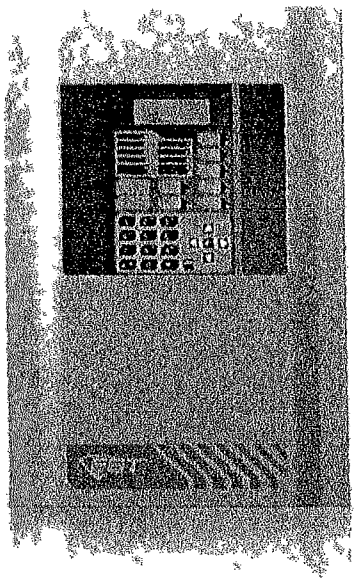
EST
Life Safety & Communications

iO64 Intelligent Life Safety System



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FDNY COA 6020
7165-1657 0244
UL ULC S3000

Overview

The Edwards EST iO64 intelligent life safety system offers the power of high-end intelligent processing in a configuration that delivers an uncomplicated solution for small to mid-sized applications With intelligent detection, electronic addressing, automatic device mapping, optional Ethernet® connectivity, and a full line of easily-configured option cards and modules, this flexible system offers advanced features that benefit building owners and contractors alike.

The iO64 provides one Class B analog device loop that supports up to 64 device addresses, and two Class B Notification Appliance Circuits (NACs). Optional Class A device wiring is available with the use of a module

This life safety system features an attractive design that fits with any decor Its distinctive doorfront offers a contemporary look that's available with red or silver finishes All LED indicators and its large backlit display remain easy to see at all times.

The iO64 supports a wide range of accessories and related equipment, including

- Signature Series intelligent modules, detectors, and bases
- R-Series remote annunciators
- option cards that expand system capacity and extend system capabilities
- fully integrated CO detection using Signature Series 2 detectors with or w/o audible signaling

Features

- Comes standard with one loop that supports up to 64 intelligent devices of any type and two Class B NACs
- Supports Signature Series modules and detectors
- Combines the Signature intelligent releasing module with Signature multisensor detectors for reliable suppression
- Form C for Alarm and Trouble, Form A for Supervisory
- Electronic addressing with automatic device mapping
- Optional Ethernet port for diagnostics, programming and variety of system reports
- Two programmable switches with LEDs and custom labeling
- Supports Genesis horn silence over two wires and UL 1971-compliant strobe synchronization
- Supports up to eight serial annunciators, (LCD, LED-only, and graphic interface).
- Can use existing wiring for most retrofit applications
- Upload/download remotely or locally
- Two-level maintenance alert reporting
- Pre-alarm and alarm verification by point
- Adjustable detector sensitivity
- 4 x 20 character backlit LCD display
- Optional earthquake hardening, seismic Importance Factor 1 5

Application

The iO64 life safety system is a powerful intelligent solution for small to mid-sized buildings. Advanced analog technology delivers the benefits of flexible system installation, while a clean and easy-to-operatate user interface makes panel operation and system maintenance quick and intuitive

The smart choice

Signature Series electronic addressing eliminates the tedium of setting dipswitches, and automatic device mapping ensures that each device resides on the system at its correct location Meanwhile, innovative programming features allow the system designer to customize powerful built-in features to precisely suit the needs of the building owner

Flexibility built right in

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

Perfect for retrofits

The iO64 is particularly well-suited to retrofit applications All connections are made over standard wiring – no shielded cable required This means that in most situations existing wiring can be used to upgrade a legacy control panel to iO-Series technology without the expense or disruption of rewiring the entire building

Signals with a difference

iO64 NACs are configurable to fully support the advanced signaling technology of Edwards Genesis and Enhanced Integrity notification appliances These devices offer precision synchronization of strobes to UL 1971 standards. For Genesis devices, enabling this feature allows connected horns to be silenced while strobes on the same two-wire circuit continue to flash until the panel is reset.

Clear-cut remote annunciation

Remote annunciation is a strong suit of the iO64. Up to eight annunciators can be installed on a single system. Compatible annunciators include a range of LED and LCD models that provide zone or point annunciation, as well as common control capabilities.

