 A max. total for all AUXs) [2]	
NAC/AUX class	Class B or Class A	
Wire size	18 to 12 AWG (0.75 to 2.5 sq mm)	
NAC EOL	UL: 15 k Ohm (P/N EOL-15) ULC: Use P/N EOL-P1 and select the 15 k Ohm resistor	
Auxiliary output (continuous)	1 dedicated 200 mA auxiliary output, not supervised by APS, included in total current	
Common trouble relay	Form C, 1 A, 30 Vdc (resistive)	
Battery requirements [1]	6.5 to 24 Ah for fire and up to 65 Ah for security applications Under 10 Ah, cut JP4. 10 Ah or above, do not cut JP4.	
Battery charger current limit	1.2 A when the battery jumper wire is cut 2.1 A when the battery jumper wire is not cut	
Operating environment Temperature Humidity	 32 to 120 °F (0 to 49 °C) 0 to 93% RH, noncondensing	
Ground fault impedance	10 k Ohm	
Intended installation environment	Indoor-dry	

[1] The maximum battery size the panel can charge is 24 Ah (12V24A or equivalent) for fire and security applications.
[2] The maximum current is 8 amps for auxiliary circuits that operate when the panel is in standby.

Ordering Information

Catalog Number	Description	Shipping Wt. lb (kg)
APS6A	6.5 Amp Auxiliary Power Supply	26 (11.8)
APS6A/230	6.5 Amp Auxiliary Power Supply (220V)	
APS10A	10 Amp Auxiliary Power Supply	
APS10A/230	10 Amp Auxiliary Power Supply (220V)	

Related Equipment		
MN-BRKT3	MN-FVP series mounting bracket for APS-(6)(10)A power supplies	
BC-1EQ	Seismic Kit for BC-1. Order BC-1 separately. See note 3.	
APSEQ	Seismic kit for APS6A or APS10 Auxiliary Power Supplies. See note 3	
12V6A5	12 V, 7.2 Amp Hour Battery, two required	3.4 (1.6)
12V10A	12 V, 10 Amp Hour Battery, two required	9.5 (4.3)
12V17A	12 V, 18 Amp Hour Battery, two required	13 (5.9)
12V24A	12 V, 24 Amp Hour Battery, two required	20 (9.07)
12V40A	12 V, 40 Amp Hour Battery, two required (see notes 1, 2)	32 (14.5)
12V50A	12 V, 50 Amp Hour Battery, two required (see notes 1, 2)	40 (18.14)
12V65A	12 V, 65 Amp Hour Battery, two required (see notes 1, 2)	49 (22.2)
3-TAMP	Tamper switch	1.0 (0.6)
BC-1	Battery Cabinet (up to 2 - 40 Amp Hour Batteries)	58 (26.4)

Notes
1. Requires installation of separate battery cabinet.
2. APS supports batteries greater than 24 Amp hours for access control applications only.
3. For earthquake anchorage, including detailed mounting weights and center of gravity detail, refer to Seismic Application Guide 3101676. Approval of panel anchorage to site structure may require local AHJ, structural or civil engineer review.

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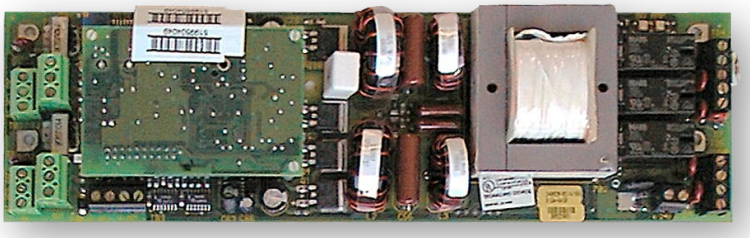
Intelligent Audio Amplifiers

SIGA-AA30, SIGA-AA50



Overview

SIGA amplifiers are high efficiency switch mode audio amplifiers available in 30 and 50 watt sizes. Amplifiers have two input channels supporting dual channel or single channel audio applications. Amplifier project application flexibility is enhanced by provision for input levels at 1Vrms or 25Vrms. This allows SIGA amplifiers to obtain their input from a line level signal or the output of another 25Vrms amplifier. This feature provides great application flexibility helping meet project requirements. Input channel selection is made through system software programming transmitted to the amplifier via a Signature data circuit. This reduces wiring interconnect requirements by reducing the number of control modules needed.

Each amplifier has provision for connecting back up amplification. Amplifiers can be backed up one-to-one or multiple amplifiers can have one shared back up amplifier. In addition to back up amplifiers each SIGA amplifier has an on board 1kHz tone generator that can activate in the event of input failure or if no back up amplifier is available.

Engineering Specification

System remote amplifiers must communicate their status directly to the main control panel. External monitoring is not acceptable. Each amplifier must support dual channel audio. Amplifiers must support input signals at line a built in back up 1kHz tone generator that automatically activates with loss of input signal. Each amplifier must have provision for a back up amplifier. It must be possible to default to back up tone or standby amplifier in the event of the loss of input signals.

Standard Features

- Remote or Local mounting
- Two channel input
- Connects to signature data circuit. Allows switching between two channels without additional control modules. Eliminates the need for additional amplifier monitoring.
- Output selectable as 25Vrms or 70Vrms
- Dual input level allows the use of a 1Volt or 25Volt input signal.
- Back up amplifier connection
- Back up 1kHz tone generator

Application

Signature amplifiers are ideally suited for distributed audio applications and small centrally banked applications. The audio output is configurable as 25Vrms or 70Vrms in Class B or Class A wiring configurations. Speakers can connect directly to the output of the amplifier or the amplifier output can run as a audio riser to signature modules where speaker zone selection is made. Each amplifier has a built in 1kHz tone generator and provision for a back up amplifier. Should an amplifier lose its input signal the output will switch to a back up amplifier. If there is no back up amplifier or the output from the back up is unavailable the output will receive the internal 1kHz tone as the evacuation signal. On board status LEDs provide quick visual indication of amplifier status including, Power Amp. Enabled, Backup Mode, Amplifier Active, and Normal Communications.

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Website: edwardsfiresafety.com

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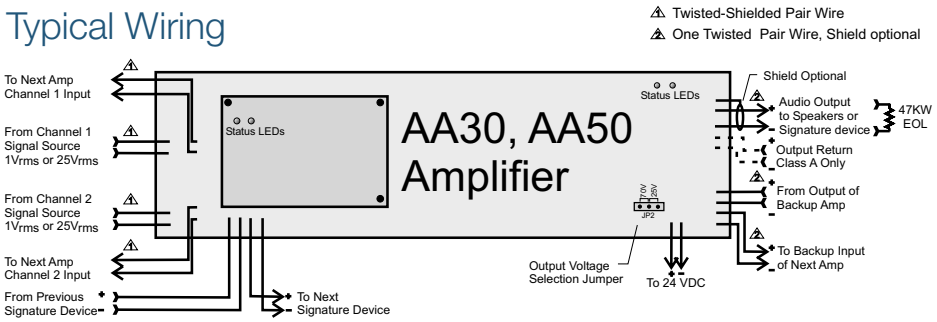
Typical Wiring



Specifications

Catalog Number	SIGA-AA30	SIGA-AA50
Current: Standby	2 mA at 24 V	2 mA at 24 V
Active	1.55 A at 24 V load	2.8 A at 24 V full load
Output	30 watts @ 25 VRMS or 70 VRMS	50 watts @ 25 VRMS or 70 VRMS
Voltage	24 VDC	
Ground fault impedance	0.1 Ω or less	
Frequency response	ULC: 400 Hz to 4 kHz at –3 dB. ULI: 800 Hz to 2.8 kHz.	
Harmonic distortion	< 5%	
Input		
Channel 1 dual input	1 VRMS or 25 VRMS maximum	
Channel 2 dual input	1 VRMS or 25 VRMS maximum	
Configuration	Class B (Style Y) or Class A (Style Z)	
EOL resistor	47 kΩ	
Compatible enclosures	2-WB3(R), 2-WB7(R), RACCR, APS6A, APS10A.	
Compatible power sources	System power, BPS6A/10A, APS6A/10A; SIGA-APS (for retrofit only),	
Signature Data Circuit		
Addresses	2 module addresses	
Emulation	Signature series CC2 module	
Maximum wire size	12 to 18 AWG (0.75 to 2.5 mm^2)	
Backup tone	1 kHz	
Operating environment	Temperature: 32 to 120°F (0 to 49°C). Humidity: 0 to 93%, N.C.	

Ordering Information

Catalog Number	Description	Ship Wt. lb. (kg)
SIGA-AA30	30 Watt Intelligent Audio Amplifier	2 (.9)
SIGA-AA50	50 Watt Intelligent Audio Amplifier	2 (.9)
Wallboxes		
2-WB3	EST2 Long Surface Wallbox (order 2-WB3D door separately) - Gray finish. For Semi-Flush mounting order Trim Kit. See note 1	38 (17.3)
2-WB7	EST2 Double Wide Surface Wallbox (order 2-WB7D door separately) - Gray finish. For Semi-Flush mounting order Trim Kit. See note 1	75 (34)
APS6A	6.5 Amp Auxiliary Power Supply with space for up to two amplifiers.	26 (11.8)
APS10A	10 Amp Auxiliary Power Supply with space for up to two amplifiers.	
RACCR	Remote Audio Closet Cabinet (order door separately). Red Finish	32 (14.5)
Trim Kits		
2-LFK	Long Semi-Flush Trim Kit for 2-WB3 wallbox. See note 1	4 (1.8)
2-DFK	Double Wide Semi-Flush Trim Kit for 2-WB7 box. See note 1	5 (2.3)
Note 1: Standard finish is gray, red versions are available by adding suffix R to the catalog number e.g. 2-WB3R		
Related Equipment		
SIGA-APS	6.4 Amp Power Supply	2 (.9)

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Sealed Lead-Acid Batteries

Overview

Rechargeable sealed lead-acid batteries are ideal for use as a secondary (standby) power source as defined by NFPA 72. Their low maintenance and high energy density make them ideal for fire alarm signaling applications.

Application

When multiple power supplies are provided, each power supply's battery requirements should be calculated individually. Consult the specific system manual to determine battery capacity requirements.

Standard Features

- Rechargeable
- Non-spillable
- Non-hazardous
- Low maintenance
- High energy density

Safety Information

Due to a battery's low internal resistance and high power density, high levels of short circuit current can develop across battery terminals. Put on protective eye covering and remove all jewelry before working on batteries. Do not rest tools or cables on the battery, and only use insulated tools. Follow all manufacturers installation instructions and diagrams when installing or maintaining batteries.

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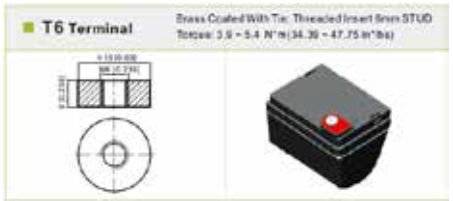
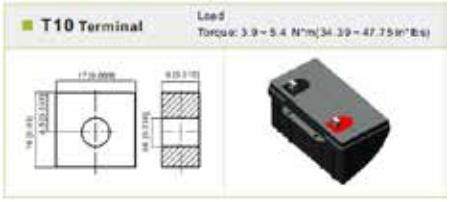
Specifications

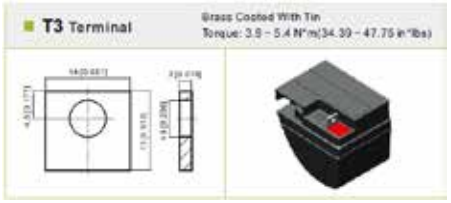
Case Material	ABS Thermoplastic
Regulatory Information	DOT Class 60, Batteries, non-hazardous, non-spillable
Operating Environment	32° F to 120° F (0° C to 49° C) 0 to 93% RH, Non-condensing

Ordering Information

Catalog #	Description	Shipping Weight, lb (kg)	Terminal
12V4A	4.5 Ah Sealed Lead Acid Battery - 12 Vdc	5 (2.27)	T1/T2
12V6A5	7.6 Ah Sealed Lead Acid Battery - 12 Vdc	6 (2.72)	T1/T2
12V10A	10.5 Ah Sealed Lead Acid Battery - 12 Vdc	10 (4.45)	T2
12V17A	18 Ah Sealed Lead Acid Battery - 12 Vdc	13 (5.90)	T3
12V24A	26 Ah Sealed Lead Acid Battery - 12 Vdc	20 (9.07)	T10/M5
12V40A	40 Ah Sealed Lead Acid Battery - 12 Vdc	32 (14.51)	T6/M6
12V50A	50 Ah Sealed Lead Acid Battery - 12 Vdc	40 (18.14)	T6/M6
12V65A	65 Ah Sealed Lead Acid Battery - 12 Vdc	49 (22.23)	T6/M6







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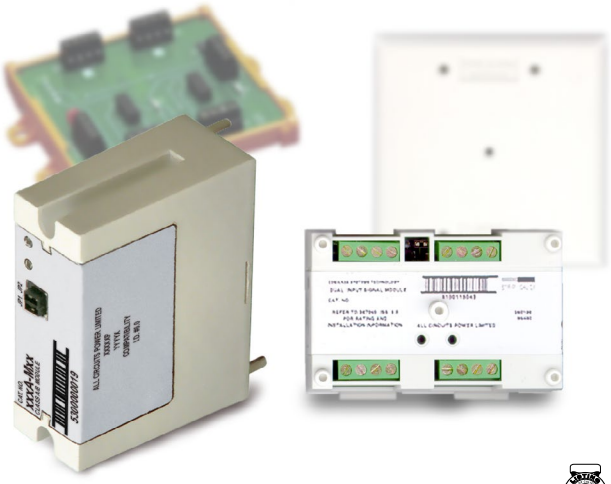
Synchronization Output Module

SIGA-CC1S, MCC1S



Patented

FM APPROVED MEA 7300-1657: 0121 UL ULC S3424

Overview

SIGA-CC1S and MCC1S Synchronization Output Modules are intelligent analog addressable devices that form part of EDWARDS's Signature line of products. The actual operation of the SIGA-CC1S and MCC1S is determined by the "personality code" selected by the installer, which is downloaded to the module from the Signature loop controller during system configuration.

Depending on their assigned personality, Synchronization Output Modules may be used as a signal power riser selector to provide synchronization of fire alarm signals across multiple zones, or for connecting, upon command from the loop controller, supervised Class B signal or telephone circuits to their respective power inputs. The power inputs may be polarized 24 Vdc to operate audible and visible signal appliances or 25 and 70 VRMS to operate audio evacuation speakers and firefighter's telephones.

Standard Features

- **Provides UL 1971-compliant auto-sync output for visual signals**
  Use for connecting a supervised output circuit to a supervised 24 Vdc riser input and synchronizing multiple notification appliance circuits.
- **Functions as an audible signal riser selector**
  Use as a synch module or for connecting supervised 24 Vdc Audible/Visible signal circuits, or 25 and 70 VRMS Audio Evacuation and Telephone circuits to their power inputs.
- **Built-in ring-tone generator**
  When configured for telephone circuits, the SIGA-CC1S generates its own ring-tone signal, eliminating the need for a separate ring-tone circuit.
- **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.

Application

The SIGA-CC1S mounts to a standard North American two-gang electrical box, making it ideal for locations where only one module is required. Separate I/O and data loop connections are made to each module.

The SIGA-MCC1S is part of the UIO family of plug-in Signature Series modules. It functions identically to the SIGA-CC1S, but takes advantage of the modular flexibility and easy installation that characterize all UIO modules. Two- and six-module UIO motherboards are available. These can accommodate individual risers for each on-board module, or risers that are shared by any combination of its UIO modules. All wiring connections are made to terminal blocks on the motherboard. UIO assemblies may be mounted in EDWARDS enclosures.

Personality Codes

The operation of the SIGA-CC1S 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.

Personality Code 5: Signal Power or Audio Evacuation (single riser). Configures the module for use as a Class B Audible/Visible Signal power (24 Vdc polarized) or Audio Evacuation (25 or 70 VRMS) power selector. The ring-tone generator is disabled. The output circuit is monitored for open or shorted wiring. If a short exists, the control panel inhibits the activation of the audible/visible signal circuit to prevent connection to the power circuit.

Personality Code 6: Telephone with ring-tone (single riser). Configures the module for use as a Telephone power selector. When a telephone handset is plugged into its jack or lifted from its hook, the module generates its own Ring-Tone signal. A separate ring-tone circuit is not needed. The module sends this signal to the control panel to indicate that an off-hook condition is present. When the system operator responds to the call, the ring-tone signal is disabled.

Personality Code 25: Visual Signal Synchronization. This personality code configures the module to provide synchronization of fire alarm signals across multiple zones. It functions as a signal power (24 Vdc) riser selector. The output wiring is monitored for open circuits and short circuits. A short circuit will cause the fire alarm control panel to inhibit the activation of the audible/visual signal circuit so the riser is not connected to the wiring fault.

Warnings & Cautions

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

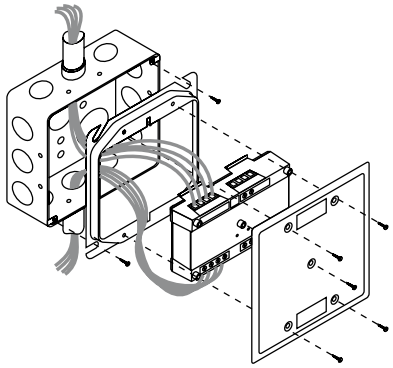
EDWARDS recommends that these modules be installed according to latest recognized edition of national and local fire alarm codes.

Compatibility

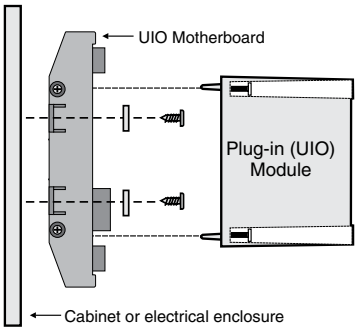
These modules are part of EDWARDS's Signature Series intelligent processing and control platform. They are compatible with EST3, EST3X and iO Series control panels.

Installation

The SIGA-CC1S: mounts to North American 2-1/2 inch (64 mm) deep 2-gang boxes and 1-1/2 inch (38 mm) deep 4 inch square boxes with 2-gang covers and SIGA-MP mounting plates. The terminals are suited for #12 to #18 AWG (2.5 mm^2 to 0.75 mm^2) wire size.



SIGA-MCC1S: mount the UIOxR motherboard inside a suitable EDWARDS 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). UIOxR motherboard terminals are suited for #12 to #18 AWG (2.5 mm^2 to 0.75 mm^2) 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.

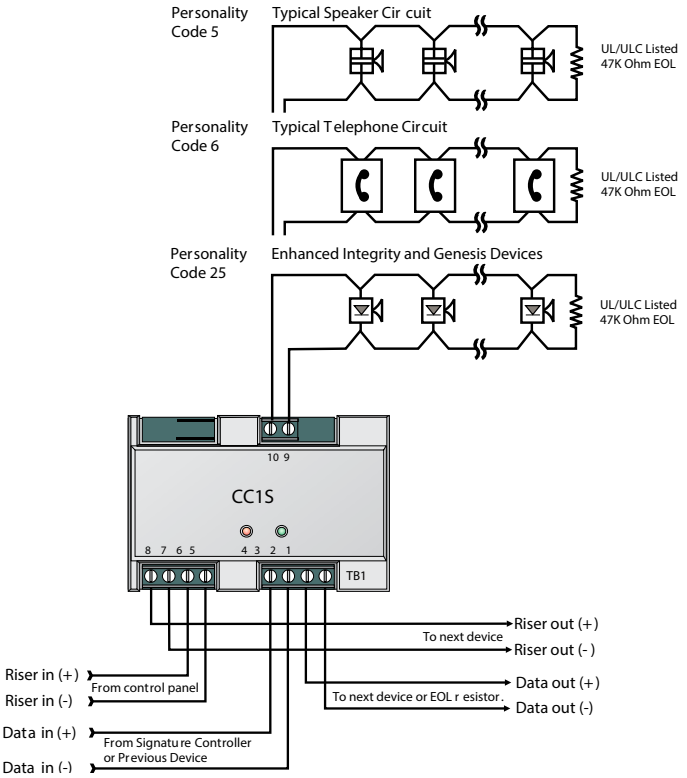
Testing & Maintenance

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 (de-activated) temporarily, from the control panel.

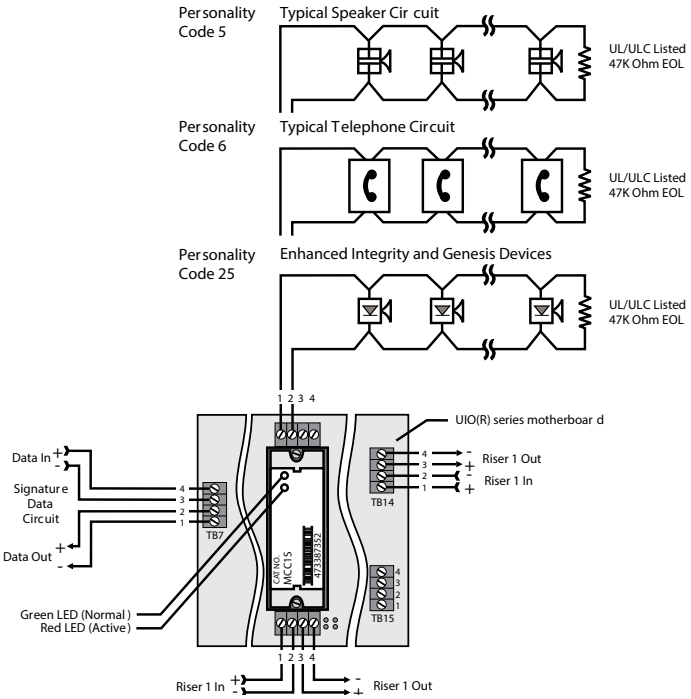
Scheduled maintenance (Regular or Selected) for proper system operation should be planned to meet the requirements of the Authority Having Jurisdiction (AHJ). Refer to current NFPA 72 and ULC CAN/ULC 536 standards.

Typical Wiring

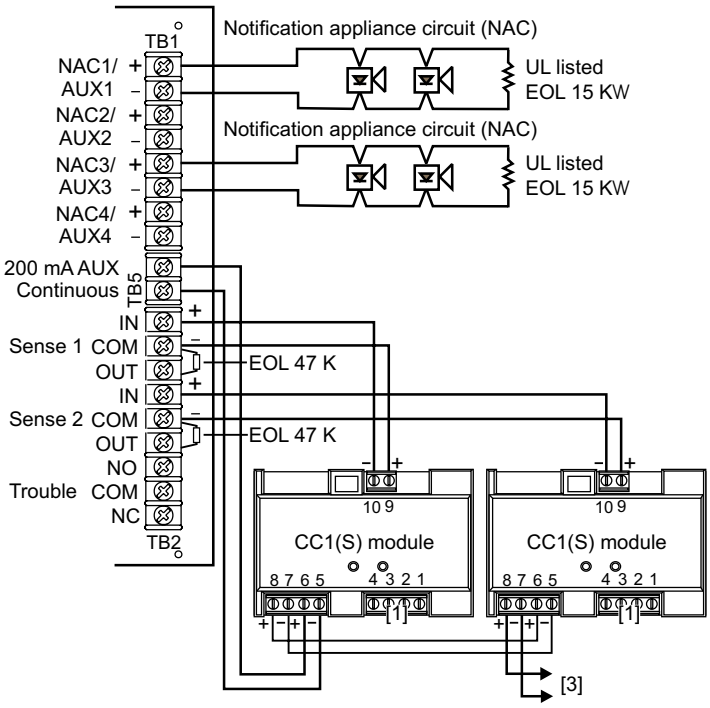
SIGA-CC1S (Standard Mount)



SIGA-MCC1S (UIO Mount)



Multiple CC1(S) modules using the BPS's sense inputs



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Specifications

Catalog Number	SIGA-CC1S	SIGA-MCC1S
Mounting	North American 2½ inch (64 mm) deep two-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 2-gang covers and SIGA-MP mounting plates	Plugs into UIO2R, UIO6R or UIO6 Motherboards
Description	Synchronization Output Module	
Type Code	50 (factory set)	
Address Requirements	Uses one module address	
Wiring Terminations	Suitable for #12 to #18 AWG (2.5 mm^2 to 0.75mm^2)	
Operating Current	Standby = 223µA Activated = 100µA	
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)	
Output Rating	24 Vdc = 2 amps 25 V Audio = 50 watts 70 V Audio = 35 watts	
Construction	High Impact Engineering Polymer	
Storage and Operating Environment	Operating: 32°F to 120°F (0°C to 49°C) Storage: -4°F to 140°F (-20°C to 60°C) Humidity: 0 to 93% RH	
LED Operation	Green LED - Flashes when polled Red LED - Flashes when in alarm/ active	
Compatibility	Use with: Signature Loop Controller under EST3 version 2.0 or higher	
Agency Listings	UL, ULC, CSFM, MEA	

Ordering Information

Catalog Number	Description	Shipping Wt. lbs (kg)
SIGA-CC1S	Synchronization Output Module (Standard Mount) - UL/ULC Listed	0.5 (0.23)
SIGA-MCC1S	Synchronization Output Module (UIO Mount) - UL/ULC Listed	0.18 (0.08)

Related Equipment		
27193-21	Surface Mount Box - Red, 2-gang	2 (1.2)
27193-26	Surface Mount Box - White, 2-gang	2 (1.2)
SIGA-UIO2R	Universal Input-Output Module Board w/Riser Inputs - Two Module Positions	0.32 (0.15)
SIGA-UIO6R	Universal Input-Output Module Board w/Riser Inputs - Six Module Positions	0.62 (0.28)
SIGA-UIO6	Universal Input-Output Module Board - Six Module Positions	0.56 (0.25)
235196P	Bi-polar Transient Protector	0.01 (0.05)
MFC-A	Multifunction Fire Cabinet - Red, supports Signature Module Mounting Plates	7.0 (3.1)
SIGA-MP1	Signature Module Mounting Plate, 1 footprint	1.5 (0.70)
SIGA-MP2	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.23)
SIGA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint	1.02 (0.46)

LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent Smoke Detector

SIGA-OSD

7272-1657:
0511

Overview

The Signature Optica Series SIGA-OSD smoke detector brings advanced optical (photoelectric) 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 Signature Optica Series detectors, the SIGA-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 SIGA-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

- 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 Signature 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
- 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

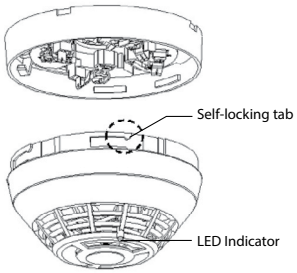
The SIGA-OSD detects particles from a wide range of combustion sources and will trigger an alarm when smoke density in the chamber reaches preprogrammed level. Thanks to its high-performance reflective response technology, the smoke sensor responds quickly and reliably to a wide range of fire types,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

Compatibility

The SIGA-OSD detector is compatible only with control panels using a Signature Loop controller.