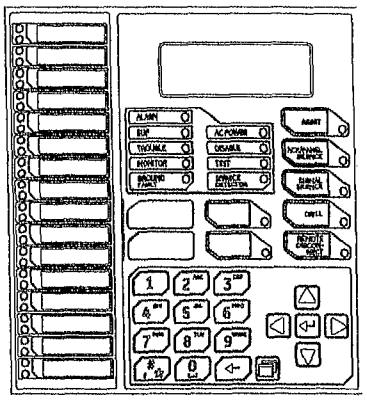
The iO64 also supports graphic annunciation with optional graphic annunicator interface modules Each interface provides common control, indicators, and LED drivers. Consult the Ordering Information section for details.

A complete line of accessories

The iO64 life safety system is supported by a complete line of intelligent detectors, modules and related equipment. Consult the Ordering Information section for details.

Operation

The front panel provides an easy-to-use operator's interface, as well as all the necessary controls for front panel programming. A large back-lit 80-character LCD displays system status, event details, and programming prompts. Large tactile control buttons are easy to see in low light conditions, and bright multi-color LEDs offer at-a-glance status indication.



Control buttons

Button	Description
System Reset	Initiates a system reset.
ACK/Panel Silence	Silences the panel and remote annunciators during an active trouble, supervisory, or alarm event and acknowledges new event activations
Signal Silence	*Alarm mode.* Silences active notification appliances Pressing Signal Silence a second time turns NACs back on.
Drill	Initiates a drill confirmation. Pressing drill a second time turns off the drill function.
Remote Disconnect	*Dialer* Disables or enables dialer *Dialer set to modem only* Disables or enables the common alarm relay.
Left arrow	*Display mode* Moves the cursor to the left *Menu mode.* Toggles between programming selections.
Right arrow	*Display mode* Moves the cursor to the right *Menu mode* Retrieves a programming option's sub menu and toggles between a programming option's selections.
Up arrow	*Display mode:* Advances to the previous event. *Menu mode.* Moves the cursor up
Down arrow	*Display mode:* Advances to the next event *Menu mode.* Moves the cursor down.
Enter	*Display mode* Displays selected event details *Menu mode.* Retrieves a programming option's sub menu or jumps to the *Save* function in the menu *Entry mode.* Enters the selected data into the system.
Cancel	*Display mode.* Exits the detailed information display *Menu mode* Exits the current menu level. *Entry mode* Clears the current entry.
Menu	Display mode Enters the menu mode Menu mode Exits menu mode
Space	Enters a space, such as a space between words.
Alphanumeric keypad	*Entry mode.* Pressing a button once enters the number on the button. Pressing the button twice enters the secondary value
Programmable buttons	These buttons can be programmed to control outputs, disable devices or unlatch system outputs.

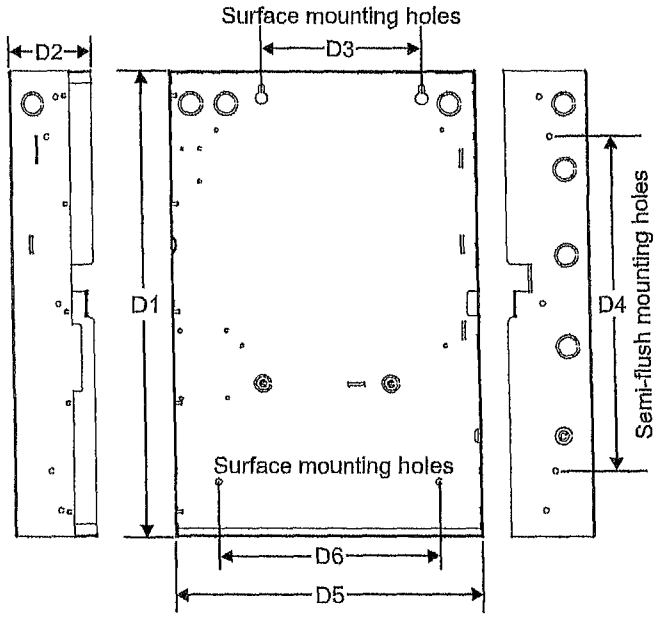
System LEDs

LED	Description
Alarm	Red LED Flashes when there is an active alarm event on any loop. On steady once acknowledged.
Trouble	Yellow LED Flashes when there's a fault with a monitored circuit or system component or when a circuit is disabled On steady once acknowledged.
Sup	Yellow LED. Flashes when there is an active supervisory event on any loop On steady once acknowledged.
Ac Power	Green LED On when the panel has AC power.
Disable	Yellow LED. Double-flashes when there is a disabled circuit, alarm relay, or remote annunciator.
Ground Fault	Yellow LED On steady during an active ground fault.
Test	Yellow LED Flashes when performing an audible walk test. Steady indicates a silent test.
Monitor	Yellow LED Flashes when there is an active monitor event on any loop. On steady once acknowledged.
Service Detector	Yellow LED. Indicates that detector needs servicing
Signal Silence	Yellow LED On steady indicates that NAC circuits are turned off but the panel is still in alarm.
Remote Disconnect	Yellow LED On steady indicates that the dialer is disabled or that the alarm relay is enabled or disabled when the dialer is set to modem only
Drill	Yellow LED. Indicates that the panel is in drill.
Reset	Yellow LED. Indicates that the panel is resetting
Panel Silence	Yellow LED. Indicates that the panel has been silenced during an active trouble, supervisory, or alarm event and indicates that new event activations have been acknowledged.
User Keys	Yellow LED. Indicates the programmed key function is active.

Panel Operation Options

Language	English or French
Marketplace	U S. or Canada
AC fail delay	*Off* Off-premise notification of an AC power failure is immediate. *1 to 15 hours* Delays the off-premise notification of an AC power failure by the time period selected.
Zone resound	*On* NACs resound each time a device in the zone goes into alarm even if they were silenced Off Inhibits the NACs from turning on again (after they were silenced) when a second device in the zone goes into alarm
Reset inhibit after NACs turn on	*Off* Panel reset is operational immediately *1 minute* Panel reset is inhibited for one minute
Auto signal silence	*Off* Allows immediate silencing of signals from an off-normal condition using the Signal Silence button *5 to 30 minutes* Delays the silencing of signals from an off-normal condition by disabling the Signal Silence button for the time period selected
Day start	Start time for daytime sensitivity
Night start	Start time for nighttime sensitivity
Date	*U S* MM/DD/YYYY, *Canada* DD/MM/YYYY
Sounder Base	Six configuration settings
Mapping	*Disabled* Device mapping is not available *Enabled* Device mapping is available
LCD banner	Banner text for line one and line two Each line is capable of up to 20 characters.
Event notification	*Zone* When a device is a member of a zone, only the zone information is sent to the LCD display, LEDs, printer, and dialer. *Zone/device.* Zone information is sent to the LCD display and LEDs. Device information is sent to the printer and dialer *Device* Only device information is reported

Dimensions



Panel dimensions, in (cm)

Model	D1*	D2	D3	D4	D5*	D6
iO64	21.50 (54.6)	3.85 (9.8)	7.5 (19.0)	15 5 (39.4)	14.25 (36.2)	10.25 (26.0)

** Add 1-1/2 in (3 81 cm) to D1 and D5 dimensions for trim kit*

Programming

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

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

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

Available system reports include

- Correlation groups
- Device maintenance
- Internal status
- System status
- Dialer
- Device details
- History
- System configuration
- Walk test
- CO runtime

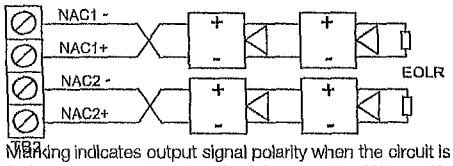
Wiring & Configuration

Notification appliance circuits (TB2)

The iO64 comes equipped with two notification appliance circuits. Each circuit can be individually configured for continuous, temporal, synchronized, latching, and coded output.

Circuit Specifications	
Circuit Type	2 Class B, Class A optional when Class A card is installed Each circuit is 2 5 amps
Voltage	24 VFWR
Current	3.75A total (115/230 60hz) 3.0A total (230v 50hz) 2.5 A max per circuit
Impedance	26 Ω total, 0.35 µF max
EOLR	15 K Ω, ½ W

Class B wiring



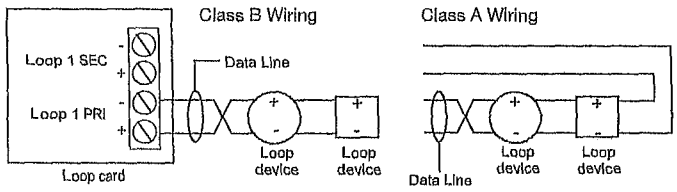
Marking indicates output signal polarity when the circuit is active Polarity reverses when the circuit is not active Wire notification appliances accordingly Notification appliance polarity shown in active state

Signature Device loop

The system provides one device loop circuit that can be used with any mix of Signature Series detectors and modules. The loop circuit is supervised for opens, shorts, and grounds.