Installation

Signature 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 Signature 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 SIGA-SB4, SIGA-RB4, and SIGA-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the SIGA-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The SIGA-AB4G mounts to a 4 inch square box only.


SIGA-AB4G/T/LF
Audible Base


SIGA-SB
Standard Base


SIGA-IB
Isolator Base


SIGA-RB
Relay Base


SIGA-LED
Remote LED

Remote LED SIGA-LED - The remote LED connects to the SIGA-SB or SIGA-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 - Signature Series sounder bases are designed for use where localized or group alarm signaling is required.

- SIGA-AB4G bases provide sounder capability to Signature Series to heat and smoke detectors. They are not intended for use with combination carbon monoxide detectors in Fire-plus-CO mode.
- SIGA-AB4GT bases provide sounder capability to Signature Series smoke and heat detectors, as well as carbon monoxide detectors when used with a SIGA-TCDR Temporal Pattern Generator.
- SIGA-AB4G-LF bases provide 520 Hz low frequency sounder capability to Signature Series smoke and heat detectors, as well as carbon monoxide detectors when used with a SIGA-TCDR Temporal Pattern Generator. The SIGA-AB4G-LF is suitable for applications requiring low frequency audible tones.

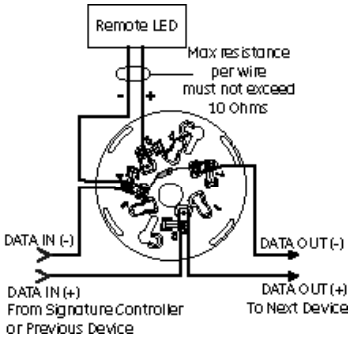
Typical Wiring

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, SIGA-SB, SIGA-SB4

This is the basic mounting base for EDWARDS Signature Series detectors. The SIGA-LED Remote LED is supported by this Base.

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



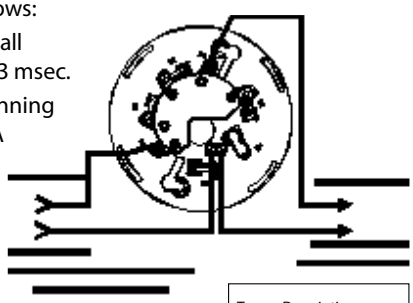
Isolator Detector Base, SIGA-IB, SIGA-IB4

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 SIGA-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.

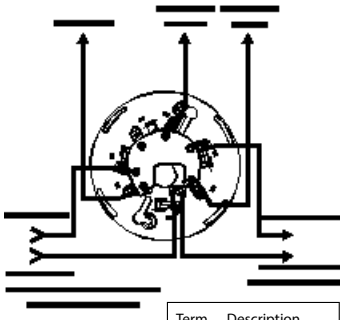
The process repeats beginning on the other side of the loop controller.



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, SIGA-RB, SIGA-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 SIGA-RB can be operated as a control relay if programmed to do so at the control panel. The relay base does not support the SIGA-LED Remote LED.

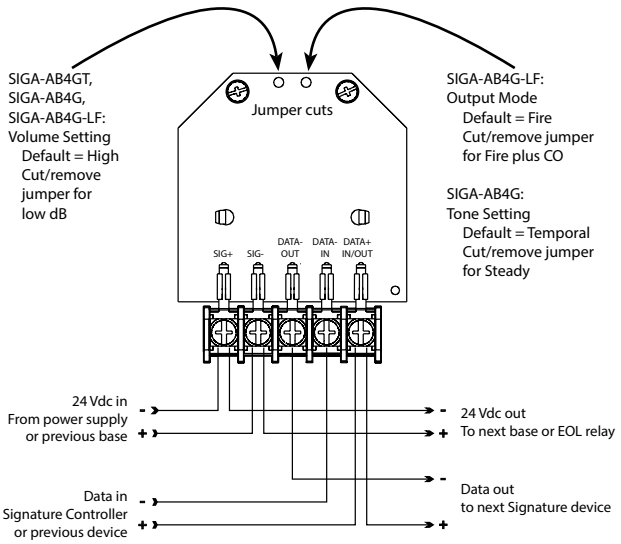


CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

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

Audible Sounder Bases, Fire Mode

AB4GT, AB4G, AB4G-LF 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.

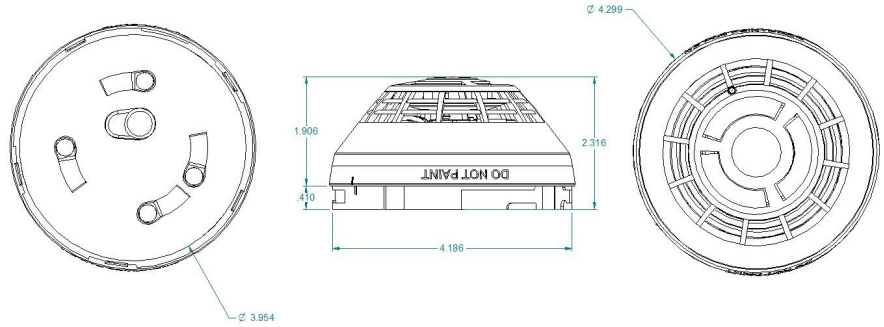
LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Dimensions



Specifications

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

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-OSD	Intelligent Optical Smoke Detector	0.4 (0.16)
Accessories		
SIGA-SB	Detector Mounting Base - Standard	0.2 (.09)
SIGA-SB4	4-inch Detector Mounting Base c/w Trim Skirt	
SIGA-RB	Detector Mounting Base w/Relay	
SIGA-RB4	4-inch Detector Mounting Base w/Relay, c/w Trim Skirt	
SIGA-IB	Detector Mounting Base w/Fault Isolator	
SIGA-IB4	4-inch Detector Mounting Base w/ Fault Isolator, c/w Trim Skirt	
SIGA-LED	Remote Alarm LED (not for EN54 applications)	
SIGA-AB4G	Audible (Sounder) Base for Fire Detectors	0.3 (0.15)
SIGA-AB4G-LF	Low Frequency Audible (Sounder) Base for CO and/or Fire Detectors	0.3 (0.15)
SIGA-AB4GT	Audible (Sounder) Base for CO and/or Fire Detectors	0.3 (0.15)
SIGA-TS4	Trim Skirt (supplied with 4-inch bases)	0.1 (0.04)
SIGA-TS	Trim Skirt - (optional for non 4-inch bases)	0.1 (0.04)
SIGA-DMP	Detector Mounting Plate	3.0 (1.4)
SIGA-RTA	Detector Removal Tool	
SIGA-VA	Detector Cleaning Tool	

LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent Heat Detectors

SIGA-HRD, SIGA-HFD

S853

Overview

The Signature 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 ensures reliability over the long-haul, while the latest thermister technology makes these detectors ideal wherever dependable heat detection is required.

The SIGA-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 SIGA-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 (9 °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 Signature Devices Per Loop
- Non-volatile memory
- Electronic addressing
- Bicolor (green/red) status LED
- Standard, relay, fault isolator, and audible mounting bases
- 50 foot (15.2 meter) spacing

Application

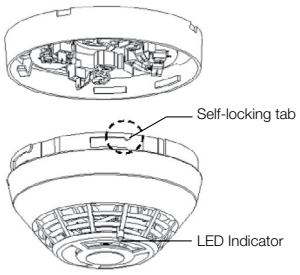
The SIGA-HRD combination fixed temperature/rate-of-rise heat detector provides a 15 °F (9 °C) per minute rate-of-rise heat sensor for the detection of fast-developing fires, as well as a 135°F (57°C) fixed temperature sensor for slow building-fires. The SIGA-HFD fixed temperature detector provides a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

Compatibility

Signature Series heat detectors are compatible only with the Signature Loop Controller.

Installation

Signature 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.

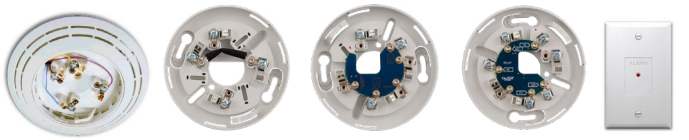
Self-diagnostics and History Log - Each Signature Series detector constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in the detector's non-volatile memory.

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 SIGA-SB4, SIGA-RB4, and SIGA-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the SIGA-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The SIGA-AB4G mounts to a 4 inch square box only.



SIGA-AB4G/T/LF Audible Base | **SIGA-SB** Standard Base | **SIGA-IB** Isolator Base | **SIGA-RB** Relay Base | **SIGA-LED** Remote LED

Remote LED SIGA-LED - The remote LED connects to the SIGA-SB or SIGA-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 - Signature Series sounder bases are designed for use where localized or group alarm signaling is required.

- **SIGA-AB4G** bases provide sounder capability to Signature Series to heat and smoke detectors. They are not intended for use with combination carbon monoxide detectors in Fireplus-CO mode.
- **SIGA-AB4GT** bases provide sounder capability to Signature Series smoke and heat detectors, as well as carbon monoxide detectors when used with a SIGA-TCDR Temporal Pattern Generator.
- **SIGA-AB4G-LF** bases provide 520 Hz low frequency sounder capability to Signature Series smoke and heat detectors, as well as carbon monoxide detectors when used with a SIGA-TCDR Temporal Pattern Generator. The SIGA-AB4G-LF is suitable for applications requiring low frequency audible tones.

Warnings & Cautions

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

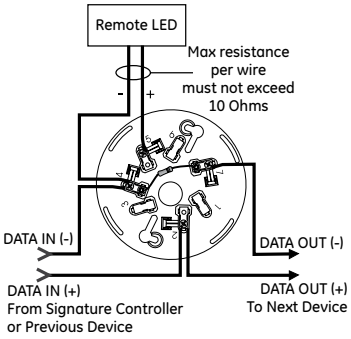
Typical Wiring

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

Standard Detector Base, SIGA-SB, SIGA-SB4

This is the basic mounting base for EDWARDS Signature Series detectors. The SIGA-LED Remote LED is supported by this Base.

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



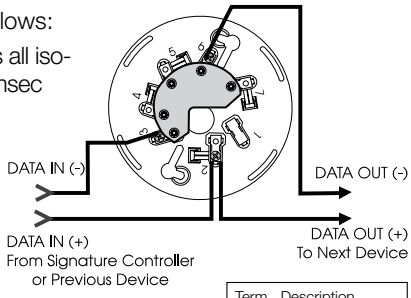
Isolator Detector Base, SIGA-IB, SIGA-IB4

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 SIGA-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.

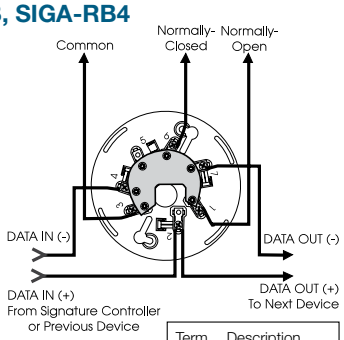
The process repeats beginning on the other side of the loop controller.



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, SIGA-RB, SIGA-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 SIGA-RB can be operated as a control relay if programmed to do so at the control panel. The relay base does not support the SIGA-LED Remote LED.

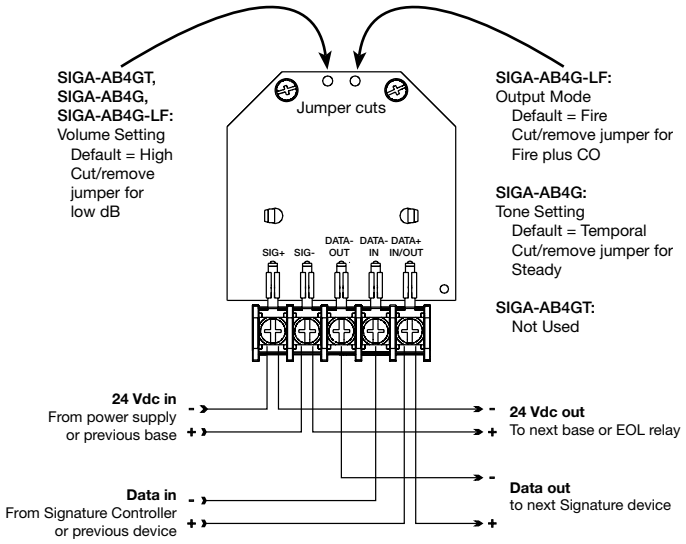


CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

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

Audible Sounder Bases, Fire Mode

AB4GT, AB4G, AB4G-LF sounder bases



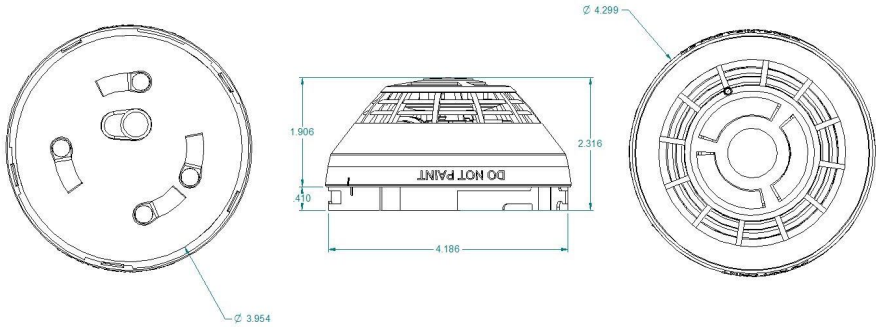
LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Dimensions



Specifications

	SIGA- HRD	SIGA-HFD
Operating voltage	15.20 to 19.95 VDC	
Normal operating current	32 µA	
Alarm current	32 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)
SIGA-HRD	Intelligent fixed temperature/Rate-of-rise heat detector	0.4 (0.16)
SIGA-HFD	Intelligent fixed temperature heat detector	

Compatible Bases		
SIGA-SB	Detector Mounting Base - Standard	0.2 (.09)
SIGA-SB4	4-inch Detector Mounting Base c/w Trim Skirt	
SIGA-RB	Detector Mounting Base w/Relay	
SIGA-RB4	4-inch Detector Mounting Base w/Relay, c/w Trim Skirt	
SIGA-IB	Detector Mounting Base w/Fault Isolator	
SIGA-IB4	4-inch Detector Mounting Base w/ Fault Isolator, c/w Trim Skirt	
SIGA-AB4G	Audible (Sounder) Base for Fire Detectors	0.3 (0.15)
SIGA-AB4G-LF	Low Frequency Audible (Sounder) Base for CO and Fire Detectors	
SIGA-AB4GT	Audible (Sounder) Base for CO and Fire Detectors	
SIGA-LED	Remote Alarm LED (not for EN54 applications)	
SIGA-TS4	Trim Skirt (supplied with 4-inch bases)	0.1 (0.04)
SIGA-TS	Trim Skirt (optional for non 4-inch bases)	
SIGA-RTA	Detector Removal Tool	

LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent CO Detector

SIGA-COD

S853

Overview

The Signature Series SIGA-COD carbon monixide detector brings advanced sensing technology to a practical design that increases efficiency, saves installation time, cuts costs, and extends life safety capabilities. Continuous self-diagnostics ensures reliability over the long-haul, while advanced electrochemical CO sensing technology provides performance benefits that keep occupants safe from carbon monoxide, the “silent killer”.

Like all Signature Series detectors, the SIGA-COD is an intelligent device that gathers analog information from its CO sensor, converting this data into digital signals. To make an alarm decision, the detector’s on-board microprocessor measures and analyzes sensor readings over time. Digital filters remove signal patterns that are not typical of life safety events, thus virtually eliminating unwanted alarms.

The SIGA-COD includes an advanced carbon monoxide sensor. When the electrochemical cell reaches its end of life after approximately ten years, the detector signals a trouble condition to the control panel. Refer to the control panel documentation for specific end of life timing.

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 CO Sensing Technology
- Advanced electrochemical carbon monoxide sensing technology
- Uses existing wiring
- Automatic device mapping
- Sensor Markings Provide Easy Testing Identification
- Up To 250 Total Signature Adresses Per Loop
- Non-volatile memory
- Electronic addressing
- Automatic day/night sensitivity adjustment
- Bicolor (green/red) status LED
- Standard, relay, fault isolator, and audible mounting bases

Application

CO detection has rapidly become a standard part of life safety strategies everywhere. Monitored CO detection is mandated with increasing frequency in all types of commercial applications, but particularly in occupancies such as hotels, rooming houses, dormitories, day care facilities, schools, hospitals, assisted living facilities, and nursing homes. In fact, more than half of the U.S. population already lives in states requiring the installation of CO detectors in some commercial occupancies. This is because carbon monoxide is the leading cause of accidental poisoning deaths in America. Known as the "Silent Killer," CO is odorless, tasteless, and colorless. It claims nearly 500 lives, and results in more than 15,000 hospital visits annually.

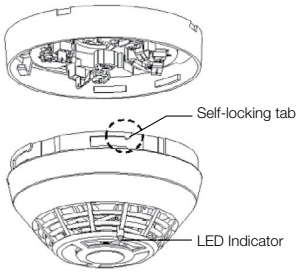
Concentration	Symptoms	Duration of Exposure
35PPM	None	<=8 hours
150PPM	Mild Headache	2 – 3 hours
400PPM	Headache/Nausea	1 – 2 hours
800 PPM	Headache/nausea/dizziness/ Progressing to unconscious	45 min. to 2 hours
6,400 PPM	Headache/nausea & dizziness	1 – 2 min.
12,800 PPM	Immediately dangerous to life or health	

Compatibility

The SIGA-COD detector is compatible only with the Signature Loop Controller.

Installation

Signature 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.



Testing & Maintenance

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. When the CO sensor's electrochemical cell reaches its end of life, the detector signals a Trouble condition to the control panel. Scheduled maintenance (regular or selected) for proper detector operation should be planned to meet the requirements of the Authority Having Jurisdiction (AHJ). Refer to current NFPA 72, NFPA 720, and ULC CAN/ULC 536 standards.

Sensor Life

The CO sensor has a 10-year life from the date of manufacture or when the control panel indicates a sensor end-of-life condition, whichever comes first. The detector signals a "COMMON TRBL ACT" condition on the control panel when the CO sensor reaches its end of life. Pressing the Details button on the control panel displays "END OF LIFE ACT" providing verification that it is an end-of-life trouble of the CO sensor. This trouble remains active until the detector is replaced, even if the panel is reset.

Sensing and reporting technology

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

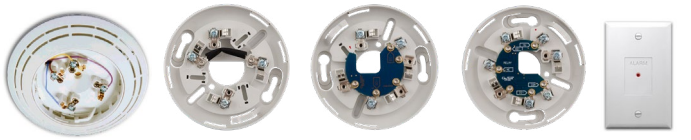
Self-diagnostics and History Log - Each Signature Series detector constantly runs self-checks to provide important maintenance information. The results of the self-check are automatically updated and permanently stored in the detector's non-volatile memory.

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 SIGA-SB4, SIGA-RB4, and SIGA-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the SIGA-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The SIGA-AB4G mounts to a 4 inch square box only.



SIGA-AB4G/T/LF Audible Base | **SIGA-SB** Standard Base | **SIGA-IB** Isolator Base | **SIGA-RB** Relay Base | **SIGA-LED** Remote LED

Remote LED SIGA-LED - The remote LED connects to the SIGA-SB or SIGA-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 - Signature Series sounder bases are designed for use where localized or group alarm signaling is required.

- **SIGA-AB4GT** bases provide sounder capability to the SIGA-COD when used with a SIGA-TCDR Temporal Pattern Generator to produce the appropriate CO (TC4) tone pattern.
- **SIGA-AB4G-LF** bases provide 520 Hz low frequency sounder capability to the SIGA-COD when used with a SIGA-TCDR Temporal Pattern Generator to produce the appropriate CO (TC4) tone pattern. The SIGA-AB4G-LF is suitable for applications requiring low frequency audible tones.

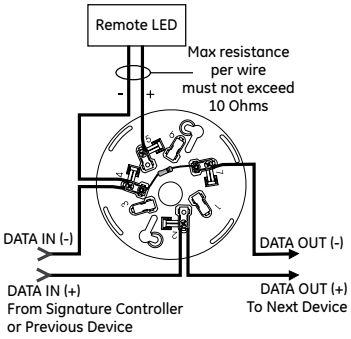
Typical Wiring

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, SIGA-SB, SIGA-SB4

This is the basic mounting base for EDWARDS Signature Series detectors. The SIGA-LED Remote LED is supported by this Base.

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



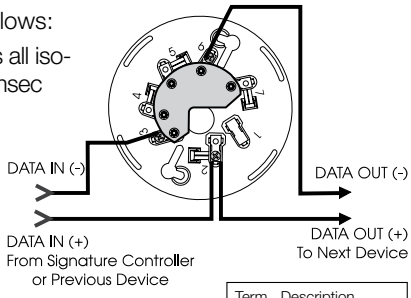
Isolator Detector Base, SIGA-IB, SIGA-IB4

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 SIGA-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.

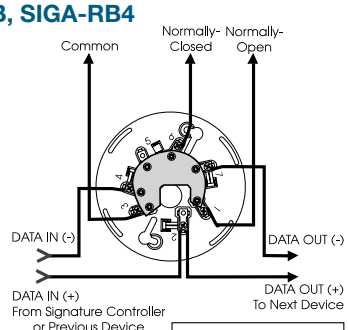
The process repeats beginning on the other side of the loop controller.



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, SIGA-RB, SIGA-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 SIGA-RB can be operated as a control relay if programmed to do so at the control panel. The relay base does not support the SIGA-LED Remote LED.



CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

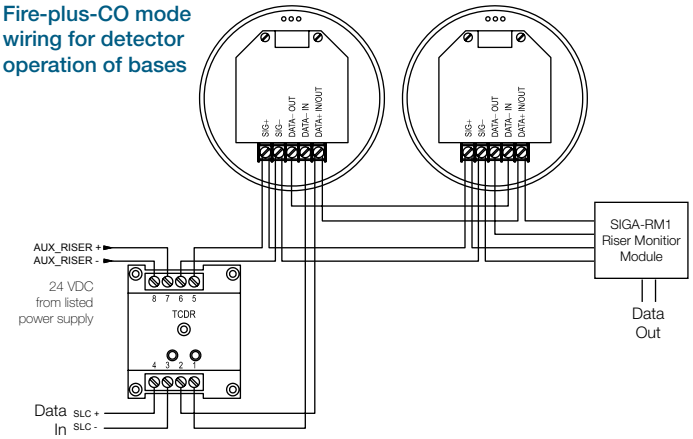
Term	Description
1	Normally Open
2	DATA IN/OUT (+)
3	Common
4	DATA IN (-)
5	Not Used
6	Normally-Closed
7	DATA OUT (-)

Audible Sounder Bases, Fire-plus-CO Mode

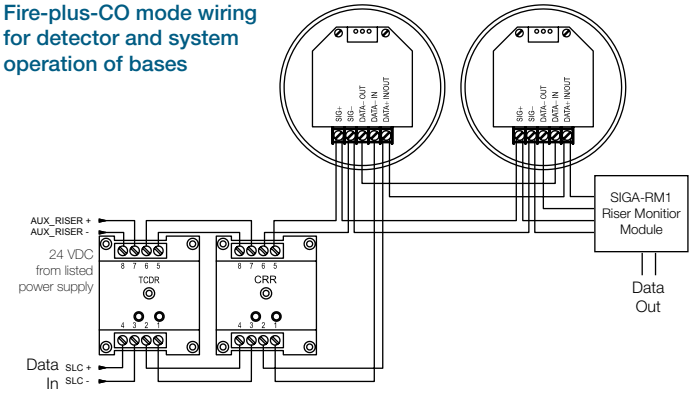
AB4GT and AB4G-LF sounder bases.

These configurations require a SIGA-TCDR Temporal Pattern Generator to produce the appropriate CO (TC4) tone pattern.

Fire-plus-CO mode wiring for detector operation of bases



Fire-plus-CO mode wiring for detector and system operation of bases



Warnings & Cautions

- This detector is designed to protect individuals from the acute affects of CO exposure. It will not fully safeguard individuals with specific medical conditions. People with special medical problems should consider using specialized detection devices with less than 30 ppm (parts per million) alarming capabilities. If in doubt, consult a medical practitioner.
- If the detector is in trouble or at the end of its life, it may not sense CO and cannot be relied upon to monitor CO levels. Replace the detector every ten years from the date of manufacture or when the control panel indicates a sensor end-of-life condition, whichever comes first.
- A detector installed outside a bedroom may not awaken a sleeper.
- Normal noise due to stereos, television, etc. may also prevent the detector from being heard if distance or closed or partly closed doors muffle the sounder. This unit is not designed for the hearing impaired.
- CO detectors are not a substitute for life safety. Though these detectors will warn against increasing CO levels, we do not warrant or imply in any way that they will protect lives from CO poisoning. They should only be considered as an integral part of a comprehensive safety program.