The Signature Loop Controller uses broadcast polling and advanced communications formats to regularly check the entire device circuit for anomalies If a change of state is detected at the circuit level, the Loop Controller then uses a direct address search to find the reporting device. This two-staged technique ensures that only new information is transmitted, thus allowing for a reduced baud rate while still achieving nearly instant device reporting.

Circuit Specifications	
Device loops	1 loop Class B, Class A optional when Class A card is installed. Supporting up to 64 device addresses.
Communication line voltage	Maximum 20 V peak-to-peak
Circuit current	0 5 A max
Circuit impedance	66Ω total, 0.7 µF, max
Isolators	64 maximum



Alarm, trouble, and supervisory relay (TB3)

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

Relay specifications

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

Relay circuits can only be connected to power-limited sources

Auxiliary & Smoke power outputs (TB3)

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

Note For a complete list of devices that can be connected to this circuit, refer to the iO Series compatibility list (p/n 3101064).

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

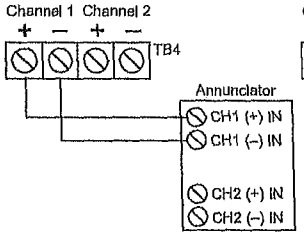
Note Any current above 0,5 amp connected to both Aux 1 and 2 will reduce the total available NAC power by that amount

Annunciator loop (TB4)

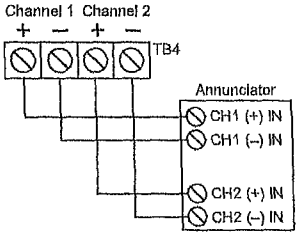
The control panel provides a connection for up to eight serially driven and supervised remote annunciators

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

Class B



Class A



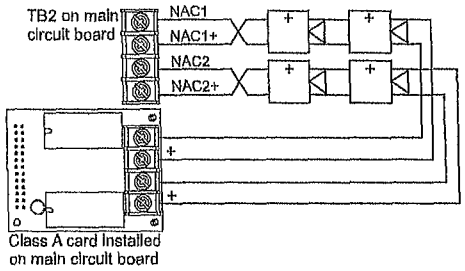
Option Cards

iO-Series panels are supported by a complete line of modules and related equipment that enhance performance and extend system capabilities. Option cards are easy to install and set up. They simply plug directly into the control panel main circuit board or are connected to it with a ribbon cable After installation, terminals remain easily accessible for quick connection of field wiring. The cabinet provides ample room for wire routing, keeping wiring neat and easy to service at all times.

SA-CLA Class A Module

The SA-CLA card provides Class A capability for NAC, loop, and annunciator wiring. Its terminal block provides the wiring connection for NAC return wiring. The card is required for loop and annunciator Class A wiring even though this wiring does not return to the SA-CLA card The SA-CLA is compatible with iO64 control panels only. iO500 panels are Class A ready. The SA-CLA is installed directly to the control panel circuit board using its plastic standoffs and plug connection.

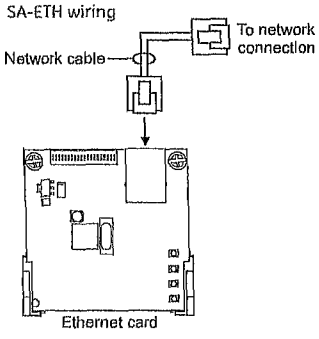
SA-CLA wiring



SA-CLA specifications	
Operating voltage	24 VFWR
Operating current	2.5 A/circuit, 3.75A total (115/230 60hz) 3.0A total (230v 50hz)
Circuit impedance	26 Ω, 0.35 µF, max
Terminal rating	12 to18 AWG (0.75 to 2 5 sq mm)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

SA-ETH Ethernet Interface Card

SA-ETH wiring



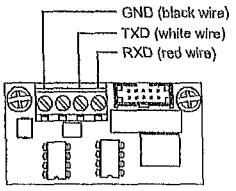
The SA-ETH card provides a standard 10/100 Base T Ethernet network connection for connecting to an intranet, a local network, or the Internet The card can be used to download configuration programming from the iO-CU to the panel over the network.