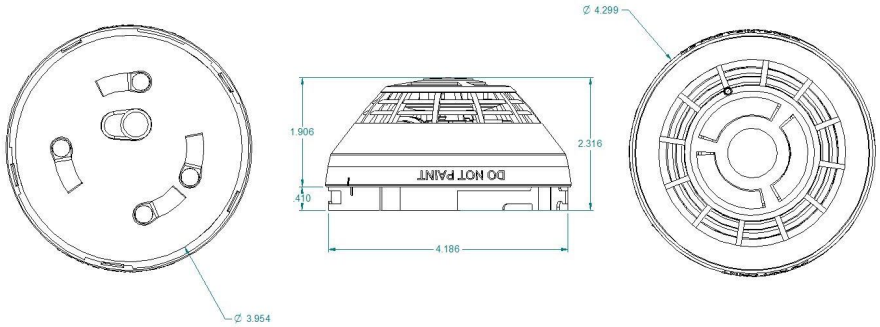
LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Dimensions



Specifications

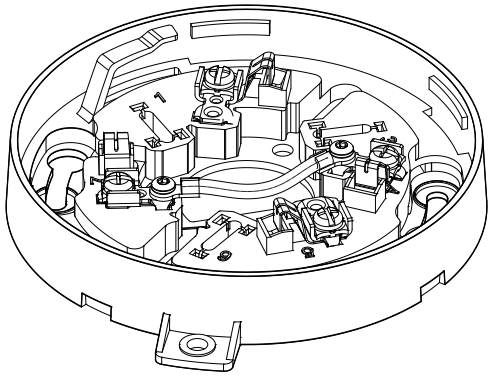
Operating voltage	15.20 to 19.95 VDC
Normal operating current	51 µA
Alarm current	68 µA
Vibration level	10 to 35 Hz, with an amplitude of 0.01 in.
Compatible bases	See Ordering Information
Compatible detector testers	Testifire 1000, Testifire 2000
Operating environment	32 to 120°F (0 to 49°C), 0 to 90% RH, noncondensing
Construction	High Impact Engineering Polymer, White
Storage temperature	-4 to 140°F (-20 to 60°C)
UL CO alarm level per UL 2034, CAN/CSA 6.19	70 ppm 60 to 240 minutes 150 ppm 10 to 50 minutes 400 ppm 4 to 15 minutes
UL CO false alarm level per UL 2034, CAN/CSA 6.19	30 ppm 30 days 70 ppm 60 minutes
Agency Listings, SIGA-COD	UL 2075. Evaluated to the CO alarm sensitivity limits of UL 2034.
Agency Listings, SIGA-COD-CA	ULC Listed to CAN/CSA 6.19.

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-COD	Intelligent Carbon Monoxide Detector	0.4 (0.16)
SIGA-COD-CA	Intelligent Carbon Monoxide Detector, Canadian Market	0.4 (0.16)

Compatible Bases		
SIGA-SB	Detector Mounting Base - Standard	0.2 (.09)
SIGA-SB4	4-inch Detector Mounting Base c/w Trim Skirt	
SIGA-RB	Detector Mounting Base w/Relay	
SIGA-RB4	4-inch Detector Mounting Base w/Relay, c/w Trim Skirt	
SIGA-IB	Detector Mounting Base w/Fault Isolator	
SIGA-IB4	4-inch Detector Mounting Base w/ Fault Isolator, c/w Trim Skirt	
SIGA-LED	Remote Alarm LED (not for EN54 applications)	
SIGA-TCDR	Tone Generator for Detector Sounder Bases with CO mode	0.2 (0.1)
SIGA-AB4G-LF	Low Frequency Audible (Sounder) Base for CO and Fire Detectors	0.3 (0.15)
SIGA-AB4GT	Audible (Sounder) Base for CO and Fire Detectors	0.3 (0.15)
SIGA-TS4	Trim Skirt (supplied with 4-inch bases)	0.1 (.04)
SIGA-RTA	Detector Removal Tool	

SIGA-SB4 Detector Base Installation Sheet



Description

The SIGA-SB4 is the standard Signature Series detector base with outer mounting lugs for a 4-inch square box, and includes a SIGA-TS trim skirt. The base connects the detector to the signaling line circuit (SLC), and provides wiring terminals for connection to a SIGA-LED.

Installation

Caution: Risk of equipment damage. To prevent damage to the base, do not overtighten the base mounting screws or wire terminal screws. Refer to “Specifications” for torque values.

Refer to Technical Bulletin P/N 270145-EN for location and spacing requirements.

To install the SIGA-SB4:

1. Mount the SIGA-SB4 on a compatible electrical box using the screws provided with the electrical box.
2. Wire the base as shown in the “Wiring” section.
3. Write the address assigned to the detector on the label provided and apply the label to the inside rim of the base.
4. Install the SIGA-TS trim skirt to finish the installation.

Wiring

Caution: Risk of system failure. Electrical supervision requires that the wire run be broken at each terminal. Do not loop the field wires around the terminals.

Notes

- Shielded wire is required only in environments with very high electrical noise.
- Shields, if used, must be continuous and insulated from ground.
- For Class B wiring, there is no shield connection to ground at the last device.

To wire the SIGA-SB4:

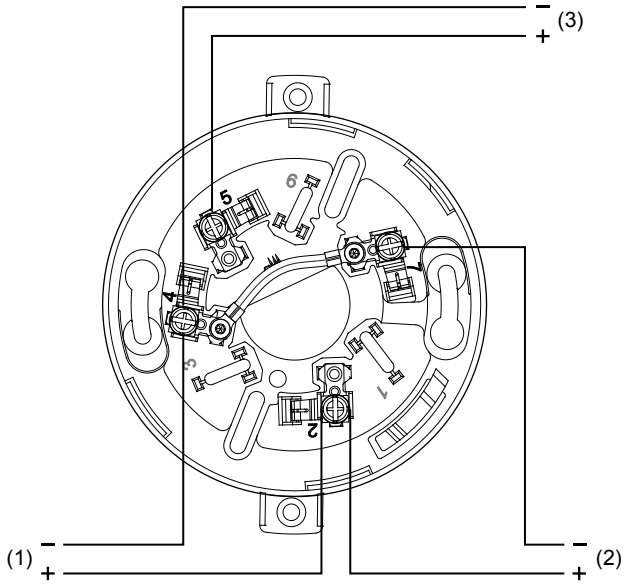
1. Wire the detector base as shown in Figure 1.

   Break the wire run at each terminal. Do not loop the signaling line circuit field wires around the terminals.
2. Insulate the shield with electrical tape.

SIGA-SB4

7 93016 01980 6

Figure 1: Wiring the SIGA-SB4



(1) SLC IN from previous device.
(2) SLC OUT to next device.
(3) To SIGA-LED. Maximum resistance per wire is 10 Ω.

Table 1: Base terminals

Number	Description	Number	Description
1	Not used	4	Remote LED −
2	SLC IN/OUT +	5	Remote LED +
3	Not used	6	Not used
4	SLC IN −	7	SLC OUT −

Specifications

Wire size	12 to 18 AWG (1.0 to 4.0 mm²) Sizes 16 and 18 AWG are preferred
Screw torque	
Base mounting	18 lbf-in (2.0 N·m) max.
Terminal	12 lbf-in (1.4 N·m) max.
Housing	High-impact engineering polymer, white
Compatible detectors	Signature Series detectors
Accessories	SIGA-TS Four-Inch Box Trim Skirt/Ring
Compatible electrical boxes	North American single-gang box Octagon box 3-1/2 in. (89 mm) by 1-1/2 in. (38 mm) deep Octagon box 4 in. (102 mm) by 1-1/2 in. (38 mm) deep European single-gang box 75 mm with 60.3 mm fixing centers BESA box with 60.3 mm fixing centers Square box 4 in. (102 mm) by 1-1/2 in. (38 mm) deep (using the outer mounting lugs on the base)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing
Technical bulletin	P/N 270145-EN

Regulatory information

North American standards	CAN/ULC-S529-09, UL 268, and UL 521

Contact information

For contact information, see www.est-fire.com.

LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent Duct Smoke Detector

SIGA-SD

FM APPROVED MEA 3242-1657: 0223 S853

Overview

The EDWARDS *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 SIGA-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.

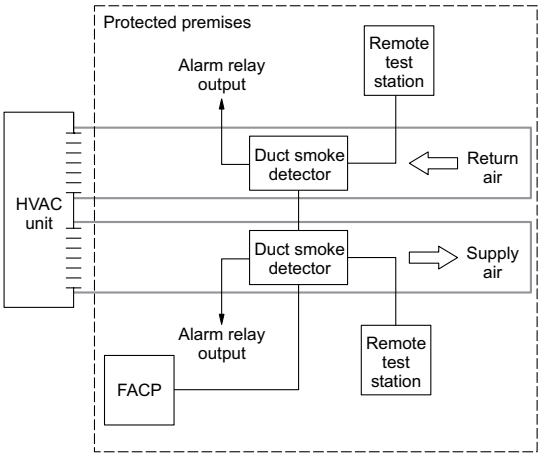
WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases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

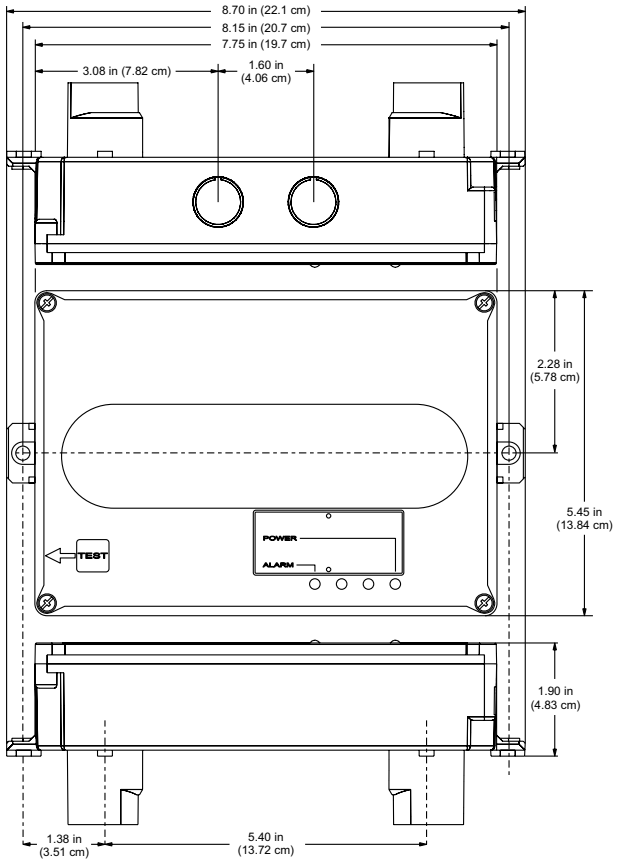
Remote Test Stations

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 SIGA-LED remote alarm LED.

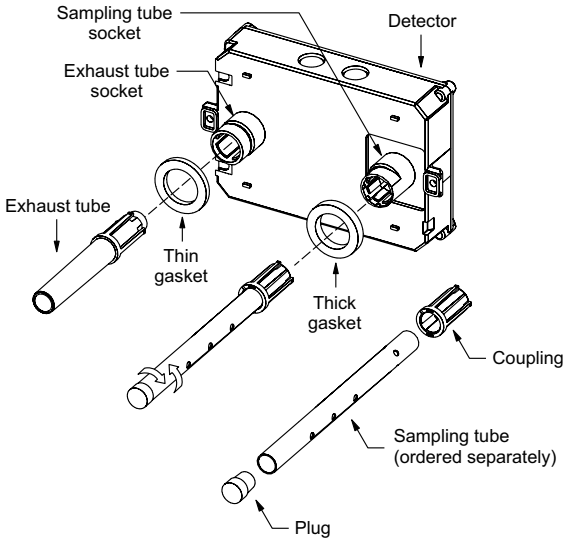
Air velocity in the duct as low as 100 ft/min. maintains adequate air flow into the sensor smoke chamber through air holes in the air sampling tube and discharges through the exhaust tube. *SuperDuct* air sampling tubes must be installed with the inlet holes facing the airstream. Sampling tubes may be 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.

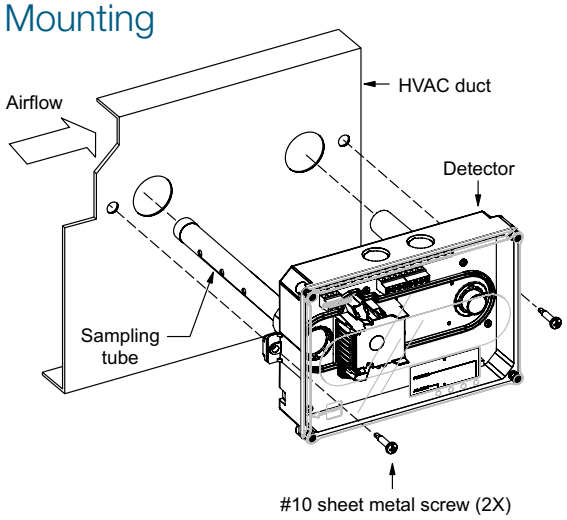
Dimensions



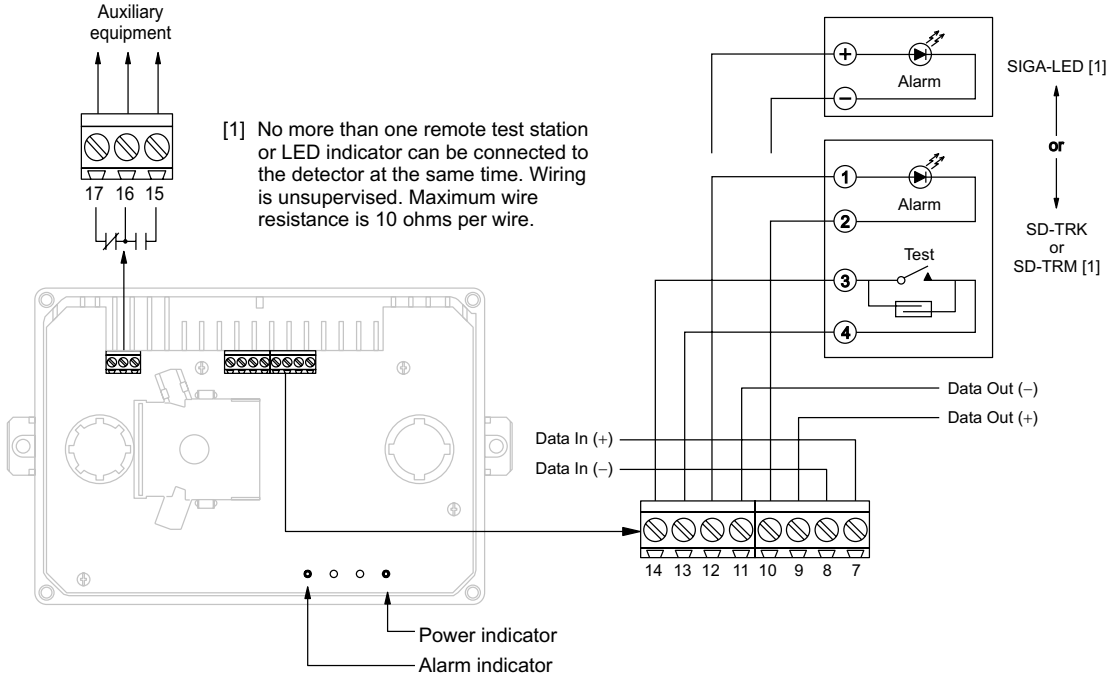
Assembly



Mounting



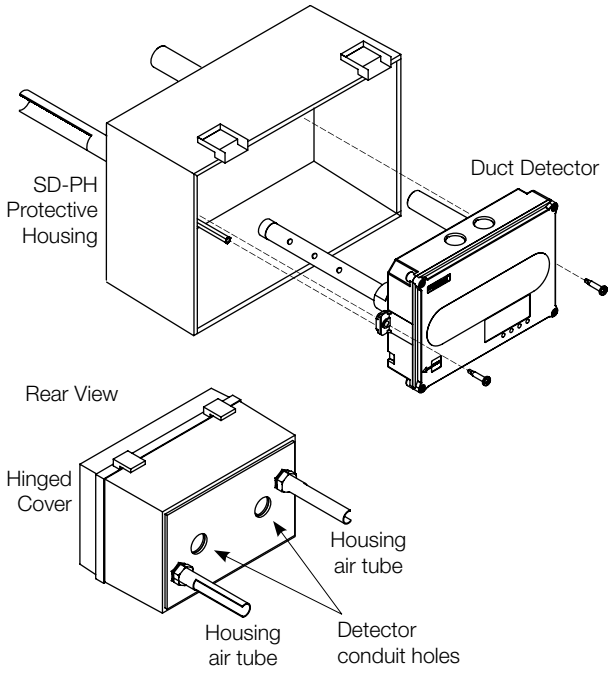
Wiring



[1] No more than one remote test station or LED indicator can be connected to the detector at the same time. Wiring is unsupervised. Maximum wire resistance is 10 ohms per wire.

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.

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

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)
SIGA-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)
SIGA-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)
SIGA-SDPCB	Replacement PCB/Signature sensor kit	1.0 (0.5)

SD-PH Protective Housing Installation Sheet

Description

The SD-PH Protective Housing is a protective housing for SuperDuct duct smoke detectors installed in environments with high dew points. The protective housing insulates the detectors and provides circulated air from the monitored HVAC duct to prevent condensation on the device.

Table 1: SD-PH hardware kit

Description	Qty.
SuperDuct sampling/exhaust tube	2
Conduit fitting 3/4-inch trade size, thin-walled	2
Protective cover gasket	1
Self-tapping screw, #10-STx1.25", HX, SS	6
Screw, #10-32x0.50", PN, RH, STL, ZN, ROHS	3
RJ-45 harness (PN 714126-34) for use with four-wire detector	1

Installation

WARNING: To reduce the risk of shock, disconnect all power and allow 10 minutes for stored energy to dissipate before handling. Wear approved glasses and safety gear while drilling holes.

Caution: Maintain a 1/4-inch (6 mm) spacing between power-limited and nonpower-limited wiring.

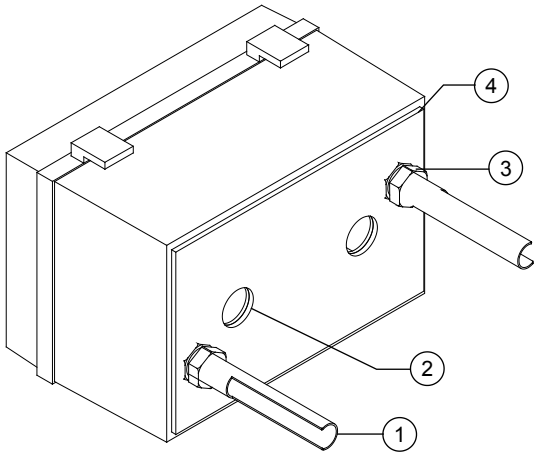
Notes

- Not intended for outdoor installation.
- For ease of assembly, mount the SD-PH with the hinges down. See Figure 2.

To install the protective housing:

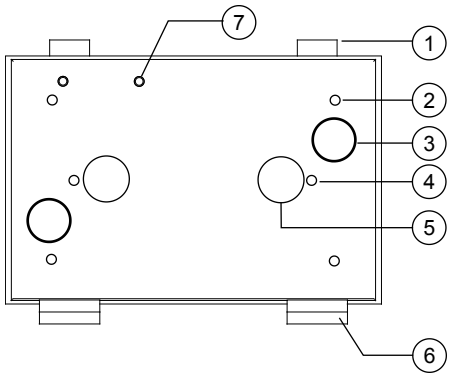
1. Locate a flat surface on the duct large enough to accommodate the SD-PH.
2. Install the air tubes using conduit fittings as shown in Figure 1. Make sure that the open slots on the air tubes face away from each other.
3. Install the EPDM rubber gasket on the back surface aligning all large opening holes. See Figure 1.
4. Determine the conduit entry location on the housing. Using a hole bit, drill the hole. Make sure that the conduit hole is at least one inch away from the edges.
5. Use a weather-poof conduit fitting to bring the field wires into the housing.
6. Use the template on page 3 to mark and drill the duct wall.
7. Install the SD-PH on the duct using the four self-tapping screws provided in the hardware kit. See Figure 2.
8. Install the SuperDuct detector per its installation sheet. For mounting location diagrams, see Figure 2 and Figure 3.
9. If applicable, install the SuperDuct controller on the mounting standoffs and per its installation instructions. See Figure 3 for placement details.
10. After mounting the SuperDuct device in the SD-PH, test per the device's installation instructions.
11. To minimize condensation inside the SD-PH at or below 32°F (0°C), wrap the housing with insulation similar to that used on the HVAC duct.

Figure 1: Rear view of SD-PH



1. SD-PH Air tubes (2)
2. SuperDuct sampling/exhaust tube holes
3. Conduit fitting
4 PDM rubber gasket

Figure 2: Front view of SD-PH



1. Spring latch
2. SD-PH mounting hole (4)
3. SD-PH air tube (2)
4. SuperDuct detector mounting hole (2)
5. SuperDuct sampling/exhaust tube hole (2)
6. Hinge
7. Mounting standoff (3) for optional SuperDuct controller

Maintenance

Use only mild soap and tap water to clean the enclosure.

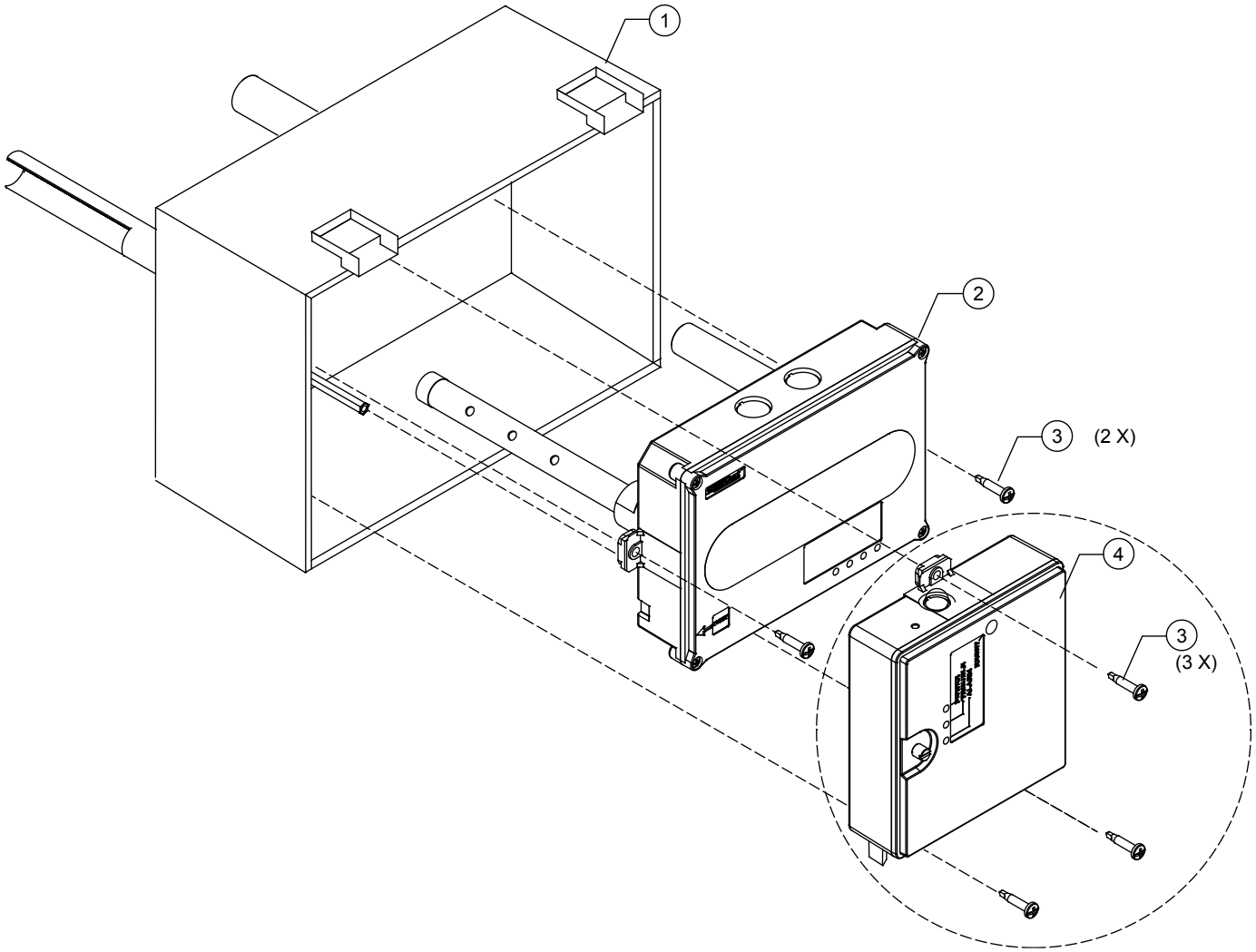
Specifications

Enclosure material	Polycarbonate		
Dimensions	L	W	H
Inch	11.8	7.9	7.1
Millimeter	300	201	180
Operating environment			
Temperature	−4 to 158°F (−20 to 70°C)		
Relative humidity	0 to 98% noncondensing		

Contact information

For contact information, see www.edwardsutcfs.com.

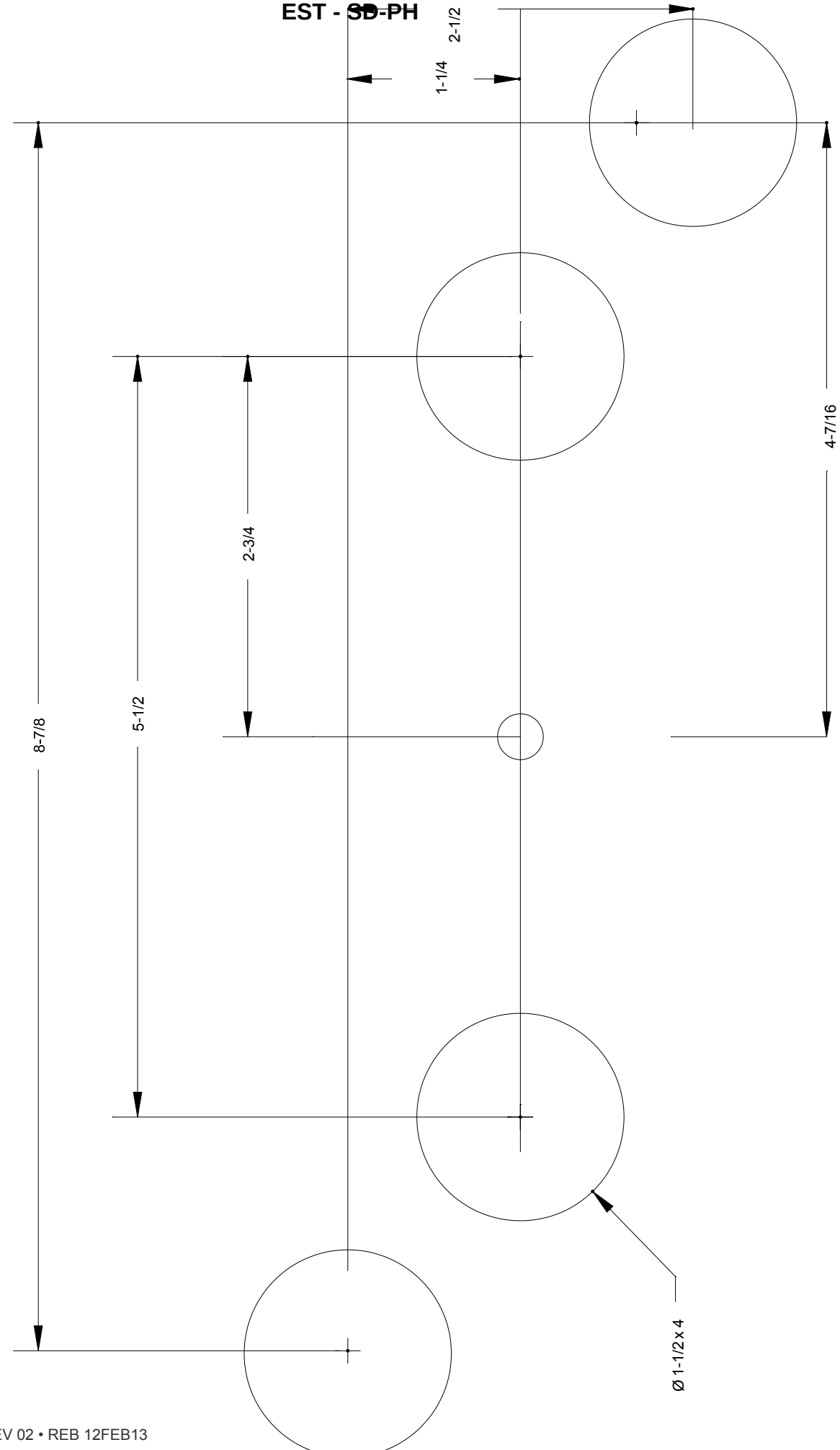
Figure 3: Mounting diagram



1. SD-PH (Shown with access door removed)
2. Detector
3. #10 screw
4. SuperDuct Four-Wire Controller, if required

HOLE TEMPLATE
FOR PROTECTIVE COVER, SUPERDUCT
(ALL DIMENSIONS IN INCHES)

THIS SIDE UP



LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent Duct Smoke Detector

SIGA-SD

FM APPROVED MEA 3242-1657: 0223 UL ULC S853

Overview

The EDWARDS *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 SIGA-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.