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

SA-ETH specifications	
Ethernet	10/100 Base T
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

SA-232 RS-232 interface

SA-232 wiring



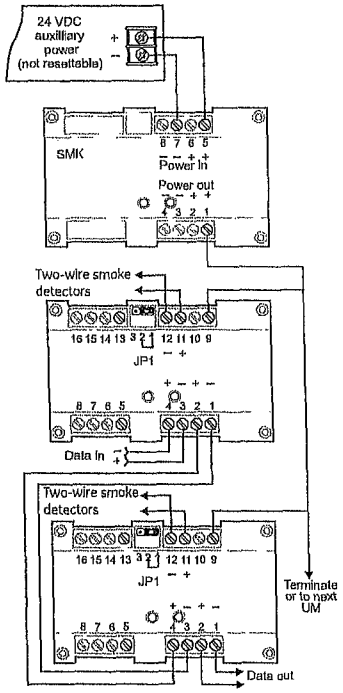
The SA-232 card provides an RS-232 interface with IO-Series panels. It can be used for connecting a printer to the control panel to print system events. The card also can be used for connecting a computer to download a configuration program from the iO-CU to the control panel

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

SA-232 specifications	
Operating voltage	Standard EIA-232
Terminal rating	12 to18 AWG (0.75 to 2.5 sq mm)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

SMK Smoke Power Converter

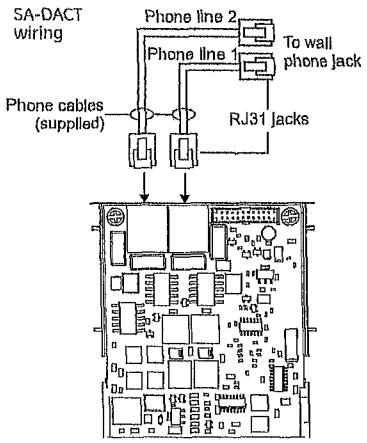
The SMK Smoke Power Converter Module provides a regulated power source for two-wire smoke circuits connected to a Signature data circuit. The SMK monitors the operating power from the power supply When power begins to degrade, the SMK provides the necessary operating voltage to the two-wire smoke detection circuits.



SMK specifications	
Input voltage	21.9 to 28.3 VDC (not resettable)
Output voltage	24 VDC nom. at 200 mA, max., special applications
Ground fault impedance	10 k ohm
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)
Storage temperature	–4 to 140°F (–20 to 60°C)
Compatible electrical boxes	North American 4 inch square x 2-1/2 in (64 mm) deep 2 gang box or Standard 4 in. square box 1-1/2 In. (38 mm) deep
Wire size	14, 16, or 18 AWG wire (1.5, 1.0, or 0 75 sq mm) (Sizes 16 and 18 AWG are preferred)

SA-DACT Dialer

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



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

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

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

SA-DACT specifications

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

Compatible DACRs

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

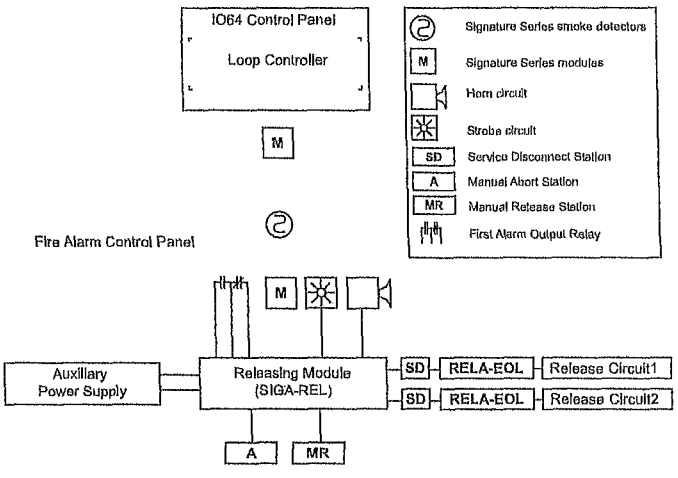
SIGA-REL Releasing Module

The SIGA-REL is an analog addressable module that communicates directly with the fire alarm panel Signature loop controller. The SIGA-REL controls sprinkler, pre-action and deluge systems, and may also be used to release extinguishing agents such as CO_2, Halon, or foam. The module is easily configured in the field and offers a wide range of options that ensure dependable service, while preventing the unnecessary release of extinguishing agent.