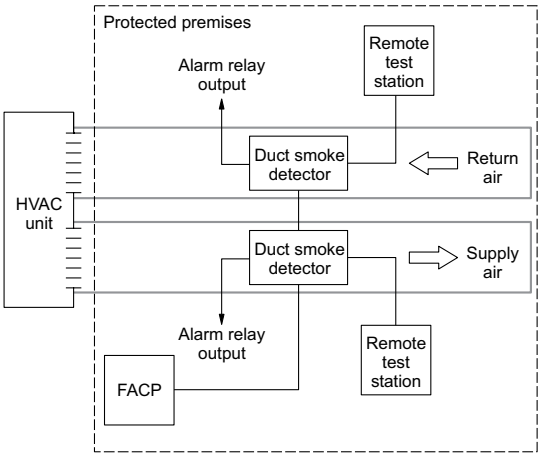
WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases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

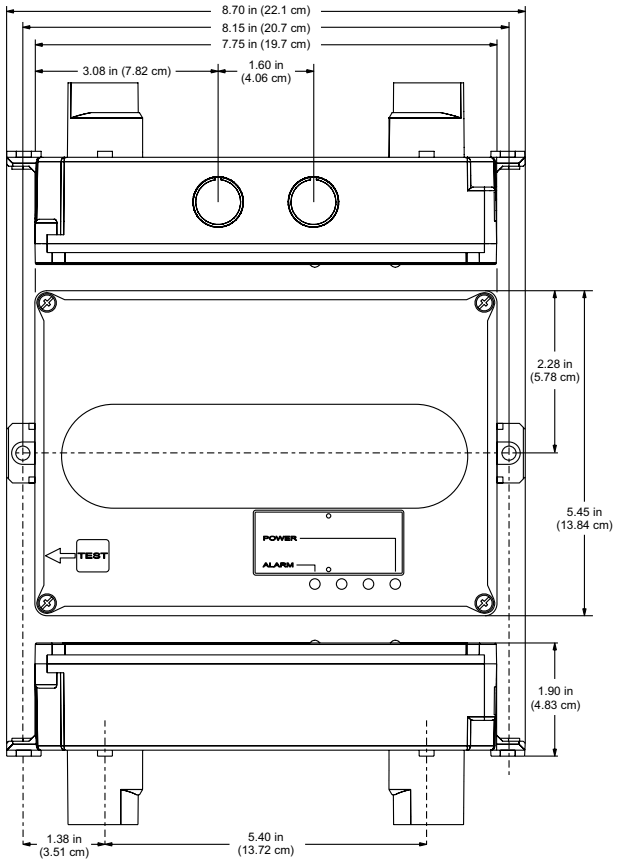
Remote Test Stations

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 SIGA-LED remote alarm LED.

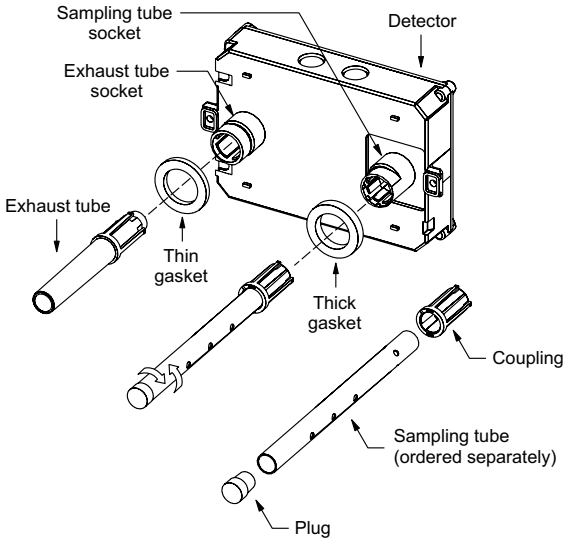
Air velocity in the duct as low as 100 ft/min. maintains adequate air flow into the sensor smoke chamber through air holes in the air sampling tube and discharges through the exhaust tube. *SuperDuct* air sampling tubes must be installed with the inlet holes facing the airstream. Sampling tubes may be 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.

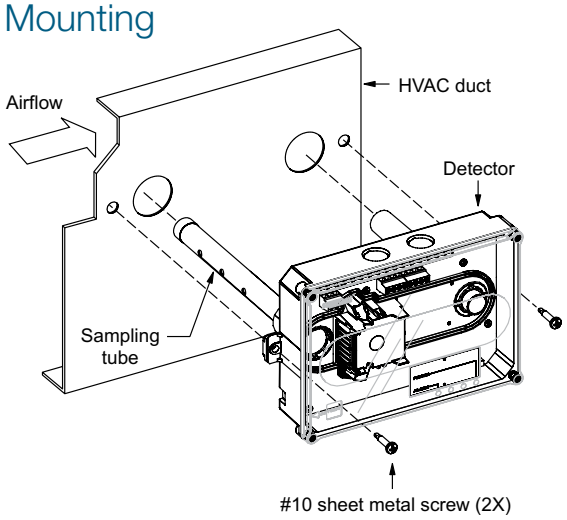
Dimensions



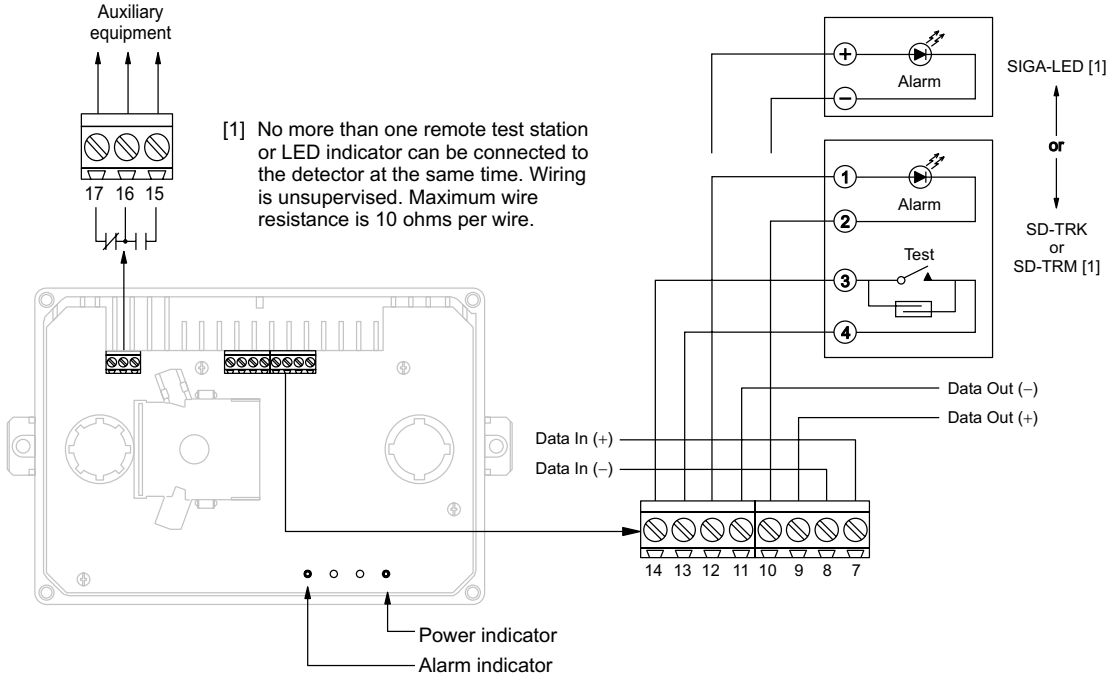
Assembly



Mounting

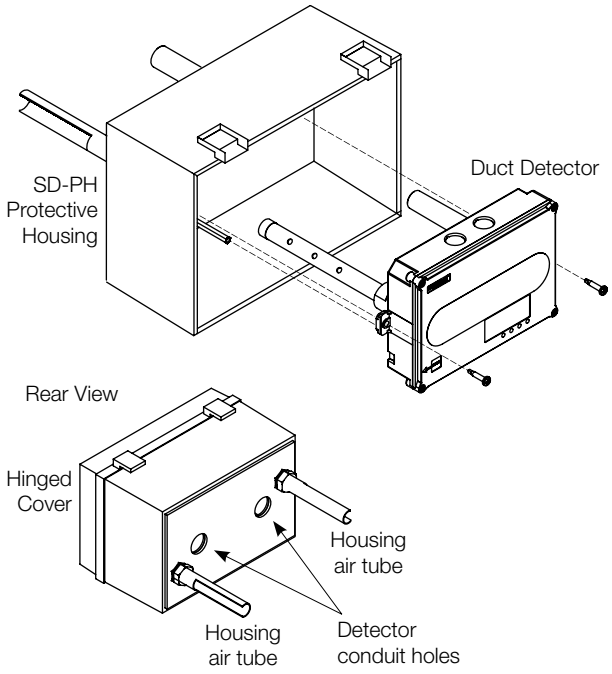


Wiring



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.

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

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.

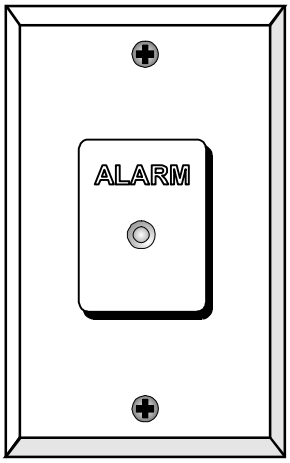
Compatible electrical boxes	North American 1-gang box Standard 4-in square box, 1-1/2 inches deep, with 1-gang cover
LED indicators	Alarm (red)
LED type	Clear lens
Wire size	14 to 22 AWG
Resistance per wire	10 Ohms, max.
Current requirements	See controller specifications
LED circuit ratings	Voltage: 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)
SIGA-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)
SIGA-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)
SIGA-SDPCB	Replacement PCB/Signature sensor kit	1.0 (0.5)

SIGA-LED
Remote LED Alarm Indicator

Product information



The SIGA-LED Remote LED Alarm Indicator is a polarized device that provides visual indication when a detector initiates an alarm. A clear lens, light emitting diode pulses on and off in case of an alarm condition.

The SIGA-LED can *only* be used with the Standard Detector Base, models SB or SB4. It is *not* compatible with any other bases.

Specifications

LED type: Clear lens, red light emitting diode

Luminous intensity: 65 mcd

Operation: Pulses on alarm condition

Resistance per wire: 10 Ω max.

Operating power
- Voltage: 3 Vdc
- Current: 2 mA

Operating environment
- Temperature: 32 to 120 °F (0 to 49 °C)
- Humidity: 0 to 93% RH

Storage temperature range: -4 to 140 °F (-20 to 60 °C)

Compatible detectors: Signature Series detectors.
For duct applications with Signature Series detectors use the Signature Series duct housing assembly, model SIGA-DH, and duct detector mounting plate, model SIGA-DMP.

Compatible bases: Signature Series standard bases, models SB and SB4

Compatible duct detectors: SuperDuct models SIGA-SD and XLS-SD

Compatible electrical boxes: North American 1-gang box, standard 4 in square box 1-1/2 in (38 mm) deep with 1-gang cover

Construction and finish: High impact engineering polymer, white

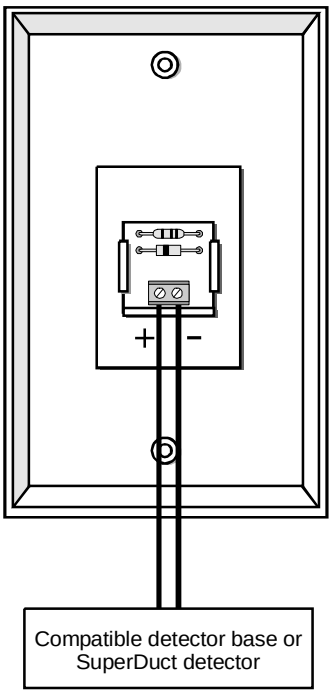
Shipping weight: 3.2 oz (90 g)

Comments: Not for use with 24 Vdc circuits

Installation instructions

1. Refer to Signature Series Technical Bulletin (P/N 270145) or SuperDuct Technical Bulletin (P/N 3100738) for installation guidelines.
2. Wire the SIGA-LED to the base as described in the Installation Sheet supplied with the base. Be sure to observe the polarity of the terminals on the terminal block as shown in the diagram below.

Wiring diagram



Warnings

1. This remote annunciator is *not* intended to be used as an evacuation signal for Life Safety situations.
2. This remote annunciator will *not* operate if the device that it is connected to it is not powered.
3. The SIGA-LED used in this device has a 180° range of visibility, but the best visibility is achieved in direct viewing applications. This device should *not* be installed in areas of direct sunlight, or where its intensity may be reduced.

LIFE SAFETY & INCIDENT MANAGEMENT

Manual Pull Stations

SIGA-270, SIGA-270P, SIGA-278

SIGA-270 SERIES

SIGA-278

Patented

MEA FM APPROVED 7150-1657: 0129 S2318

Overview

The SIGA-270 and SIGA-278 series Manual Pull Stations are part of EDWARDS's Signature Series system. The SIGA-270 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 (SIGA-270P) 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.

EDWARDS's double action single stage SIGA-278 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**
  SIGA-270 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**
  SIGA-270 models are available for one or two stage alarm systems. The single stage double action SIGA-278 features a rugged Lexan housing with keyed reset mechanism.
- **Break glass operation**
  An up-front visible glass rod on the SIGA-270 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.
- **Diagnostic LEDs**
  Status LEDs; flashing GREEN shows normal polling; flashing RED shows alarm state.
- **Designed for high ambient temperature operation**
  Install in ambient temperatures up to 120 °F (49 °C).

Application

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

Compatibility

Signature Series manual stations are compatible only with EDWARDS’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 SIGA-270 series are opened with a tool; the SIGA-278 requires the key which is supplied with that station.

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

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

Typical Wiring

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

Wiring Notes

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

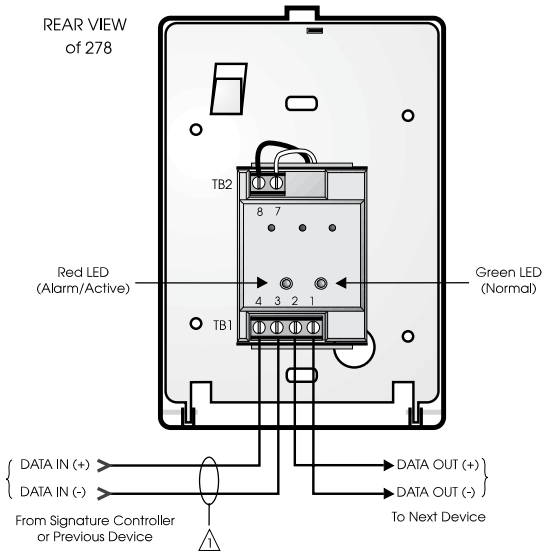


Figure 4. Single Stage Systems

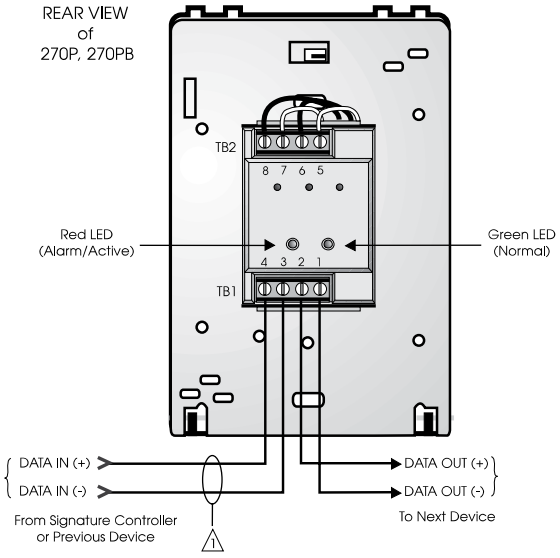


Figure 5. Two Stage Systems

Installation

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

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

All models include terminals are suited for #12 to #18 AWG (2.5 mm^2 to 0.75 mm^2) wire size. EDWARDS 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.

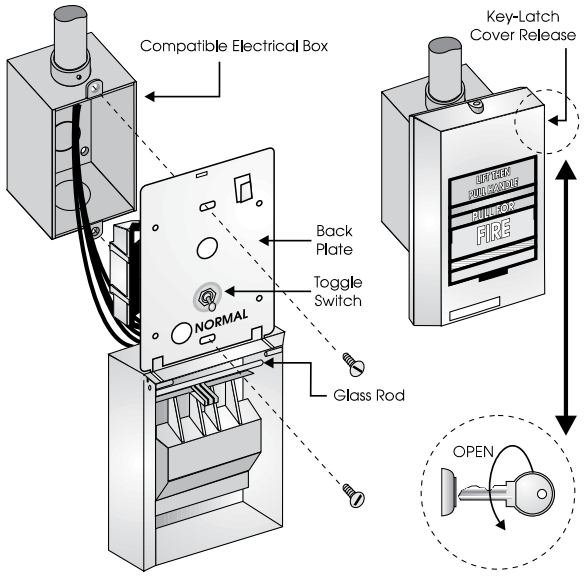


Figure 1. SIGA-278 installation

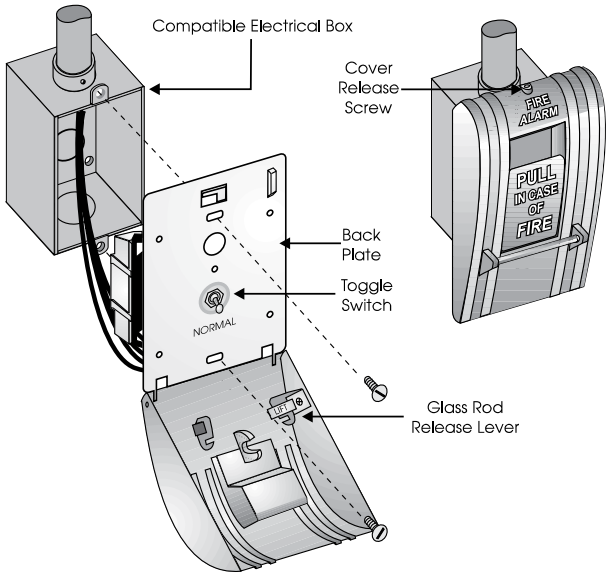


Figure 2. SIGA-270, SIGC-270F, SIGC-270B installation

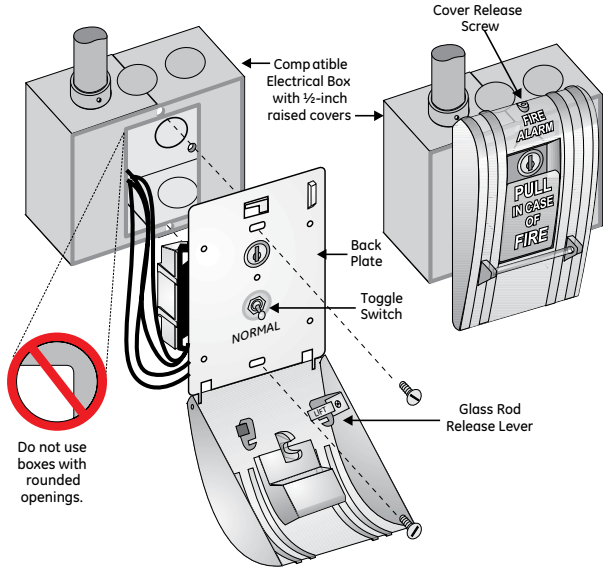


Figure 3. SIGA-270P, SIGC-270PB installation

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Specifications

Catalog Number	SIGA-270, SIGC-270F, SIGC-270B	SIGA-270P, SIGC-270PB	SIGA-278
Description	Single Action - One Stage	Single Action -Two Stage (Presignal)	Double Action - One Stage
Addressing Requirements	Uses 1 Module Address	Uses 2 Module Addresses	Uses 1 Module Address
Operating Current	Standby = 250µA Activated = 400µA	Standby = 396µA Activated = 680µA	Standby = 250µA Activated = 400µA
Construction & Finish	Diecast Zinc - Red Epoxy with aluminum markings		Lexan - Red with white markings
Type Code	Factory Set		
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)		
Storage and Operating Environment	Operating Temperature: 32ºF to 120ºF (0ºC to 49ºC) Storage Temperature: -4ºF to 140ºF (-20ºC to 60ºC) Humidity: 0 to 93% RH		
LED Operation	On-board Green LED - Flashes when polled On-board Red LED - Flashes w hen in alarm		
Compatibility	Use With: Signature Loop Controller		
Agency Listings	UL, ULC (note 1), MEA, CSFM, FM		

Note: *SIGC-270F, SIGC-270B and SIGC-270PB are ULC listed only. Suffix "F" indicates French markings. Suffix "B" indicates English/French biling ual markings.*

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-270	One Stage Fire Alarm Station, English Markings - UL/ULC Listed	1 (0.5)
SIGC-270F	One Stage Fire Alarm Station, French Markings - ULC Listed	
SIGC-270B	One Stage Fire Alarm Station, French/English Markings - ULC Listed	
SIGA-270P	Two Stage (Presignal) Fire Alarm Station, English Markings - UL/ULC Listed	
SIGC-270PB	Two Stage (Presignal) Fire Alarm Station, French/English Markings - ULC Listed	
SIGA-278	Double Action (One Stage) Fire Alarm Station, English Markings - UL/ULC Listed	

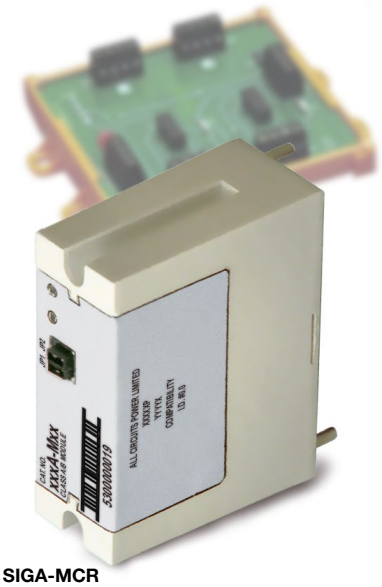
Accessories		
32997	GA Key w/Tag - for pre-signal station (CANADA ONLY)	0.1 (.05)
276-K2	GA Key - for pre-signal station (USA ONLY)	
276-K1	Station Reset Key, Supplied with all Key Reset Stations	
27165	12 Glass Rods - for SIGA-270 series (CANADA ONLY)	
270-GLR	20 Glass Rods - for SIGA-270 series (USA ONLY)	
276-GLR	20 Glass Rods - for SIGA-278 series	
276B-RSB	Surface Mount Box, Red - for SIGA pull stations	1 (0.6)

EDWARDS

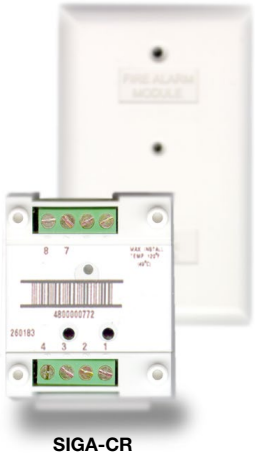
LIFE SAFETY & INCIDENT MANAGEMENT

Control Relay Modules

SIGA-CR, SIGA-MCR, SIGA-CRR, SIGA-MCRR



SIGA-MCR



SIGA-CR

FM APPROVED MEA 7300-1657: 0121 S3424

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 SIGA-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 SIGA-CR/MCR relay activates the normally open or normally-closed contact.

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

Standard-mount versions (SIGA-CR and SIGA-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.

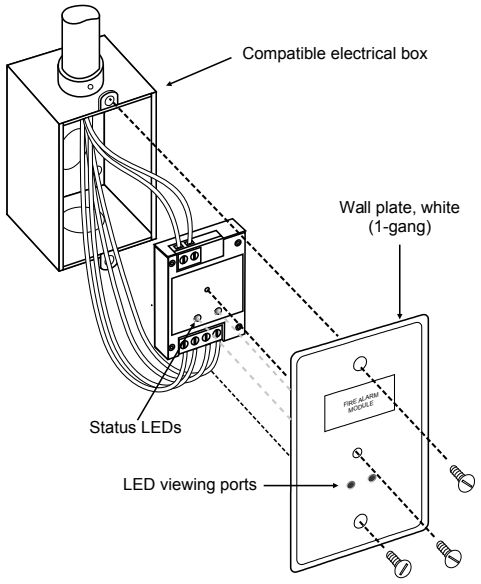
Plug-in UIO versions (SIGA-MCR and SIGA-MCRR) are part of the UIO family of plug-in Signature Series modules. They function identically to the standard mount versions, but take advantage of the modular flexibility and easy installation that characterizes all UIO modules. Two- and six-module UIO motherboards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

Standard Features

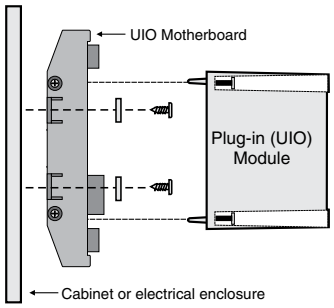
- **Provides one no/nc contact (SIGA-CR/MCR)**
  Form "C" dry relay contact can be used to control external appliances such as door closers, fans, dampers etc.
- **Allows group operation of sounder bases**
  The SIGA-CRR/MCRR reverses the polarity of its 24 Vdc output, thus activating all Sounder Bases 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.

Installation

SIGA-CR and SIGA-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 SIGA-MP mounting plates. The terminals are suited for #12 to #18 AWG (2.5 mm^2 to 0.75 mm^2) wire size.



SIGA-MCR and SIGA-MCRR: mount the UIO motherboard inside a suitable EDWARDS 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 mm^2 to 0.75 mm^2) 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.

EDWARDS 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 (SIGA-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 (SIGA-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 EDWARDS's Signature Series intelligent processing and control platform. They are compatible with EST3, EST3X and iO 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.

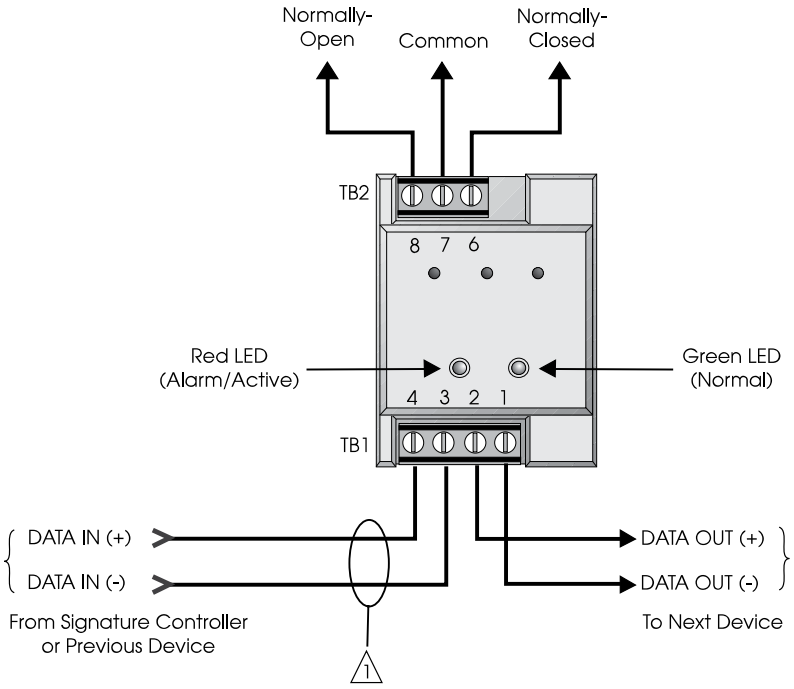
Testing & Maintenance

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.

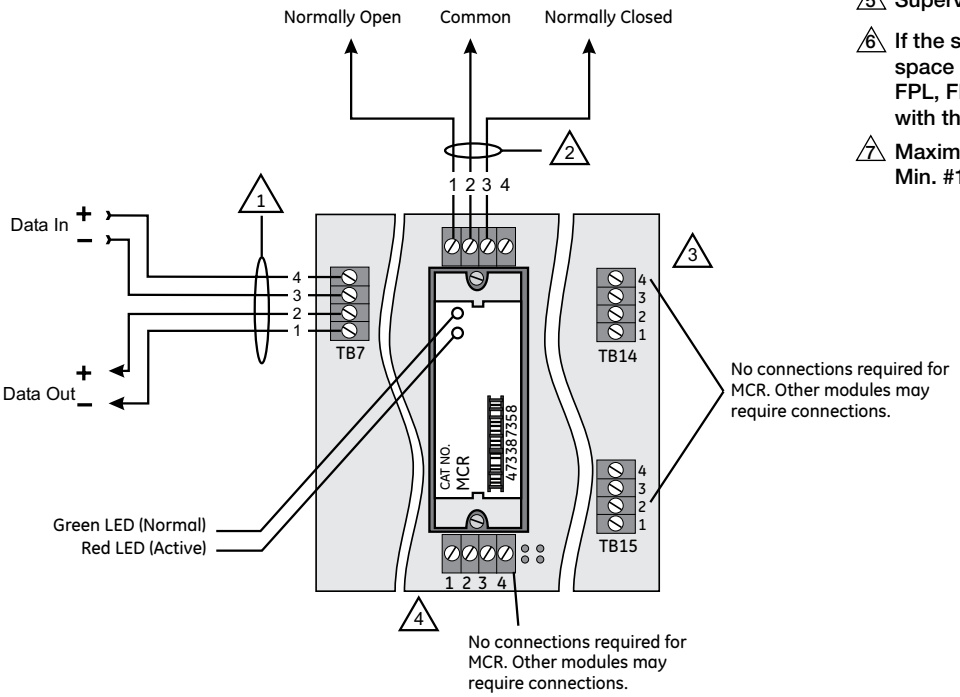
Typical Wiring

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.



SIGA-CR Control Relay



SIGA-MCR Control Relay

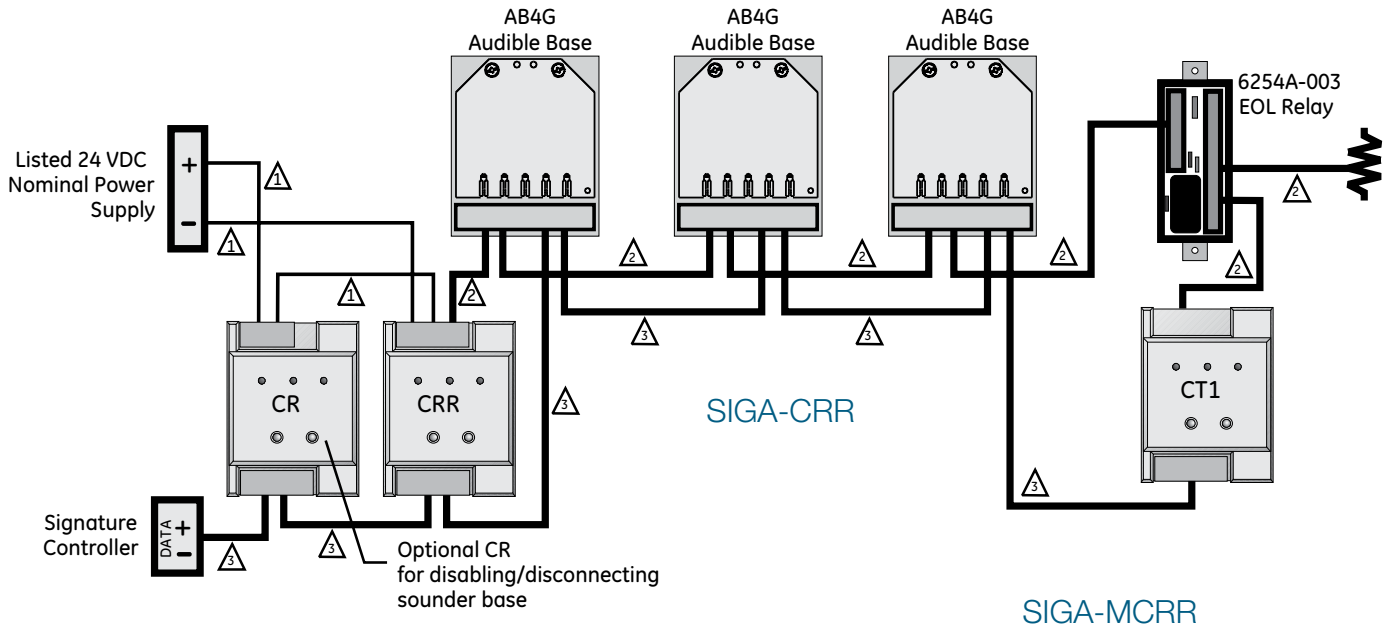
Notes

1. Refer to Signature Loop Controller Installation Sheet for wiring specifications.
2. NFPA 72 requires that the SIGA-CR/SIGA-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 SIGA-UIO6R and the SIGA-UIO2R do not come with TB14.
4. The SIGA-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).

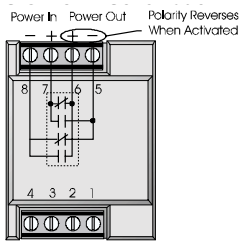
Typical Wiring

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

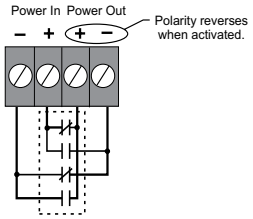
Note: Sizes #16 AWG (1.0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.



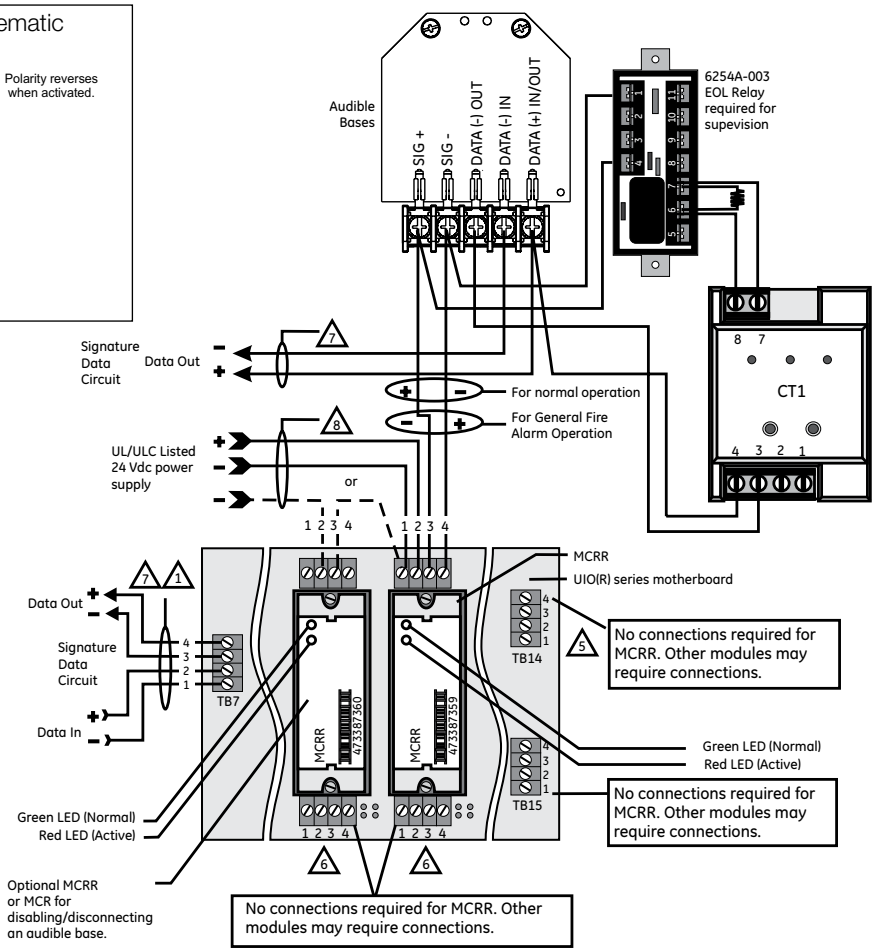
SIGA-CRR Schematic



SIGA-MCRR Schematic



SIGA-MCRR



Notes

1. Refer to the Signature controller installation sheet for wiring.
2. One Pair of Wires (24 Vdc power).
3. One Pair of Wires (Signature Data).
4. Single Wire (24 Vdc power).
5. The SIGA-UIO6R and the SIGA-UIO2R do not come with TB14.
6. The SIGA-UIO6 does not come with TB8 through TB13.
7. Supervised and power-limited.
8. 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	SIGA-CR	SIGA-MCR	SIGA-CRR	SIGA-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 µA Activated = 75 µA			
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 SIGA-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 SIGA-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)
SIGA-CR	Control Relay Module (Standard Mount)	0.4 (0.15)
SIGA-MCR	Control Relay Module (UIO Mount)	0.18 (0.08)
SIGA-CRR	Polarity Reversal Relay Module (Standard Mount)	0.4 (0.15)
SIGA-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)
SIGA-UIO2R	Universal Input-Output Module Board w/Riser Inputs - Two Module Positions	0.32 (0.15)
SIGA-UIO6R	Universal Input-Output Module Board w/Riser Inputs - Six Module Positions	0.62 (0.28)
SIGA-UIO6	Universal Input-Output Module Board - Six Module Positions	0.56 (0.25)
SIGA-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)
SIGA-MB4	Transponder Mounting Bracket (allows for mounting two 1-gang modules in a 2-gang box)	0.4 (0.15)
SIGA-MP1	Signature Module Mounting Plate, 1 footprint	1.5 (0.70)
SIGA-MP2	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.23)
SIGA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint	1.02 (0.46)

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Signature Series Overview

The Signature Series intelligent analog-addressable system from EDWARDS 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 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.

LIFE SAFETY & INCIDENT MANAGEMENT

Isolator Module

SIGA-IM2

S3424

7300-1657: 0121

Overview

The SIGA-IM2 Isolator Module is part of EDWARDS's Signature Series system. This intelligent device enables part of the Signature data loop to continue operating should a short circuit occur. The module can be wired into a Class A data loop at any point.

If a fault occurs, the isolator cuts power to all devices beyond the isolator on the loop 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.

Once activated, the line fault isolator continuously checks the faulted side of the loop to determine if the short still exists. When the fault is corrected and system reset, the module automatically restores the entire data loop to the normal condition.

The microprocessor in every Signature module provides at least three important benefits — Self-diagnostics and History Log, Automatic Device Mapping, and Fast, Stable Communication.

Self-diagnostics and History Log - Each Signature Series module constantly runs self-checks to provide important maintenance information. This information is automatically updated and permanently stored in the module's non-volatile memory and is accessible for review any time using the SIGA-HDT Signature Program / Service Tool.

Automatic Device Mapping - The Signature loop controller learns keeps a map where each device's serial number address is installed relative to other devices on the data circuit.

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

Standard Features

- **Automatic device mapping**
  Each module transmits wiring information to the loop controller regarding its location with respect to other devices on the circuit.
- **Electronic addressing**
  Addresses are downloaded and permanently stored from a PC, or the SIGA-HDT 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.
- **2-gang mounting**

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.

Warnings & Cautions
This module will not operate without electrical power. As fires frequently cause power interruption, we suggest you discuss further safeguardwith your fire protection specialist.

Typical Wiring and Installation

The SIGA-IM2 module mounts to North American 2-1/2 inch (64 mm) deep 2-gang boxes and 1-1/2 inch (38 mm) deep 4 inch square boxes with 2 gang covers and SIGA-MP mounting plates. The module will accept #18 AWG (0.75mm^2), #16 (1.0mm^2), #14 AWG (1.50mm^2), and #12 AWG (2.50mm^2) wire sizes. *Note: Sizes #16 AWG (1.0mm^2) and #18 AWG (0.75mm^2) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications.*

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

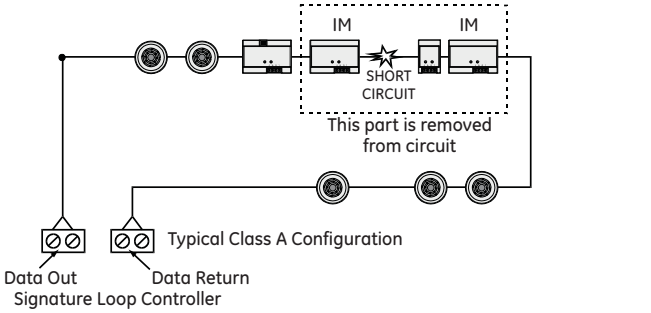
Application

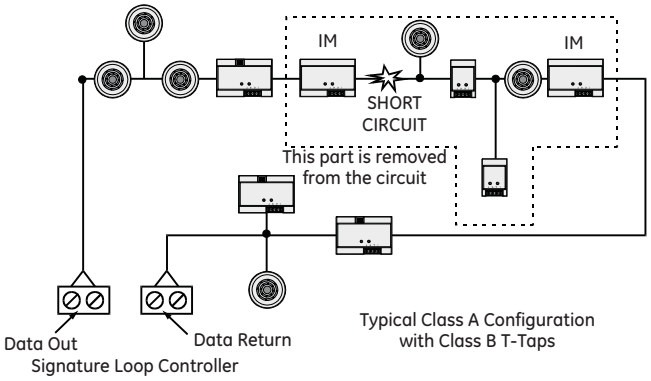
This module should only be used on Class A circuits. The operation of the SIGA-IM2 is determined by its hardware type code and is assigned at the factory. No user configuration is required.

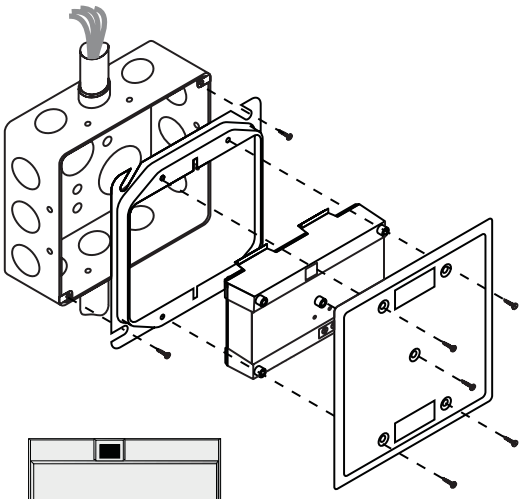
Compatibility

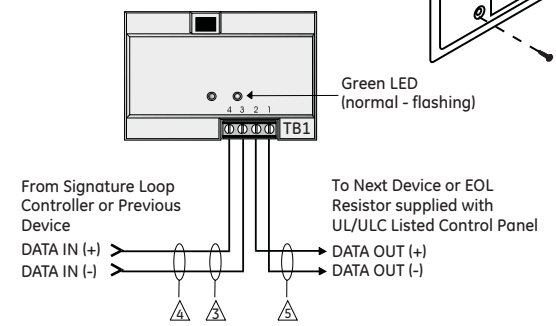
These modules are part of EDWARDS's Signature Series intelligent processing and control platform. They are compatible with EST4, EST3, EST3X and iO Series control panels.

Typical Wiring









1. For maximum wire resistance, refer to the appropriate manufacturer's documentation.
2. Max. #12 AWG (2.5mm²)wire.
3. Refer to Signature Loop Controller Installation Sheet for wiring specifications.
4. This module should be used only with Class A wiring.
5. Maximum circuit resistance between isolators is 6 ohms.
6. All wiring is power-limited and supervised.

Specifications

Description	Isolator Module - factory set hardware type code
Address Requirements	Uses One Detector Address
Circuit Resistance	Six ohms maximum between isolators
Operating Current	Standby = 45µA; Activated = 45µA
Operating Voltage	15.2 to 19.95 Vdc (19 Vdc nominal)
Construction & Finish	High Impact Engineering Polymer 2-gang front plate - White Finish
Storage Environment	Temperature: -4°F to 140°F (-20°C to 60°C)
Operating Environment	Temperature: 32°F to 120°F (0°C to 49°C); Humidity: 0 to 93% RH
LED Operation	On-board Green LED - Flashes when polled (normal)
Compatibility	Use with: Signature Loop Controller using 2nd Generation or newer non integrated isolation detectors and non isolated i/o modules
Agency Listings	UL, ULC, CSFM, FM

Ordering Information

Catalog Number	Description	Ship Wt. lb (kg)
SIGA-IM2	Fault Isolator Module - UL/ULC Listed	.5 (.23)
Accessories		
27193-21	Surface Mount Box - 2-gang RED	1 (.4)
27193-26	Surface Mount Box - 2-gang WHITE	
MFC-A	Multifunction Fire Cabinet - Red, supports Signature Module Mounting Plates	7.0 (3.1)
SIGA-MP1	Signature Module Mounting Plate, 1 footprint	1.5 (0.70)
SIGA-MP2	Signature Module Mounting Plate, 1/2 footprint	0.5 (0.23)
SIGA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint	1.02 (0.46)

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Phone: 800-655-4497 (Option 4)
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Website: edwardsfiresafety.com

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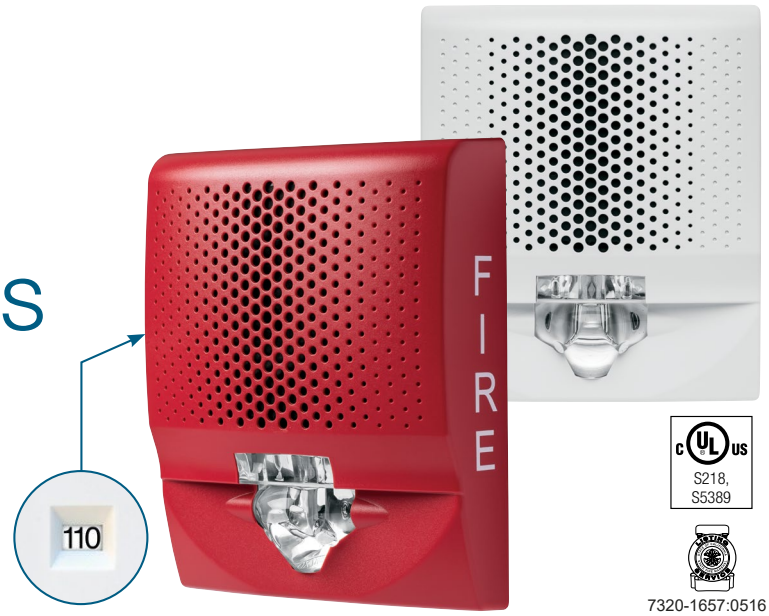
LIFE SAFETY & INCIDENT MANAGEMENT

Wall Mount Speakers and Speaker-Strobes

Genesis LED G4S Series



S218, S5389

7320-1657:0516

Overview

Genesis LED G4S Series speakers and speaker-strobes combine high performance output with a sleek low profile design and energy-efficient technology that makes them less expensive to install and operate. High performance LEDs require fewer power supplies, backup power, and batteries. These new appliances are designed with energy-efficiency, and life safety in mind.

Speakers feature selectable wattage taps, while speaker-strobes allow for both wattage and light output levels to be configured in the field. Both settings remain clearly visible — even after final installation. Speakers are also capable of both 25V and 70V and voltage in a single model with a field selectable switch. All this flexibility allows devices to be easily fine-tuned to exactly how they're needed to perform. All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit.

Genesis LED G4S 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 G4S Series appliances offer greatly reduced current draw which provides benefits in longer circuit lengths, more devices per circuit, smaller wire gauge and reduced power supply quantities for an installation. 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, G4S strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED G4S 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. They also meet NFPA and UL 520Hz requirements for sleeping areas making them ideal for new construction or retrofits.

G4S Series speakers produce crisp, clear voice audio output that is highly intelligible over large areas. In an emergency, intelligibility is critical to life safety. Understanding the content of the message is as important as knowing there is an emergency. Intelligibility is measured in Speech Transmission Index and anything above .76 is considered excellent. G4S Series speakers deliver audio with an STI of .81 ensuring the message is clear.

Serviceability is another area where G4S 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. G4S 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 Fidelity performance with excellent STI**
  - Increased sound fidelity and audio intelligibility with an STI rating of .81 (More than .76 is excellent)
- **Low Frequency (520Hz) capable**
  - Low frequency output meets NFPA standards for newly constructed commercial sleeping areas
- **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 on the same circuit and in the same field of view
- **Field flexibility**
  - Speakers are also capable of both 25V and 70V and voltage in a single model with a field selectable switch
  - Speakers feature selectable wattage taps for ¼W, ½W, 1W, and 2W to configure sound output levels in the field
- **Low-profile Design**
  - Ultra-slim... protrudes about 1.5" from the mounting surface
  - Attractive appearance... no visible mounting screws
- **Multiple "FIRE" Marking Options**
  - Order English, French, Spanish or no 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 2-gang 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
- **Current draw is the same for all candela output settings**
  - Easier for new system design
  - Flexible for future changes in light output needs

Application

Strobes

Genesis G4S 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.

Speakers

The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor.

Doubling the distance from the signal to the ear will theoretically cause a 6 dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g.: a speaker from 1W to 2W) will increase the sound pressure level by 3dBA.

High Fidelity Sound

Genesis LED G4S Series High Fidelity appliances feature 87dB of sound output along with a highly intelligible Speech Transmission Index (STI) rating of .81. An STI rating above .76 is considered excellent for speech intelligibility They are also effective in areas subject to high levels of ambient noise.

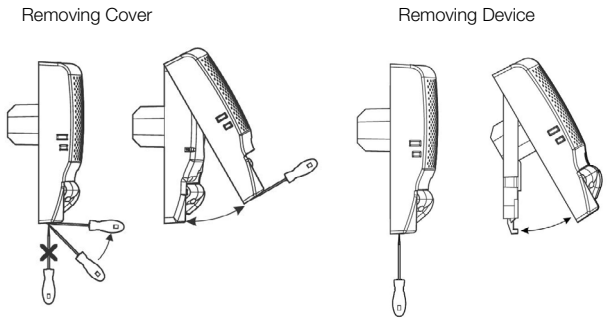
These appliances are ideal for hotels, dormitories and other residential occupancies that have sleeping areas that require 520Hz tones. In sleeping areas, always ensure that the wattage tap of the speaker is set sufficiently high so that the sound pressure reaches at least 75 dBA at the pillow.

These appliances are part of an end-to-end audio system approved for use in sleeping areas when used in conjunction with approved audio hardware and a factory-supplied 520 Hz tone. Check the System Compatibility List for other 520 Hz signaling requirements.