SIGA-REL specifications

Power riser	Input voltage	24 Vdc (power limited)
	Supervisory current	25 mA, max
	Riser input current	4 amps maximum
	Alarm	170 mA min , 4 A max.
Release circuits	Output rating	2 A @ 24 Vdc (per circuit)
	Valves per circuit	4 valves, max
	Max. supervisory current	0 4 mA (short circuit)
	Nominal supervisory current	0.18 mA
	Supervisory voltage	26 Vdc, max. (open circuit)
	End of line device	47k Ohm EOL
Pre-release alarm circuits	Output rating	2 A @ 24 Vdc (for each circuit)
	Max. supervisory current	0.4 mA (short circuit)
	Nominal supervisory current	0 18 mA
	Supervisory voltage	26 Vdc, max. (open circuit)
	End of line device	47k Ohm resistor
Manual release input circuit	Max. supervisory current	0.4 mA (short circuit)
	Nominal supervisory current	0.18 mA
	Supervisory voltage	26 Vdc, max. (open circuit)
	End of line device	47k Ohm resistor
	Circuit type	Class B N.O latching
	Circuit capacitance	0.1 µF, max
Abort circuit	Max. supervisory current	0.4 mA (short circuit)
	Nominal supervisory current	0.18 mA
	Supervisory voltage	26 Vdc, max. (open circuit)
	End of line device	47k Ohm resistor
	Circuit type	Class B N O non- latching
	Circuit capacitance	0.1 µF, max
First alarm output relay	Contact rating	3 A @ 24 Vdc (0.6 power factor) Form C
Signature Data line	Operating voltage	5.2 to 19.95 Vdc
	Supervisory current	1000 µA
	Alarm current	1000 µA

Note: Output circuits are power-limited when the riser circuit is power-limited



For detailed specification and ordering information on the SIGA-REL, refer to Data Sheet 85001-0531 -- Releasing Module

Specifications

Device loops	1 loop Class B, Class A optional, supporting up to 64 device addresses
Notification appliance circuits	2 Class B, Class A optional, 2.5 amps each
Power supply	3.75 A FWR total at 120/230 VAC 60 Hz 3 0 A FWR total at 230 VAC 50 Hz 0 5 amps aux power
NAC Operating voltage	24 VDC. NAC minimum voltage 19.5 VDC @ 20.4 V battery voltage
Loop operating voltage	20 V peak-to-peak
Primary power	120 VAC, 60 Hz, 230 VAC 50-60 Hz
Aux Power 1 (Continuous circuit)	24 VDC nominal at 500 mA A SMK module is required when using the SIGA-UM module to support two-wire smoke detectors.
Aux Power 2 (Resettable circuit)	24 VDC nominal at 500 mA.
Auxiliary output	19 to 25 7 VDC
Base panel current draw	Standby· 155 mA Alarm 204 mA
Battery placement	iO64 cabinets accommodate up to 10 A/H batteries. Use an external cabinet for larger battery sizes.
Batteries	Batteries must be sealed lead acid type only Maximum charging capacity = 26 Ah
Loop circuit	Maximum loop resistance 66 Ω Maximum loop capacitance 0 7 µF. Style 4, 6, and 7 wiring, 64 isolators maximum
Loop circuit max detector standby current	1.5 mA (see the UL and ULC compatibility list for your panel for the maximum quantity of detectors per circuit)
Compatibility ID	100
Alarm contact	Form C 24 VDC @ 1 A (resistive load)
Trouble contact	Form C 24 VDC @ 1 A (resistive load)
Supervisory contact	Form A 24 VDC @ 1 A (resistive load)
Environmental	Temperature 0 to 49°C (32 to 120°F). Humidity 0 to 93% RH, noncondensing
Terminal rating	All terminals rated for 12 to 18 AWG (0 75 to 2.5 sq mm)
Serial communications	Voltage 2.55 V Current 30 mA max
Remote annunciator	8 drops max, RS-485 Class B, Class A
Input zones	16 max
Agency Listing	UL864, UL2017, CSFM, ULC and NYFD COE#6020