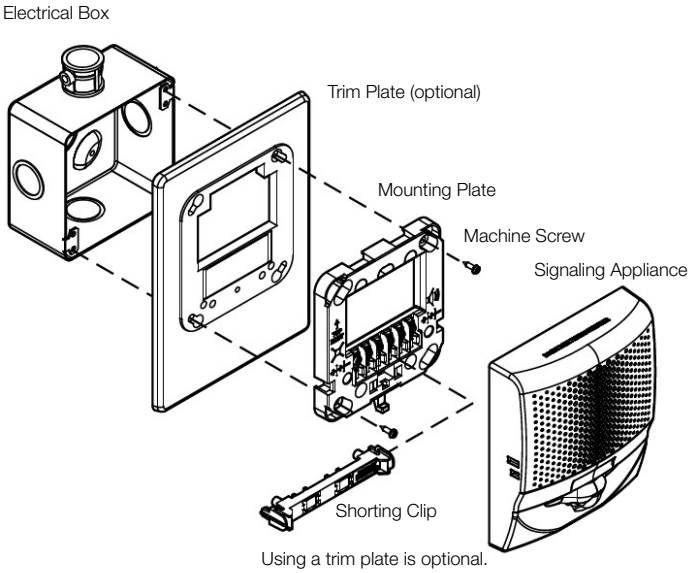
Installation

Genesis G4S speakers and speaker-strobes mount to the required GRSW room side wiring plate. The GRSW mounting plate is ordered separately from the G4S device in packs of 10 (GRSW-10) 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.

Genesis LED G4S Series speakers and speaker-strobes mount to any standard two-gang and 4-inch square electrical box. Matching optional G4T trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available.



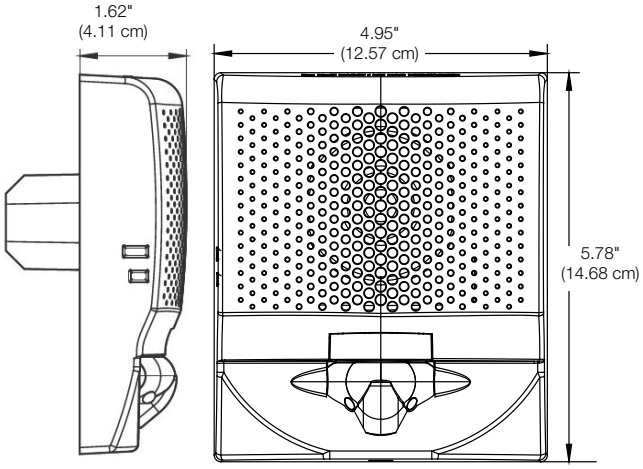
Installation



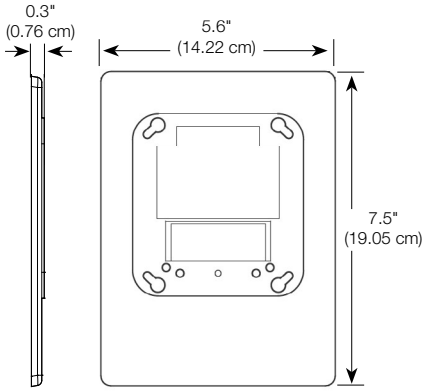
Using a trim plate is optional.

Dimensions

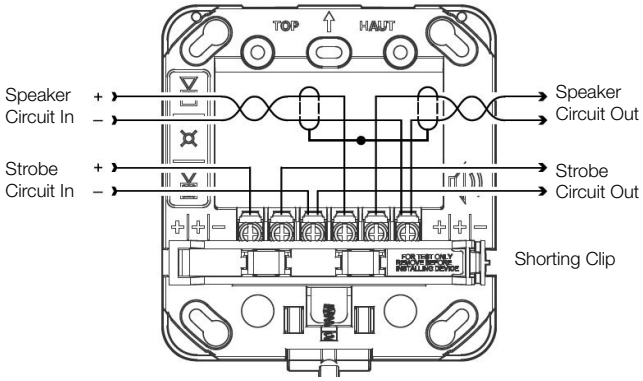
G4S Notification Appliances



G4T Trim Plate (optional)

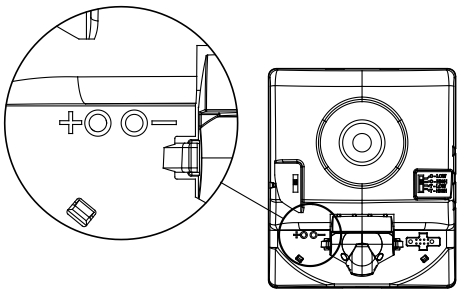


Wiring

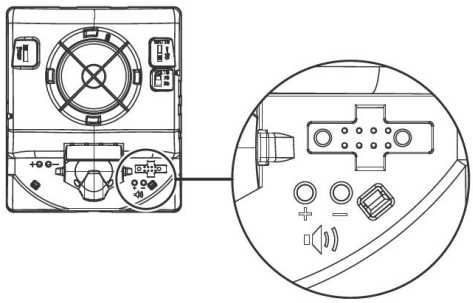


Diagnostics

Strobe Circuit Test Points



Speaker Circuit Test Points



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

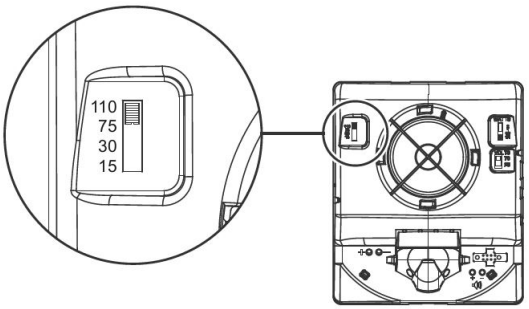
Field Configuration

Genesis LED speakers are capable of both 25V and 70V operation depending on the system, The voltage is set via a switch under the cover. Speakers also may be set for ¼, ½, 1, or 2 watt operation. The wattage setting is visible through a small window on the side of the device and is changed by simply sliding the switch under the cover until the desired setting appears in the window. The speaker does not have to be removed to change the wattage, only the cover skin.

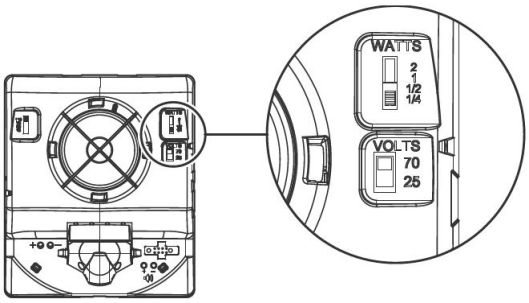
Genesis LED clear strobes and speaker-strobes may be set for 15, 30, 75, or 110 candela output. The output setting is changed by simply removing the cover and sliding the candela switch to the desired setting. The device does not have to be removed from the wall to change the output setting. The setting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

Light and Sound Output Settings

Light Output Setting (Candela)



Sound Settings (Watts and Volts)



Operating current

Strobes

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

Note: Current draw is the same for all candela settings

Sound Level Output

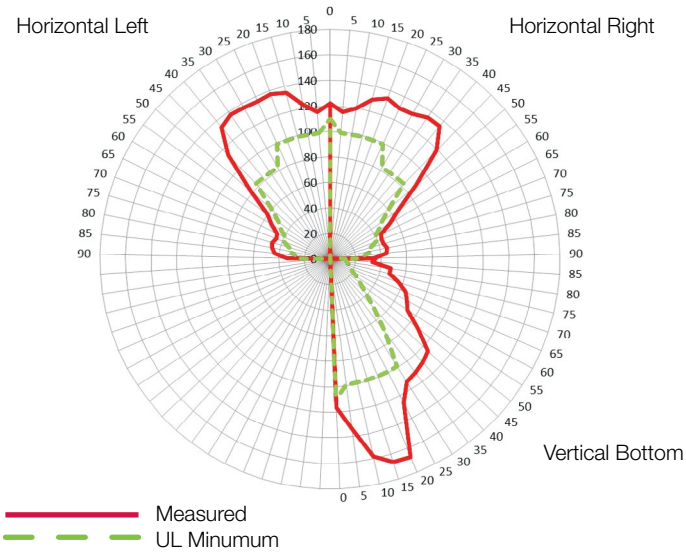
Voltage setting	Wattage setting	Reverberant (UL 1480)	Anechoic (CAN/ ULC-S541)
25V / 70V	¼W	78	78
	½W	81	81
	1W	84	84
	2W	87	87

Sound Output

Sound pattern (ULC)

Axis	Angle	Change in output
Horizontal	117° and 61°	–3 dBA
	134° and 49°	–6 dBA
Vertical	128° and 68°	–3 dBA
	138° and 52°	–6 dBA

Light Distribution



Specifications

Strobe operating voltage	16 to 33 VDC, 16 to 33 VFWR
Speaker operating voltage	25VRMS of 70VRMS (selectable)
Speaker frequency response	400Hz-4,000Hz
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	Edwards 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 mm²)
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]	2-gang, 4-inch square
Trim plates	G4TR, G4TW (5.6 x 7.5 x 0.3 in (14.22 x 19.05 x 0.76 cm))
Operating environment Temperature Relative humidity	 32 to 122°F (0 to 50°C) 0 to 93% noncondensing
Storage Temperature	-40 to 158 F (-40 to 70 C)
RAL Color	Red=RAL 3013 White=RAL 9002

[1] Electrical boxes must be at least 1-1/2 in. (3.81 cm) deep.
(2) Recommend electrical boxes be mounted at 81 inches AFF

Ordering Information

FOR REFERENCE ONLY

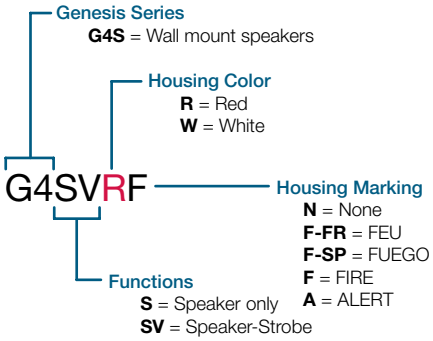
Notification Appliances		Color	Marking
 Speakers	G4SRF	Red	FIRE
	G4SRF-FR	Red	FEU
	G4SRF-SP	Red	FUEGO
	G4SRN	Red	None
	G4SWF	White	FIRE
	G4SWF-FR	White	FEU
	G4SWF-SP	White	FUEGO
	G4SWN	White	None
	G4SWA	White	Alert
 Speaker-strobes	G4SVRF	Red	FIRE
	G4SVRF-FR	Red	FEU
	G4SVRF-SP	Red	FUEGO
	G4SVRN	Red	None
	G4SVWF	White	FIRE
	G4SVWF-FR	White	FEU
	G4SVWF-SP	White	FUEGO
	G4SVWN	White	None
	G4SVWA	White	Alert

Replacement Appliance Covers		Color	Marking
 Speakers	G4SRA-CVR	Red	ALERT
	G4SRF-CVR	Red	FIRE
	G4SRF-FR-CVR	Red	FEU
	G4SRF-SP-CVR	Red	FUEGO
	G4SRN-CVR	Red	None
	G4SWA-CVR	White	ALERT
	G4SWF-CVR	White	FIRE
	G4SWF-FR-CVR	White	FEU
	G4SWF-SP-CVR	White	FUEGO
	G4SWN-CVR	White	None
 Speaker-strobe Covers	G4SVRA-CVR	Red	ALERT
	G4SVRF-CVR	Red	FIRE
	G4SVRF-FR-CVR	Red	FEU
	G4SVRF-SP-CVR	Red	FUEGO
	G4SVRN-CVR	Red	None
	G4SVWA-CVR	White	ALERT
	G4SVWF-CVR	White	FIRE
	G4SVWF-FR-CVR	White	FEU
	G4SVWF-SP-CVR	White	FUEGO
	G4SVWN-CVR	White	None

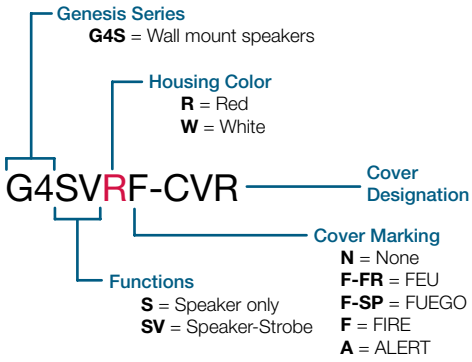
Accessories

	GRSW-10	Room Side Wiring Plate (required, ordered separately)		G4TR	Trim plate, G4 Series, red		G4TW	Trim plate, G4 Series, white
				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



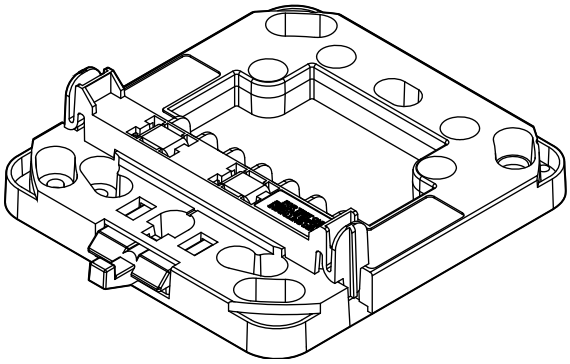
LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Genesis GP Mounting Plate Installation Sheet



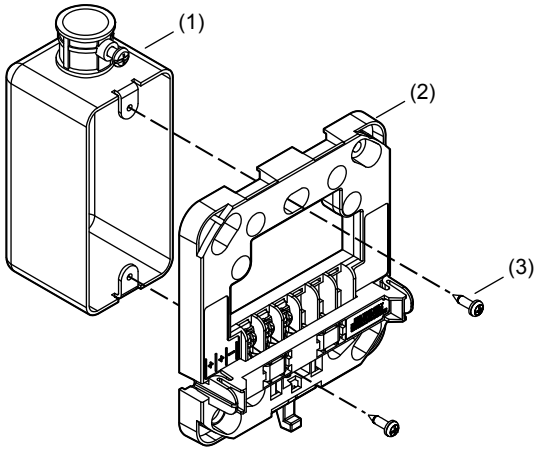
Description

Genesis GP mounting plates provide wiring terminals for Genesis G4 Series and GC Series plug-in horns, strobes, and horn-strobes. The Genesis GP mounting plate includes a shorting clip that, when installed, lets you test the continuity of the notification appliance circuit prior to installing the signaling appliances.

Installation

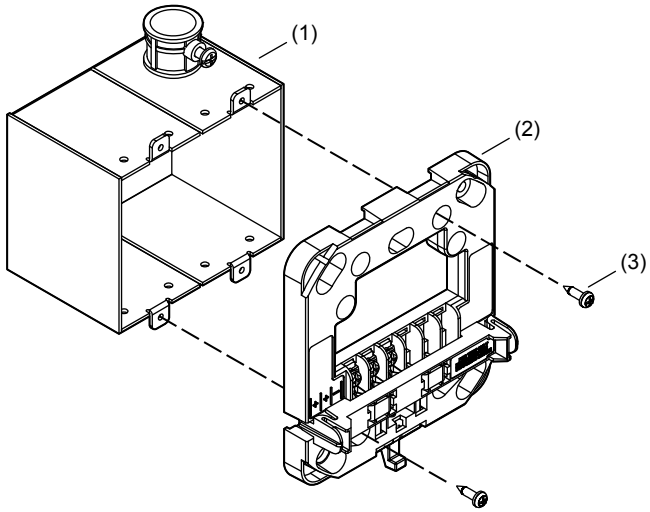
1. Attach the mounting plate to the electrical box as shown in Figure 1 to Figure 4. Do not use more than two screws.
2. Connect the field wires. See Figure 5.

Figure 1: Mounting on a 1-gang electrical box



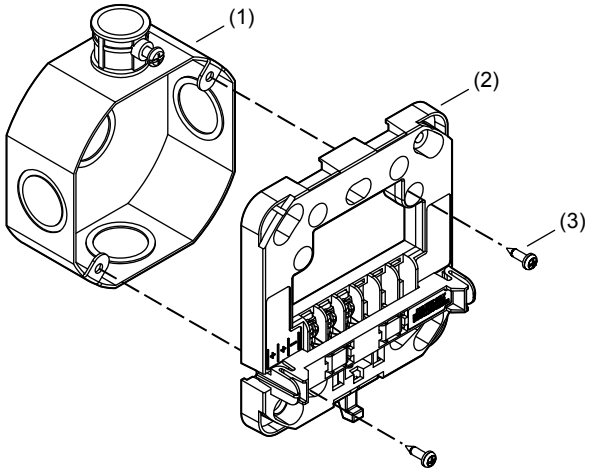
(1) Electrical box
(2) Mounting plate
(3) Machine screw supplied with mounting plate (2X)

Figure 2: Mounting on a 2-gang electrical box



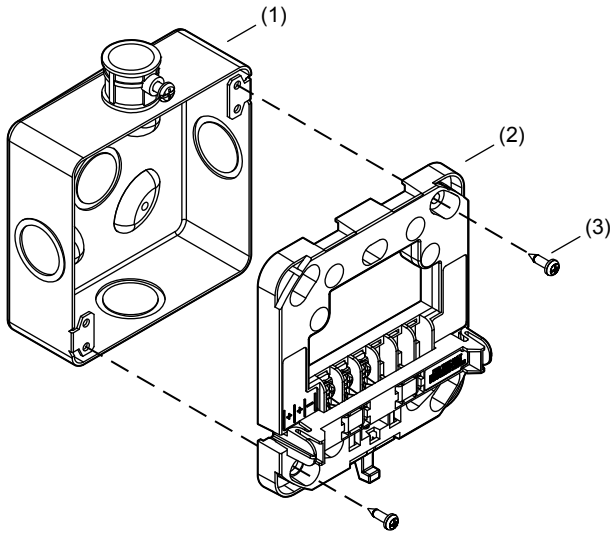
(1) Electrical box
(2) Mounting plate
(3) Machine screw supplied with mounting plate (2X)

Figure 3: Mounting on a 4-in octagon electrical box



(1) Electrical box
(2) Mounting plate
(3) Machine screw supplied with mounting plate (2X)

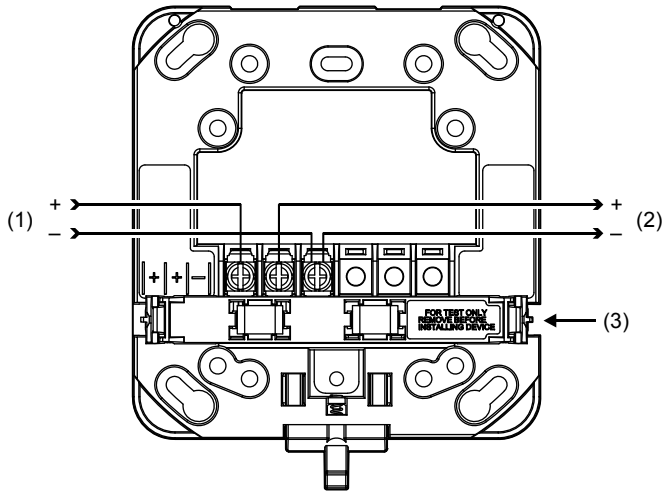
Figure 4: Mounting on a 4-in square electrical box



(1) Electrical box
(2) Mounting plate
(3) Machine screw supplied with mounting plate (2X)

P/N 3102549-EN • REV 001 • ISS 10MAY18

Figure 5: Wiring



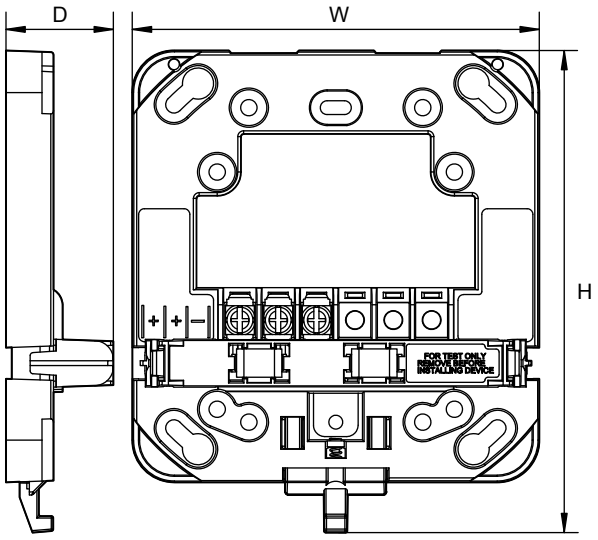
(1) Horn/strobe circuit in (signal polarity shown in the active condition)
(2) Horn/strobe circuit out
(3) Shorting clip

Note: Do not remove the shorting clip (Figure 5, item 3) until you are ready to install the signaling appliance. Retain for future use.

Specifications

Wire size	12 to 18 AWG (0.75 to 2.50 mm²)
Screw torque	
Mounting screws	10 lbf-in (1.2 N-m) max.
Terminal screws	12 lbf-in (1.4 N-m) max.
Dimensions (W × H × D)	4.25 × 5.0 × 1.125 in. (10.8 × 12.7 × 2.86 cm). See Figure 6.
Compatible electrical boxes	1-gang, 2-gang, 4-inch octagon, 4-inch square
Operating environment	
Temperature	32 to 122°F (0 to 50°C)
Relative humidity	0 to 93% noncondensing

Figure 6: Dimensions



Contact information

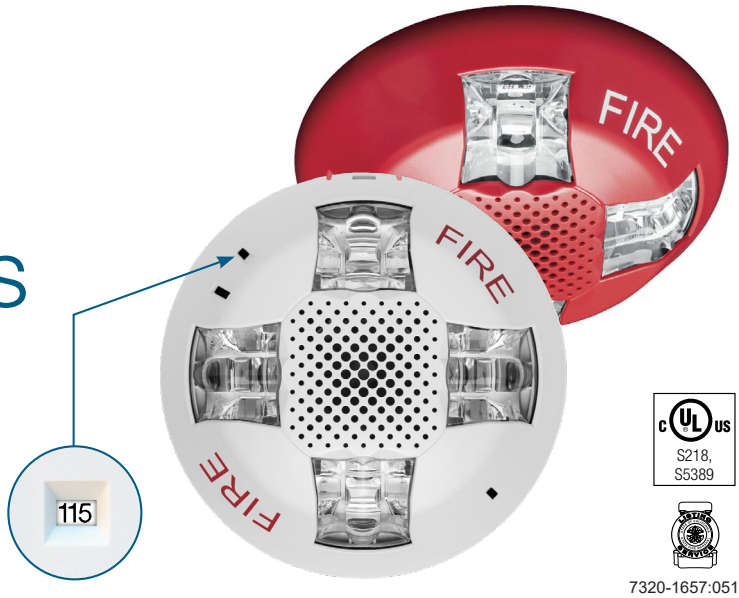
For contact information, see www.edwardsfiresafety.com.

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Ceiling Mount Speakers and Speaker-Strobes

Genesis LED GCS Series



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Overview

Genesis LED GCS Series speakers and speaker-strobes combine high performance output with a sleek low profile design and energy-efficient technology that makes them less expensive to install and operate. High performance LEDs require fewer power supplies, backup power, and batteries. These new appliances are designed with energy-efficiency, and life safety in mind.

Speakers feature selectable wattage taps, while speaker-strobes allow for both wattage and light output levels to be configured in the field. Both settings remain clearly visible — even after final installation. Speakers are also capable of both 25V and 70V and voltage in a single model with a field selectable switch. All this flexibility allows devices to be easily fine-tuned to exactly how they're needed to perform. All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit.

Genesis LED GCS 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 115 cd light output.

Compared with Xenon-type strobes, Genesis LED GCS Series appliances offer greatly reduced current draw which provides benefits in longer circuit lengths, more devices per circuit, smaller wire gauge and reduced power supply quantities for an installation. 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, GCS strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED GCS 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. They also meet NFPA and UL 520Hz requirements for sleeping areas making them ideal for new construction or retrofits.

GCS Series speakers produce crisp, clear voice audio output that is highly intelligible over large areas. In an emergency, intelligibility is critical to life safety. Understanding the content of the message is as important as knowing there is an emergency. Intelligibility is measured in Speech Transmission Index and anything above .76 is considered excellent. GCS Series speakers deliver audio with an STI of .81 ensuring the message is clear.

Serviceability is another area where GCS 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. GCS 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 Fidelity performance with excellent STI**
  - Increased sound fidelity and audio intelligibility with an STI rating of .81 (More than .76 is excellent)
- **Low Frequency (520Hz) capable**
  - Low frequency output meets NFPA standards for newly constructed commercial sleeping areas
- **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 115 cd light output
  - LED devices may be mixed with legacy Xenon strobes on the same circuit and in the same field of view
- **Field flexibility**
  - Speakers are also capable of both 25V and 70V and voltage in a single model with a field selectable switch
  - Speakers feature selectable wattage taps for ¼W, ½W, 1W, and 2W to configure sound output levels in the field
- **Low-profile Design**
  - Ultra-slim... protrudes about 1.5" from the mounting surface
  - Attractive appearance... no visible mounting screws
- **Multiple "FIRE" Marking Options**
  - Order English, French, Spanish or no 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 2-gang 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
- **Current draw is the same for all candela output settings**
  - Easier for new system design
  - Flexible for future changes in light output needs

Application

Strobes

Genesis GCS Series strobes are UL 1971-listed for use indoors as wall or ceiling 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.

Speakers

The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor.

Doubling the distance from the signal to the ear will theoretically cause a 6 dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g.: a speaker from 1W to 2W) will increase the sound pressure level by 3dBA.

High Fidelity Sound

Genesis LED GCS Series High Fidelity appliances feature 87dB of sound output along with a highly intelligible Speech Transmission Index (STI) rating of .81. An STI rating above .76 is considered excellent for speech intelligibility They are also effective in areas subject to high levels of ambient noise.

These appliances are ideal for hotels, dormitories and other residential occupancies that have sleeping areas that require 520Hz tones. In sleeping areas, always ensure that the wattage tap of the speaker is set sufficiently high so that the sound pressure reaches at least 75 dBA at the pillow.

These appliances are part of an end-to-end audio system approved for use in sleeping areas when used in conjunction with approved audio hardware and a factory-supplied 520 Hz tone. Check the System Compatibility List for other 520 Hz signaling requirements.

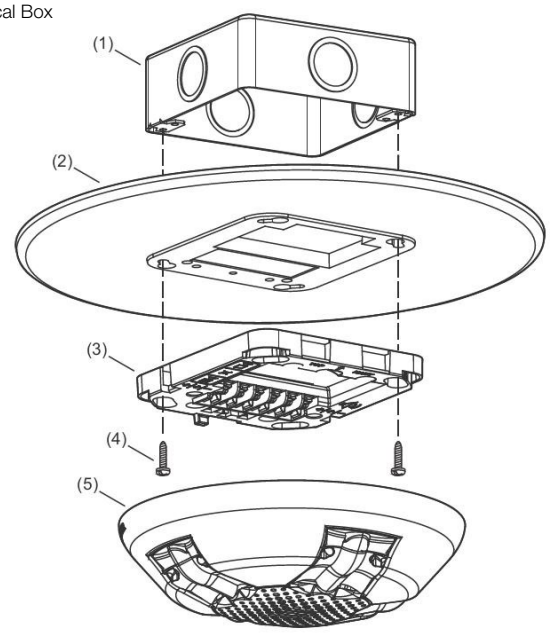
Installation

Genesis GCS speakers and speaker-strobes mount to the required GRSW room side wiring plate. The GRSW mounting plate is ordered separately from the GCS device in packs of 10 (GRSW-10) 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.

Genesis LED GCS Series speakers and speaker-strobes mount to any standard two-gang and 4-inch square electrical box. Matching optional GCT trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available.

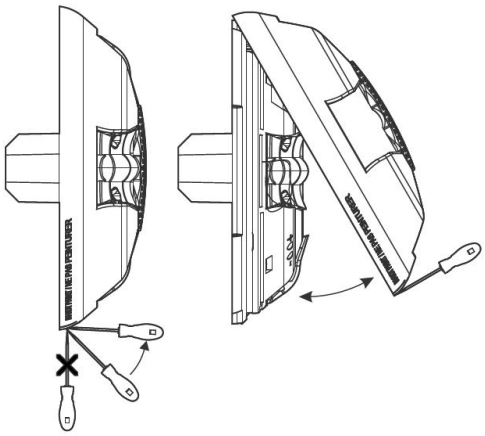
Installation

Electrical Box

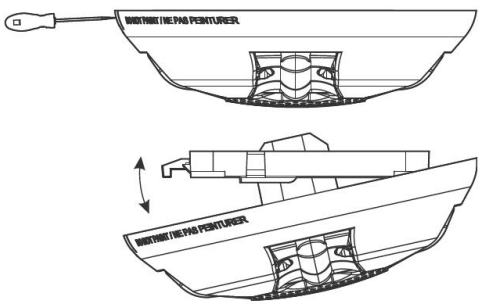


(1) Electrical box
(2) Trim plate (optional)
(3) Wiring plate (required, ordered separately)
(4) Machine screw (2X, supplied with wiring plate)
(5) Notification appliance

Removing Cover

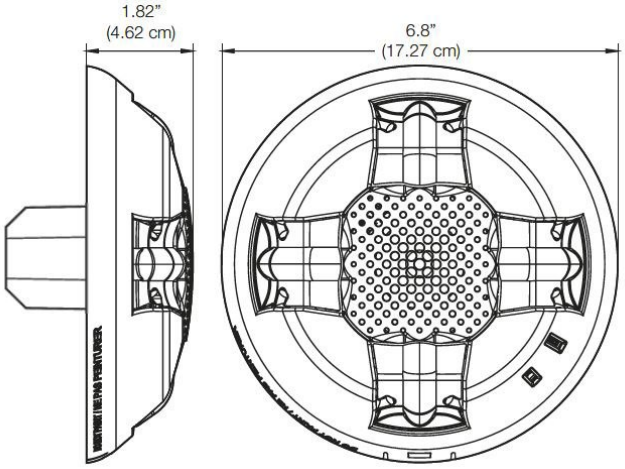


Removing Device

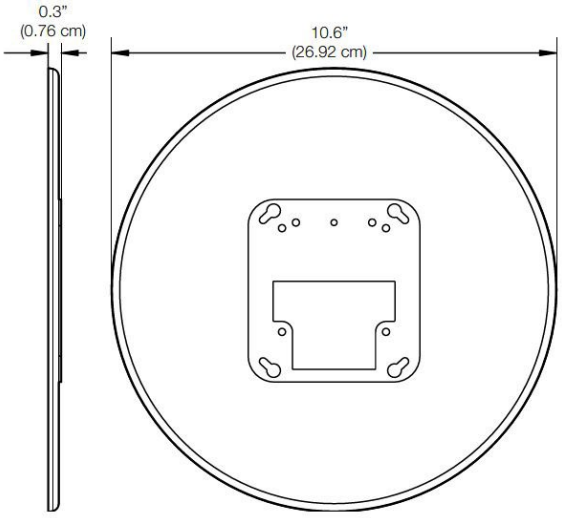


Dimensions

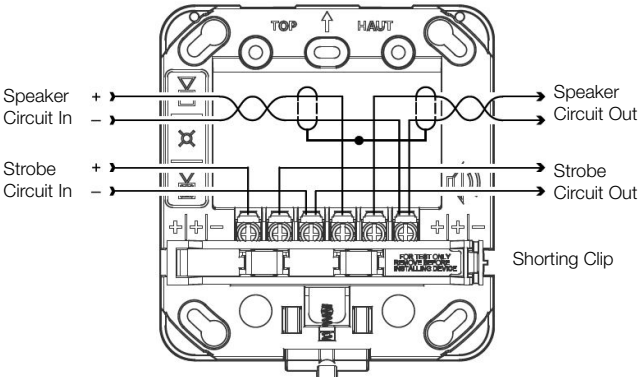
GCS Notification Appliances



GCT Trim Plate (optional)



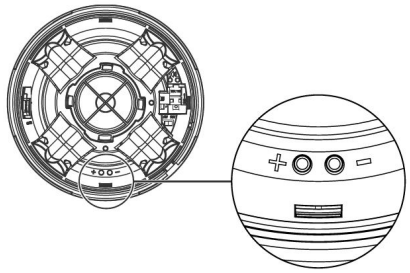
Wiring



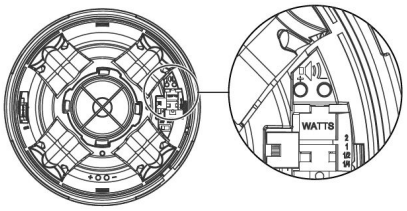
Test points indicated above are used to validate the Notification Appliance Circuit and verify device function.

Diagnostics

Strobe Circuit Test Points



Speaker Circuit Test Points



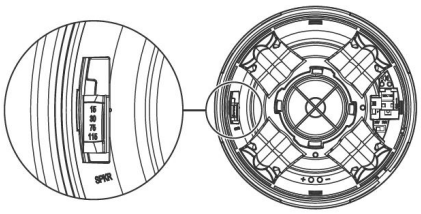
Field Configuration

Genesis LED speakers are capable of both 25V and 70V operation depending on the system, The voltage is set via a switch under the cover. Speakers also may be set for ¼, ½, 1, or 2 watt operation. The wattage setting is visible through a small window on the side of the device and is changed by simply sliding the switch under the cover until the desired setting appears in the window. The speaker does not have to be removed to change the wattage, only the cover skin.

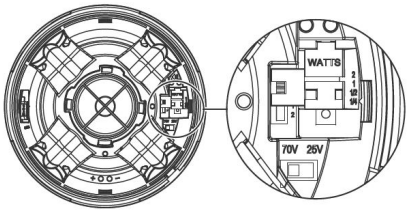
Genesis LED clear strobes and speaker-strobes may be set for 15, 30, 75, or 115 candela output. The output setting is changed by simply removing the cover and sliding the candela switch to the desired setting. The device does not have to be removed from the wall to change the output setting. The setting remains visible through a small window on the left-hand side of the device after the cover is closed.

Light and Sound Output Settings

Light Output Setting (Candela)



Sound Settings (Watts and Volts)



Operating current

Strobes

Strobe setting	16 to 33 VDC	16 to 33 VFWR
15, 30, 75, 115	35 mA	45 mA

Note: Current draw is the same for all candela settings

Sound Level Output

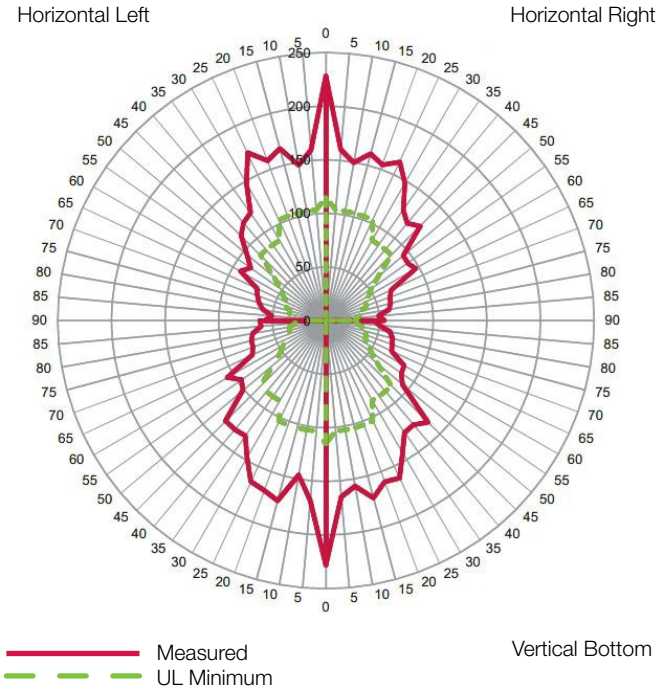
Voltage setting	Wattage setting	Reverberant (UL 1480)	Anechoic (CAN/ ULC-S541)
25V / 70V	¼W	78	77
	½W	81	80
	1W	84	83
	2W	87	86

Sound Output

Sound pattern (ULC)

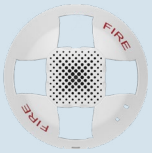
Axis	Angle	Change in output
Horizontal	120° and 60°	–3 dBA
	140° and 40°	–6 dBA
Vertical	120° and 60°	–3 dBA
	145° and 40°	–6 dBA

Light Distribution



Ordering Information

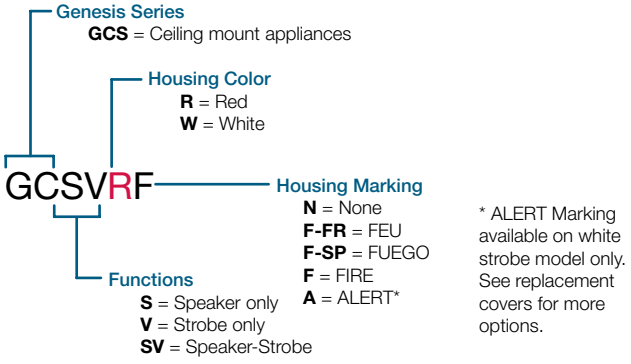
Notification Appliances		Color	Marking
 Speakers	GCSRF	Red	FIRE
	GCSRF-FR	Red	FEU
	GCSRF-SP	Red	FUEGO
	GCSRN	Red	None
	GCSWF	White	FIRE
	GCSWF-FR	White	FEU
	GCSWF-SP	White	FUEGO
	GCSWN	White	None
	GCSWA	White	ALERT
 Speaker-strobes	GCSVRF	Red	FIRE
	GCSVRF-FR	Red	FEU
	GCSVRF-SP	Red	FUEGO
	GCSVRN	Red	None
	GCSVWF	White	FIRE
	GCSVWF-FR	White	FEU
	GCSVWF-SP	White	FUEGO
	GCSVWN	White	None
	GCSVWA	White	ALERT

Replacement Appliance Covers		Color	Marking
 Speaker Covers	GCSRA-CVR	Red	ALERT
	GCSRF-CVR	Red	FIRE
	GCSRF-FR-CVR	Red	FEU
	GCSRF-SP-CVR	Red	FUEGO
	GCSRN-CVR	Red	None
	GCSWA-CVR	White	ALERT
	GCSWF-CVR	White	FIRE
	GCSWF-FR-CVR	White	FEU
	GCSWF-SP-CVR	White	FUEGO
	GCSWN-CVR	White	None
 Speaker-strobe Covers	GCSVRA-CVR	Red	ALERT
	GCSVRF-CVR	Red	FIRE
	GCSVRF-FR-CVR	Red	FEU
	GCSVRF-SP-CVR	Red	FUEGO
	GCSVRN-CVR	Red	None
	GCSVWA-CVR	White	ALERT
	GCSVWF-CVR	White	FIRE
	GCSVWF-FR-CVR	White	FEU
	GCSVWF-SP-CVR	White	FUEGO
	GCSVWN-CVR	White	None

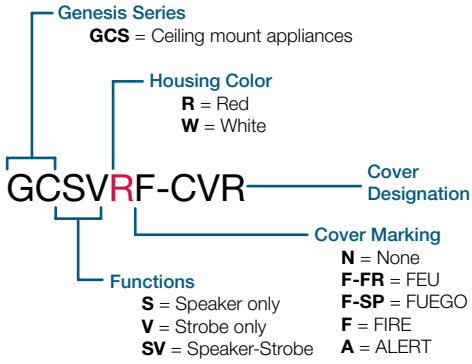
Accessories

	GRSW-10	Room Side Wiring Plate 10 pack (required, ordered separately)	 GCTR	Trim plate, GC Series, red	 GCTW	Trim plate, GC Series, white
			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



LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Specifications

Strobe operating voltage	16 to 33 VDC, 16 to 33 VFWR
Speaker operating voltage	25VRMS of 70VRMS (selectable)
Speaker frequency response	400Hz-4,000Hz
Light output	15, 30, 75, or 115 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	Edwards 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 (Ø × D)	6.8 x 1.82 in (17.27 x 4.62 cm)
Strobe-to-box center offset	-1.70 inches (-4.32 cm)
Compatible electrical boxes [1]	2-gang, 4-inch square
Trim plates	GCTR, GCTW 10.6 × 0.3 in. (26.92 × 0.76 cm)
Operating environment Temperature Relative humidity	 32 to 122°F (0 to 50°C) 0 to 93% noncondensing
Storage Temperature	-40 to 158 F (-40 to 70 C)
RAL Color	Red=RAL 3013 White=RAL 9002

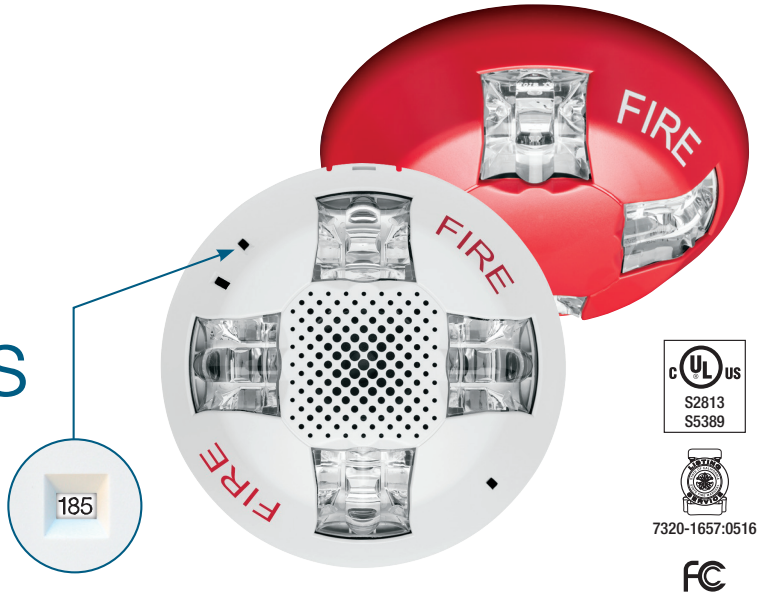
[1] Electrical boxes must be at least 1-1/2 in. (3.81 cm) deep.
(2) Recommend electrical boxes be mounted at 81 inches AFF

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Ceiling Mount High Candela Strobes and Speaker-Strobes

Genesis LED
GCVH & GCSVH Series



S2813
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Overview

Genesis LED High Candela GCVH & GCSVH Series strobes and speaker-strobes combine high performance output with a sleek, low profile design and energy efficient technology that makes them less expensive to install and operate. High performance LEDs require fewer power supplies, backup power, and batteries. These new appliances are designed with energy efficiency and life safety in mind.

Speakers feature selectable wattage taps, while speaker-strobes allow for both wattage and light output levels to be configured in the field. Both settings remain clearly visible — even after final installation. Speakers are also capable of both 25V and 70V voltage in a single model with a field selectable switch. All this flexibility allows devices to be easily fine-tuned to exactly how they're needed to perform. All Genesis speakers include a DC blocking capacitor to allow electrical supervision of the audio distribution circuit.

Genesis LED High Candela GCVH & GCSVH 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 135,150,177, or 185 candela light output.

Compared with Xenon-type strobes, Genesis LED High Candela GCVH & GCSVH Series appliances offer greatly reduced current draw which provides benefits in longer circuit lengths, more devices per circuit, smaller wire gauge and reduced power supply quantities for an installation. 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, High Candela GCVH & GCSVH strobes can be mixed on the same circuit and used in the same field of view as Xenon-based strobes. This makes Genesis LED GCVH & GCSVH 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. They also meet NFPA and UL 520Hz requirements for sleeping areas, making them ideal for new construction or retrofits.

High Candela GCSVH Series speakers produce crisp, clear voice audio output that is highly intelligible over large areas. In an emergency, intelligibility is critical to life safety. Understanding the content of the message is as important as knowing there is an emergency. Intelligibility is measured in Speech Transmission Index and anything above .76 is considered excellent. High Candela GCSVH Series speakers deliver audio with an STI of .81, ensuring the message is clear.

Serviceability is another area where High Candela GCVH & GCSVH 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. High Candela GCVH & GCSVH Series devices can then be easily snapped into place with the confidence of knowing the wiring is correct. The innovative undercover diagnostic test points provide easy access to device circuit testing while mounted.

Standard Features

- **High Performance LED High Candela 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 135, 150, 177, or 185 cd light output
  - LED devices may be mixed with legacy Xenon strobes on the same circuit and in the same field of view
- **High-Fidelity performance with excellent STI**
  - Increased sound fidelity and audio intelligibility with an STI rating of .81 (More than .76 is excellent)
- **Low Frequency (520Hz) capable**
  - Low frequency output meets NFPA standards for newly constructed commercial sleeping areas
- **Field flexibility**
  - Speakers are also capable of both 25V and 70V voltage in a single model with a field selectable switch
  - Speakers feature selectable wattage taps for ¼W, ½W, 1W, and 2W to configure sound output levels in the field
- **Low Profile Design**
  - Ultra-slim – protrudes about 1.5" from the mounting surface
  - Attractive appearance – no visible mounting screws
- **Multiple "FIRE" Marking Options**
  - Order English, French, Spanish or no FIRE markings
  - Change markings at any time with replaceable quick-swap covers
  - Ask about no markings custom color UL / ULC listed covers to match architectural or design requirements.
- **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 2-gang 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
- **Current draw is the same for all candela output settings**
  - Easier for new system design
  - Flexible for future changes in light output needs

Application

Strobes

Genesis High Candela GCVH & GCSVH Series strobes are UL 1971-listed for use indoors as wall or ceiling 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.

Speakers

The suggested sound pressure level for each signaling zone used with alert or alarm signals is a minimum of 15 dB above the average ambient sound level or 5 dB above the maximum sound level having a duration of at least 60 seconds, whichever is greater. This is measured 5 feet (1.5 m) above the floor.

Doubling the distance from the signal to the ear will theoretically cause a 6 dB reduction in the received sound pressure level. The actual effect depends on the acoustic properties of materials in the space. Doubling the power output of a device (e.g., a speaker from 1W to 2W) will increase the sound pressure level by 3dBA.

High-Fidelity Sound

Genesis LED GCSVH Series High-Fidelity appliances feature 87dB of sound output along with a highly intelligible Speech Transmission Index (STI) rating of .81. An STI rating above .76 is considered excellent for speech intelligibility. They are also effective in areas subject to high levels of ambient noise.

These appliances are ideal for hotels, dormitories and other residential occupancies that have sleeping areas that require 520Hz tones. In sleeping areas, always ensure that the wattage tap of the speaker is set sufficiently high so that the sound pressure reaches at least 75 dBA at the pillow.

These appliances are part of an end-to-end audio system approved for use in sleeping areas when used in conjunction with approved audio hardware and a factory-supplied 520 Hz tone. Check the System Compatibility List for other 520 Hz signaling requirements.

Installation

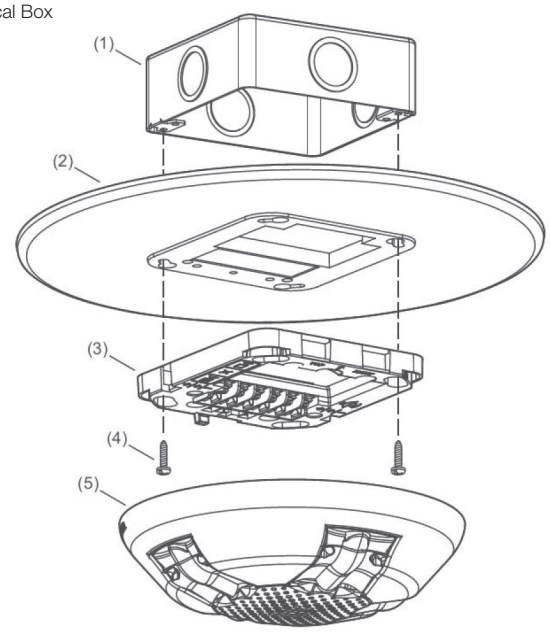
Genesis LED High Candela GCVH & GCSVH strobes and speaker-strobes mount to the required GRSW room side wiring plate. The GRSW mounting plate is ordered separately from the GCVH & GCSVH device in packs of 10 (GRSW-10) for convenient pre-installing and pre-wiring. The device can be removed easily from the room side wiring plate by pushing up with a flat tip screwdriver or using the GRT Genesis LED Removal Tool ordered separately in packs of 10 (GRT-10). The cover can also be removed from the device easily with a flat tip screwdriver or using the GRT Genesis LED Removal Tool to access the light and sound output settings and a diagnostics test port for voltage testing.

Genesis LED High Candela GCVH & GCSVH Series strobes and speaker-strobes mount to any standard two-gang and 4-inch-square electrical box. Matching optional GCT trim rings are available to cover oversized openings. Optional color matched double-gang surface boxes are also available.

When installing Genesis LED GCSVH & GCVH appliances onto 4-inch octagon boxes, Genesis GOCT Octagon Adapter is required to ensure seamless mounting. The GOCT attaches to the GRSW wiring plate, guaranteeing a secure and efficient setup.

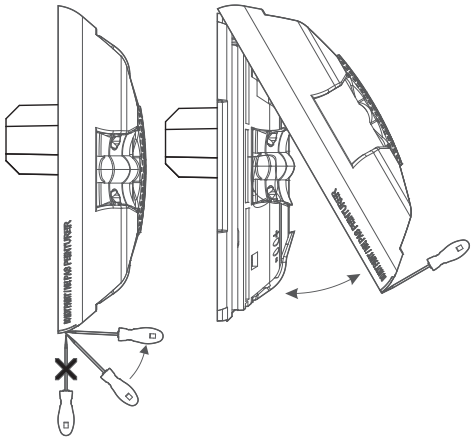
Installation

Electrical Box

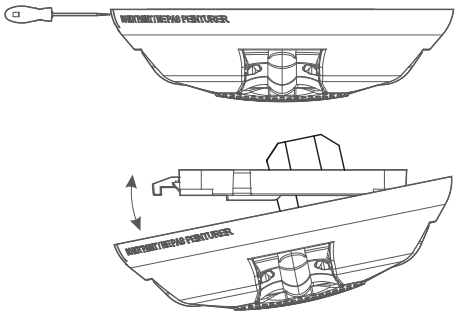


(1) Electrical box
(2) Trim plate (optional)
(3) Wiring plate (required, ordered separately)
(4) Machine screw (2X, supplied with wiring plate)
(5) Notification appliance

Removing Cover

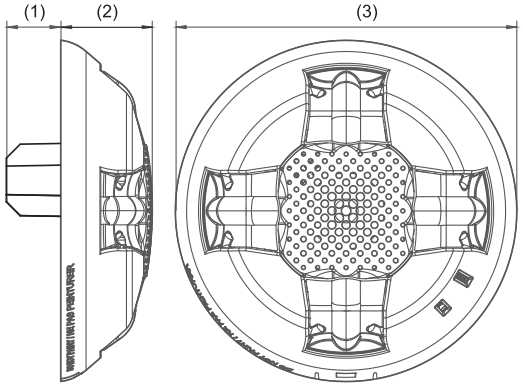


Removing Device



Dimensions

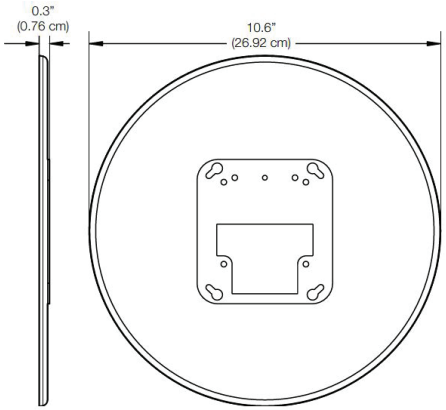
GCSVH & GCVH Notification Appliances



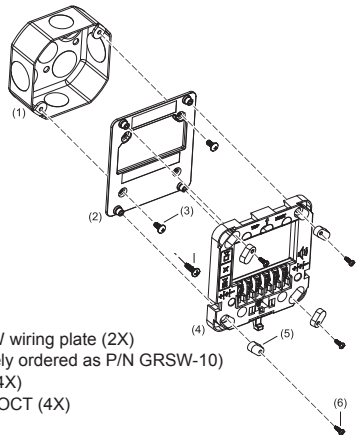
(1) 1.10 in. (2.87 cm)
(2) 1.82 in. (4.62 cm)
(3) Diameter 6.80 in. (17.27 cm)

Note: Dimension (1) does not apply to GCVH Series, only dimensions (2) and (3).

GCT Trim Plate (optional)

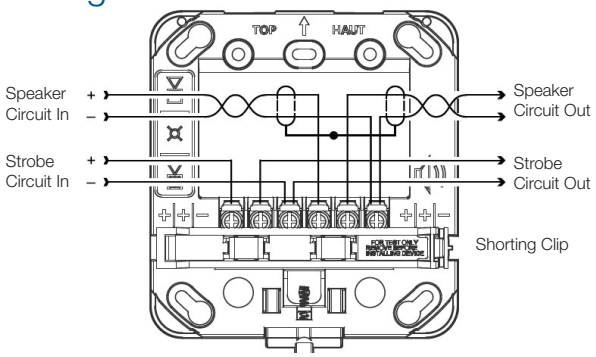


Use GOCT Octagon Adapter Plate when mounting to 4-inch octagon boxes.