Ordering Information

Part	Description
iO64 Intelligent Single Loop Analog Systems	
iO64G	1 Loop System, 64 point capacity, 2 Class B NACs, gray door, surface mount enclosure, 115 Vac, English.
iO64GD	1 Loop System, 64 point capacity, 2 Class B NACs, 2 Line Dialer, gray door, surface mount enclosure, 115 Vac, English
iO64R	1 Loop System, 64 point capacity, 2 Class B NACs Red Door, surface mount enclosure, 115 Vac, English
iO64RD	1 Loop System, 64 point capacity, 2 Class B NACs, 2 Line Dialer, Red Door, surface mount enclosure, 115 Vac, English.
iO64G-2 (Note 2)	1 Loop System, 64 point capacity, 2 Class B NACs, gray door, surface mount enclosure, 230 Vac, English.
iO64R-2 (Note 2)	1 Loop System, 64 point capacity, 2 Class B NACs, Red door, surface mount enclosure, 230 Vacr, English.
iO64G-SP (Note 2)	1 Loop System, 64 point capacity, 2 NACs, gray door. surface mount enclosure, 115 Vac, Spanish.
iO64G-2-SP (Note 2)	1 Loop System, 64 point capacity, 2 NACs, gray door. surface mount enclosure, 230 Vac, Spanish.
iO64G-PG (Note 2)	1 Loop System, 64 point capacity, 2 NACs, gray door surface mount enclosure, 115 Vac, Portuguese.
iO64G-2-PG (Note 2)	1 Loop System, 64 point capacity, 2 NACs, gray door. surface mount enclosure, 230 Vac, Portuguese
iO64GL (Note 1)	1 Loop System, 64 point capacity, 2 Class B NACs, 16-zone LED display, gray door, surface mount enclosure, 115 Vac, English.
iO64GL-F (Note 1)	1 Loop System, 64 point capacity, 2 Class B NACs, 16-zone LED display, gray door, surface mount enclosure, 115 Vac, French.
SA-TRIM1	Flush mount trim, black

Replacement Electronics	
64elec-iO	Replacement electronics kit, complete motherboard and user interface, English
64elec-iO-SP (Note 2)	Replacement electronics kit, complete motherboard and user interface, Spanish
64elec-iO-PG (Note 2)	Replacement electronics kit, complete motherboard and user interface, Portuguese
64elec-iO-FR (Note 1)	Replacement electronics kit, complete motherboard and user interface, French

Option Cards	
SA-DACT	Dual Line Dialer/Modem, supports 4/2 and Contact ID, mounts in cabinet on base plate.
SA-232	Serial Port (RS-232), for connection to printers & computers, mounts in cabinet to base plate
SA-ETH	Ethernet Port, Slave, mounts in cabinet on base plate
SA-CLA	Class A adapter module. Provides Class A capacity on NACs Mounts in cabinet on main board
D16L-iO-1	LED Annunciator module, 16 X 2-LED zones (4 max programmable for sup) Mounts in cabinet to left of LCD display for zones 1-16.
D8RY-iO-1 (Note 1)	LED Annunciator module, 16 X 2-LED zones (4 alarm only, 8 supervisory only, 4 alarm or supervisory) Mounts in cabinet to left of LCD display for zones 1-16

Remote Annunciators (refer to Data Sheet 85005-0128)	
LCD Remote Annunciators (mount to standard 4" square box)	
RLCD	Remote Annunciator, 4X20 LCD & Common Indicators for displaying system status White housing
RLCD-R	Remote Annunciator, 4X20 LCD & Common Indicators for displaying system status. Red housing
RLCD-C	Remote Annunciator, 4X20 LCD. Common controls and status indicators White housing
RLCD-CR	Remote Annunciator, 4X20 LCD. Common controls and status indicators. Red housing.
RLCDF (Note 1)	Remote Annunciator, 4X20 LCD & Common Indicators for displaying system status White housing, French
RLCD-CF (Note 1)	Remote Annunciator, 4X20 LCD. Common controls and status Indicators White housing, French
RLCD-SP (Note 2)	Remote Annunciator, 4X20 LCD. Common system status indicators. White housing. Spanish
RLCD-PG (Note 2)	Remote Annunciator, 4X20 LCD Common system status indicators. White housing. Portuguese.
RLCD-C-SP (Note 2)	Remote Annunciator, 4X20 LCD. Common controls and status indicators White housing Spanish
RLCD-C-PG (Note 2)	Remote Annunciator, 4X20 LCD. Common controls and status Indicators White housing. Portuguese
GCI	Graphic Annunciator Driver Master for R-Series annunciators. Outputs for 32 LEDs, connection to common control switches and LEDs
GCIX	Graphic Annunciator Driver Expander for use with GCI Masters. Outputs for 48 LEDs, 24 switch inputs

LED Remote Annunciators & Expander (mount to standard 4" square electrical box)