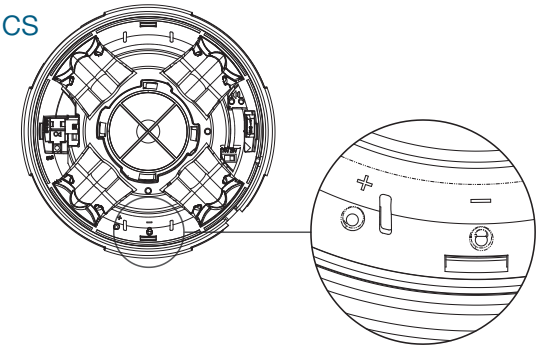
(1) Octagon electrical box
(2) GOCT
(3) Machine screw, provided with GRSW wiring plate (2X)
(4) GRSW wiring plate (can be separately ordered as P/N GRSW-10)
(5) Adapter plug, provided with GOCT (4X)
(6) 6-19 × 0.375 screw, provided with GOCT (4X)

Wiring

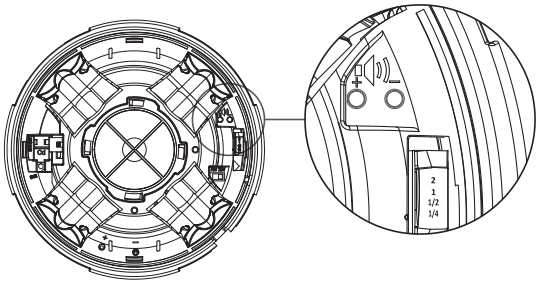


Diagnostics

Strobe Test Points



Speaker Test Points



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

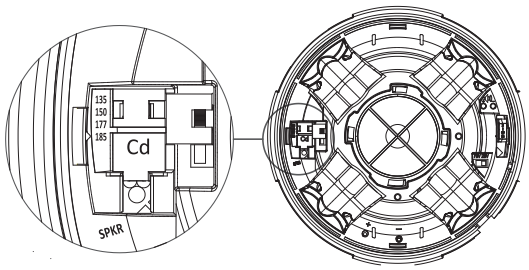
Field Configuration

Genesis LED speakers are capable of both 25V and 70V operation depending on the system. The voltage is set via a switch under the cover. Speakers also may be set for 1/4-, 1/2-, 1-, or 2-watt operation. The wattage setting is visible through a small window on the side of the device and is changed by simply sliding the switch under the cover until the desired setting appears in the window. The speaker does not have to be removed to change the wattage, only the cover.

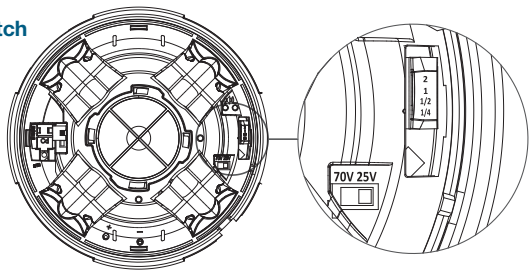
Genesis LED clear High Candela GCVH & GCSVH strobes and speaker-strobes may be set for 135, 150, 177 or 185 candela output. The output setting is changed by simply removing the cover and sliding the candela switch to the desired setting. The device does not have to be removed from the wall to change 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

Strobe Switch Settings



Speaker Switch Settings



Operating Current

Strobes

Strobe setting	16 to 33 VDC	16 to 33 VFWR
135, 150, 177, 185	53 mA	68 mA

Note: Current draw is the same for all candela settings

Sound Output

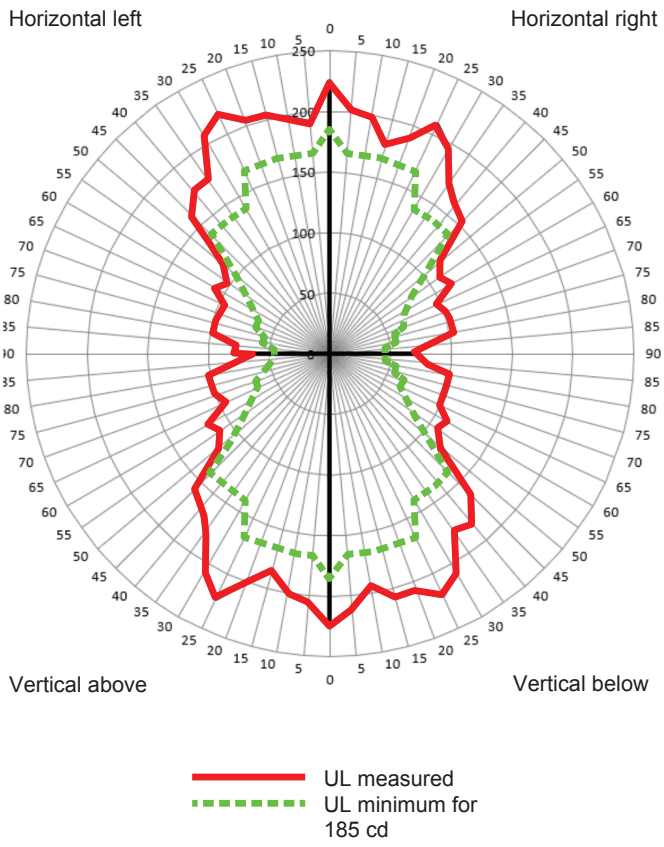
Sound Level Output (dBA) at 3.05 m (10 ft.)

Voltage setting	Wattage setting	Reverberant (UL 1480)	Anechoic (CAN/ ULC-S541)
25V / 70V	¼W	78	77
	½W	81	80
	1W	84	83
	2W	87	85

Sound Pattern (ULC)

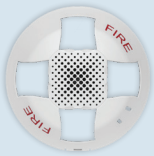
Axis	Angle	Change in output
Horizontal	120° and 60°	–3 dBA
	140° and 40°	–6 dBA
Vertical	120° and 60°	–3 dBA
	145° and 40°	–6 dBA

Light Distribution



Ordering Information

Notification Appliances		Color	Marking
 **Strobes**	GCVHRF	Red	FIRE
	GCVHRF-FR	Red	FEU/FIRE
	GCVHRF-SP	Red	FUEGO
	GCVHRN	Red	None
	GCVHWF	White	FIRE
	GCVHWF-FR	White	FEU/FIRE
	GCVHWF-SP	White	FUEGO
	GCVHWN	White	None
	GCVHWA	White	ALERT
 **Speaker-Strobes**	GCSVHRF	Red	FIRE
	GCSVHRF-FR	Red	FEU/FIRE
	GCSVHRF-SP	Red	FUEGO
	GCSVHRN	Red	None
	GCSVHWF	White	FIRE
	GCSVHWF-FR	White	FEU/FIRE
	GCSVHWF-SP	White	FUEGO
	GCSVHWN	White	None
	GCSVHWA	White	ALERT

Replacement Appliance Covers		Color	Marking
 **Strobe Covers**	GCVRA-CVR	Red	ALERT
	GCVRF-CVR	Red	FIRE
	GCVRF-FR-CVR	Red	FEU/FIRE
	GCVRF-SP-CVR	Red	FUEGO
	GCVRN-CVR	Red	None
	GCVWA-CVR	White	ALERT
	GCVWF-CVR	White	FIRE
	GCVWF-FR-CVR	White	FEU/FIRE
	GCVWF-SP-CVR	White	FUEGO
	GCVWN-CVR	White	None
 **Speaker-Strobe Covers**	GCSVRA-CVR	Red	ALERT
	GCSVRF-CVR	Red	FIRE
	GCSVRF-FR-CVR	Red	FEU/FIRE
	GCSVRF-SP-CVR	Red	FUEGO
	GCSVRN-CVR	Red	None
	GCSVWA-CVR	White	ALERT
	GCSVWF-CVR	White	FIRE
	GCSVWF-FR-CVR	White	FEU/FIRE
	GCSVWF-SP-CVR	White	FUEGO
	GCSVWN-CVR	White	None

Accessories

 GRSW-10 Room Side Wiring Plate 10 pack (required, ordered separately)

 GCTR Trim plate, GC Series, red

 GCTW Trim plate, GC Series, white

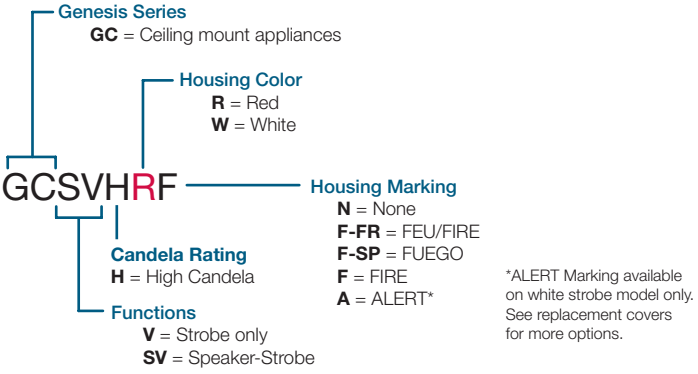
 GOCT 4-inch octagon box Adapter Plate

 27193-21 Two-gang surface mount box, red

 27193-26 Two-gang surface mount box, white

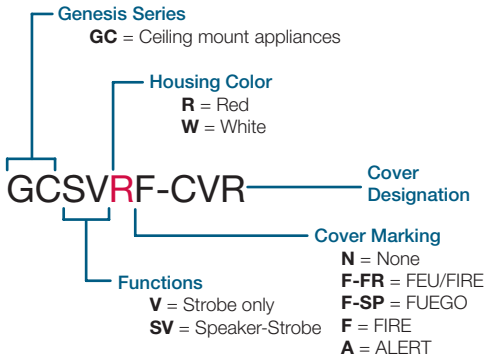
 GRT-10 Genesis LED Device / Cover Removal Tool 10 pack

Model Number Syntax, Appliances



*ALERT Marking available on white strobe model only. See replacement covers for more options.

Model Number Syntax, Replacement Covers



Note: GCV & GCSV ceiling mount appliance covers are compatible with GCVH & GCSVH Series Ceiling High Candela appliances.

EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

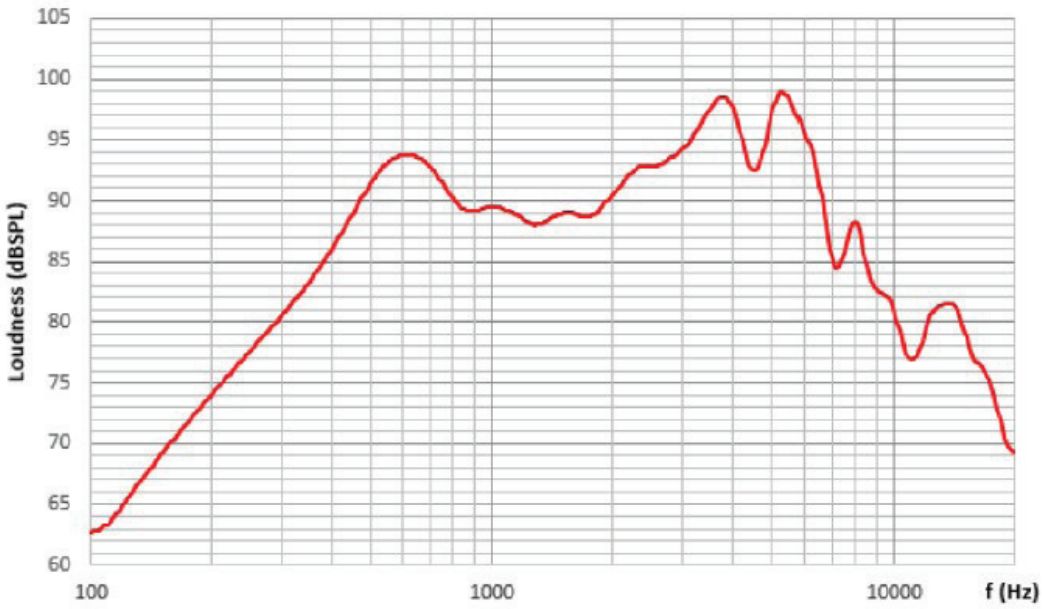
Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

Specifications

Strobe operating voltage	16 to 33 VDC, 16 to 33 VFWR
Speaker operating voltage	25VRMS of 70VRMS (selectable)
Speaker frequency response (UL rated)	400Hz-4,000Hz
Speaker frequency response (nominal)	100Hz-11,000Hz
Light output	135, 150, 177,or 185 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	Edwards CC/MCC Series Signal Modules[2], Universal Class A/B modules[2], FXNAC[2], Booster and Auxiliary Power Supplies, Intelligent and Conventional Control Panels
Wire size	12 to 18 AWG (0.75 to 2.50 mm^2)
Dimensions (Ø × D)	6.8 x 1.82 in (17.27 x 4.62 cm)
Compatible electrical boxes[1]	2-gang, 4-inch square, 4-inch octagon with GOCT adapter plate
Trim plates	GCTR, GCTW 10.6 × 0.3 in. (26.92 × 0.76 cm)
Wiring plate	GRSW (Catalog number: GRSW-10, Pack of 10)
Operating environment Temperature Relative humidity	 32 to 122°F (0 to 50°C) 0 to 93% noncondensing
Storage Temperature	-40 to 158 F (-40 to 70 C)
RAL Color	Red=RAL 3013 White=RAL 9002
Environmental Compliance	RoHS directive 2011/65/EU

[1] Electrical boxes must be at least 1-1/2 in. (3.81 cm) deep.
[2] Compatibility for these modules limited to 25 appliances



Typical Frequency response @ 1W/1m

LIFE SAFETY & INCIDENT MANAGEMENT

Electromagnetic Door Holders

MEA

R6291

Overview

EDWARDS Electromagnetic Door Holders are ruggedly constructed and attractively designed. The housing is finished with an aluminum color, durable baked polyester powder paint. The floor or wall section houses the electromagnet while the contact plate attaches to the door. The contact plate has a shock absorbing nylon (swivel) ball which allows the plate to adjust to any door angle. Floor units are available in single-door or double-door (back to back) versions. Wall units are available in flush or surface mounted versions.

EDWARDS door releases should be installed wherever doors may be effectively used to confine smoke and fire, or where the release of a self-closing door from a remote location is desirable for other reasons.

Fail-safe operation is an inherent feature of EDWARDS door holder-releases. If power fails, doors are released automatically but may be opened or closed manually at any time. All units are free of moving parts, are self-contained and require no maintenance.

These door holder-releases have a holding force of approximately 15 to 25 Lbf (66 to 111N). The device holds a door open while energized. When de-energized by a relay controlled by the fire alarm system or other switch, the door is released to a closed position, checking the spread of smoke and flames. Electromagnetic door holders should be used and installed in accordance with local Building Codes and Standards.

Standard Features

- Floor and wall mounted styles
- Low power consumption
- AC/DC models
- Completely silent operation
- 25 Lbf (111N) nominal holding force
- Adjustable, swivel contact plate

Basic Models

Floor Mounted:

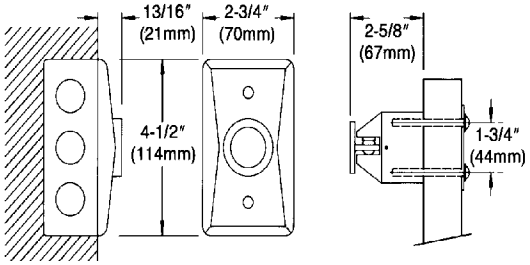
The electromagnet portion consists of a floor plate and a floor housing which when installed with gaskets provided, form a weatherproof electrical junction box. Incoming conduit connects directly into floor plate.

Floor mounted units are available with one (Cat. No. 1501) or two (Cat. No. 1502) magnet faces for holding a single door or two doors back to back.

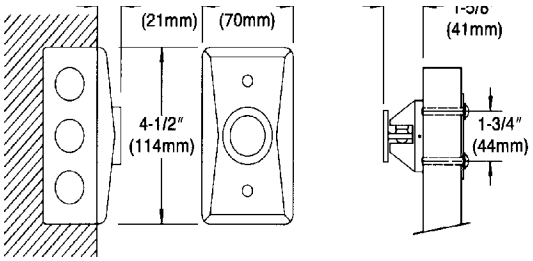
Wall Mounted:

Wall mounted models are available in flush, semi-flush and surface mounting configurations. Flush and semi-flush models are designed for concealed wiring applications and mount on standard single gang (2 x 4 inch) outlet boxes. Surface mounted models mount on a surface adaptor housing (junction box), which is provided.

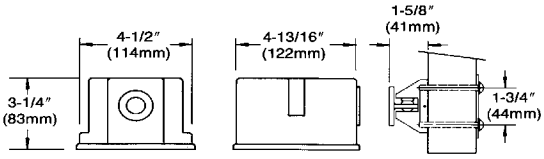
Dimensions



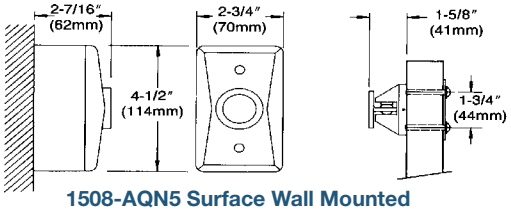
1504-AQN5 Flush Wall Mounted (Long Catch Plate)



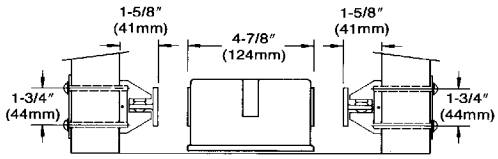
1505-AQN5 Flush Wall Mounted (Short Catch Plate)



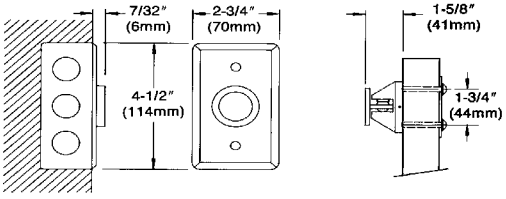
1501-AQN5 Floor Mounted (Single Door)



1508-AQN5 Surface Wall Mounted



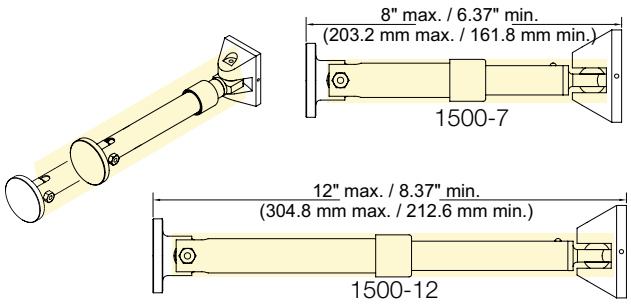
1502-AQN5 Floor Mounted (Double Door)

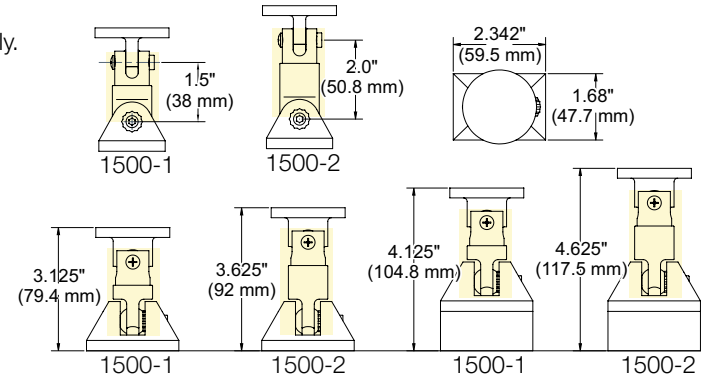


1509-AQN5 Completely Flush Wall Mounted

Catch Plate Extensions

Only the extension rods (highlighted in yellow) are included. The end pieces are included with the doorholders or can be ordered separately.





Specifications

Model No.	Style	Volts	Amps*
1501-AQN5	Floor Mounted (Single Door)	24 Vac 60 Hz 24 Vdc 120 Vac 60 Hz	.015
1502-AQN5	Floor Mounted (Double Door)		
1504-AQN5	Flush Wall Mounted (Long Catch Plate)		
1505-AQN5	Flush Wall Mounted (Short Catch Plate)		
1508-AQN5	Surface Wall Mounted		
1509-AQN5	Completely Flush Wall Mounted		

*1502-AQN5 is a double unit which draws .015 per side

Ordering Information

Model No.	Description	Ship. Wt. lb (kg)
1501-AQN5	Floor Mounted (Single Door)	5.4 (2.45)
1502-AQN5	Floor Mounted (Double Door)	5.0 (2.27)
1504-AQN5	Flush Wall Mounted (Long Catch Plate)	2.0 (0.91)
1505-AQN5	Flush Wall Mounted (Short Catch Plate)	2.0 (0.91)
1508-AQN5	Surface Wall Mounted	3.0 (1.36)
1509-AQN5	Completely Flush Wall Mounted	2.0 (0.91)

Accessories		
1500-1	Catch plate extension assembly, 1.5”	0.25 (0.11)
1500-2	Catch plate extension assembly, 2.5”	0.25 (0.11)
1500-7	Catch plate extension assembly (5.25 to 7.5 inches)	0.5 (0.23)
1500-12	Catch plate extension assembly (7.5 to 12 inches)	1.0 (0.45)
CS2595-5	Replacement armature - short (for use with 1501, 1502, 1505, 1508 and 1509 door holders)	0.25 (0.11)
CS2598-5	Replacement armature - long (for use with 1504 door holder)	0.25 (0.11)

CAUTION: These Door Holder units will not operate without electrical power.

LIFE SAFETY & INCIDENT MANAGEMENT

Contact us

Phone: 800-655-4497 (Option 4)
Email: edwards.fire@carrier.com
Website: edwardsfiresafety.com

8985 Town Center Pkwy
Bradenton, FL 34202

60991B

16/2 Solid Unshielded FPLP
Fire Alarm Signaling

Construction & Dimensions

CONSTRUCTION & DIMENSIONS	-
CONDUCTOR PARAMETER	-
• Number of Conductors	2
• AWG Size	16
• Conductor Stranding	Solid
• Conductor Type	Bare Copper
• Nominal DCR	4.1 Ohm/1000ft
• Cabling Lay Length	2.75 in
• Twists/Foot	4.4 twist/ft
INSULATION PARAMETER	-
• Insulation Type	Plenum PVC
• Insulation Thi kness	0.008 in
• Insulation Color Code	1. Black 2.Red
SHIELDING PARAMETER	-
• Shield Type	None
ELECTRICAL CHARACTERISTICS	-
• Nom. Cap. Between Conductors	33 pF/ft

Overall Construction

OVERALL CONSTRUCTION PARAMETERS	-
Jacket Type	Flexible Plenum
Jacket Thi kness	0.015 in
Nominal Cable O.D.	0.164 in
Plenum	Yes
NEC UL Rating	FPLP
RoHS Compliant	Yes
Pull Tension	62 lbs
Bend Radius	1.476 in
Cable Weight	26 lbs

Overall Electrical & Optical Characteristics

OVERALL ELECTRICAL/OPTICAL CHARACTERISTICS	-
UL Flammability	NFPA 262 Plenum
Operating Range	-0 to 75 Deg C
UL Voltage Rating	300

Detailed Specification & Technical Data

60991B

16/2 Solid Unshielded FPLP

Fire Alarm Signaling

Related Products

RELATED PRODUCTS	-
Non Plenum Number	990
Aquaseal Number	AQC225
Aquaseal Direct Burial Number	AQ225

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60993B

14/2 Solid Unshielded FPLP
Fire Alarm Signaling

Construction & Dimensions

CONSTRUCTION & DIMENSIONS	-
CONDUCTOR PARAMETER	-
• Number of Conductors	2
• AWG Size	14
• Conductor Stranding	Solid
• Conductor Type	Bare Copper
• Nominal DCR	2.6 Ohm/1000ft
• Cabling Lay Length	3.25 in
• Twists/Foot	3.7 twist/ft
INSULATION PARAMETER	-
• Insulation Type	Plenum PVC
• Insulation Thi kness	0.09 in
• Insulation Color Code	1. Black 2.Red
SHIELDING PARAMETER	-
• Shield Type	None
ELECTRICAL CHARACTERISTICS	-
• Nom. Cap. Between Conductors	34 pF/ft

Overall Construction

OVERALL CONSTRUCTION PARAMETERS	-
Jacket Type	Flexible Plenum
Jacket Thi kness	0.015 in
Nominal Cable O.D.	0.198 in
Plenum	Yes
NEC UL Rating	FPLP
RoHS Compliant	Yes
Pull Tension	99 lbs
Bend Radius	1.782 in
Cable Weight	36 lbs

Overall Electrical & Optical Characteristics

OVERALL ELECTRICAL/OPTICAL CHARACTERISTICS	-
UL Flammability	NFPA 262 Plenum
Operating Range	-0 to 75 Deg C
UL Voltage Rating	300

Detailed Specification & Technical Data

60993B

14/2 Solid Unshielded FPLP

Fire Alarm Signaling

Related Products

RELATED PRODUCTS	-
Non Plenum Number	994
Aquaseal Number	AQC226
Aquaseal Direct Burial Number	AQ226

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60975B

18/2 Solid Shielded FPLP
Fire Alarm Signaling

Construction & Dimensions

CONSTRUCTION & DIMENSIONS	-
CONDUCTOR PARAMETER	-
• Number of Conductors	2
• AWG Size	18
• Conductor Stranding	Solid
• Conductor Type	Bare Copper
• Nominal DCR	6.5 Ohm/1000ft
• Cabling Lay Length	3 in
• Twists/Foot	4 twist/ft
INSULATION PARAMETER	-
• Insulation Type	Plenum PVC
• Insulation Thickness	0.008 in
• Insulation Color Code	1. Black 2.Red
SHIELDING PARAMETER	-
• Shield Type	Overall 100% Aluminum Foil
• Drain Wire Type	Tinned Copper
• Drain Wire AWG	24 AWG
ELECTRICAL CHARACTERISTICS	-
• Nom. Cap. Between Conductors	66 pF/ft
• Nom. Cap. Conductor to Shield	119 pF/ft

Overall Construction

OVERALL CONSTRUCTION PARAMETERS	-
Jacket Type	Flexible Plenum
Jacket Thickness	0.015 in
Nominal Cable O.D.	0.148 in
Plenum	Yes
NEC UL Rating	FPLP
RoHS Compliant	Yes
Pull Tension	53 lbs
Bend Radius	1.33 in
Cable Weight	22 lbs

Overall Electrical & Optical Characteristics

OVERALL ELECTRICAL/OPTICAL CHARACTERISTICS	-
UL Flammability	NFPA 262 Plenum
Operating Range	-0 to 75 Deg C
UL Voltage Rating	300

Detailed Specification & Technical Data

60975B

18/2 Solid Shielded FPLP

Fire Alarm Signaling

Related Products

RELATED PRODUCTS	-
Non Plenum Number	975
Aquaseal Direct Burial Number	AQ293