RLED-C	Remote Annunciator. Common controls and status indicators with 16 X 2-LED groups for zone display. White housing
RLED-CR	Remote Annunciator Common controls and status indicators with 16 X 2-LED groups for zone display. Red housing.
RLED-CF (Note 1)	Remote Annunciator Common controls and status indicators with 16 X 2-LED groups for zone display. White housing, French
RLED-C-SP (Note 2)	Remote Annunciator, common controls and status indicators. 16 groups w/2 LEDs each for zone display White housing Spanish.
RLED-C-PG (Note 2)	Remote Annunciator, common controls and status indicators. 16 groups w/2 LEDs each for zone display White housing. Portuguese
RLED24	Remote Annunciator Zone expander. 24 X 2-LED groups with custom label areas for display of alarm and trouble. White housing
RLED24R	Remote Annunciator Zone expander 24 X 2-LED groups with custom label areas for display of alarm and trouble Red housing.

Remote Annunciator Cabinets & Accessories

RA-ENC1	Remote Annunciator Enclosure, key locked with plexiglass window for one RLCD(C) or RLED(C)
RA-ENC2	Remote Annunciator Enclosure, key locked with plexiglass window with space for 2 of either RLCDx, RLEDx or RLED24
RA-ENC3	Remote Annunciator Enclosure, key locked with plexiglass window with space for 3 of either RLCDx, RLEDx or RLED24.
RKEY	Keyswitch, single gang, provides key operated enable or disable of common controls on RLCD or RLED units
LSRA-SB	Surface Mount Box - for R Series single units.

Programming Tools

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

Note 1— Available in Canada only. **Note 2**— Available in International markets.

Analog Addressable Devices & Accessories

Model	Description	Ship wt.
Intelligent Detectors & Bases		
SIGA2-PHCOS	Intelligent Multisensor Photoelectric/Heat Detector with carbon monoxide sensor	0.4 (0.16)
SIGA2-PHS	Intelligent Multisensor Photoelectric/Heat Detector	
SIGA2-PHSB	Intelligent 4D Multisensor Detector (Black) - UL/ULC Listed	
SIGA2-PCOS	Intelligent Photoelectric Detector with carbon monoxide sensor	
SIGA2-PS	Intelligent Photoelectric Detector	
SIGA2-HRS	Intelligent combination fixed temperature/ rate-of-rise heat detector	
SIGA2-HFS	Intelligent fixed temperature heat detector	
SIGA2-HCOS	Intelligent fixed temperature heat detector with CO sensor	
SIGA2-COS	Intelligent Carbon Monoxide Detector	
SIGA-HFS	Intelligent Fixed Temperature Heat Detector - UL/ULC Listed	0.5 (0.23)
SIGA-HRS	Intelligent Fixed Temperature/Rate-of-Rise Heat Detector - UL/ULC Listed	
SIGA-IPHS	Intelligent 4D Multisensor Detector - UL/ULC Listed	
SIGA-IPHSB	Intelligent 4D Multisensor Detector (Black) - UL/ULC Listed	
SIGA-PHS	Intelligent 3D Multisensor Detector - UL/ULC Listed	
SIGA-PS	Intelligent Photoelectric Detector - UL/ULC Listed	
SIGA-SD	Intelligent SuperDuct Detector	2.4 (1.1)
SIGA-SB	Detector Mounting Base	0.2 (0.09)
SIGA-SB4	4-inch Detector Mounting Base c/w SIGA-TS Trim Skirt	
SIGA-RB	Detector Mounting Base w/Relay	
SIGA-RB4	4-inch Detector Mounting Base /w Relay c/w SIGA-TS Trim Skirt	
SIGA-IB	Detector Mounting Base w/Fault Isolator	
SIGA-IB4	4-inch Detector Mounting Base w/ Fault Isolator c/w SIGA-TS Trim Skirt	
SIGA-LED	Remote Alarm LED	

Model	Description	Ship wt.
SIGA-AB4G	Audible (Sounder) Base	0.3 (0.15)
SIGA-TS4	Trim Skirt (supplied with 4-inch bases)	0.1 (.04)
SIGA-AB4GT	Audible (Sounder) Base for CO and Fire Detectors	0.3 (0.15)
SIGA-TCDR	Temporal Pattern Generator	0.3 (0.15)
Modules		
SIGA-CC1	Single Input Signal Module (Standard Mount)	0.5 (0.23)
SIGA-MCC1	Single Input Signal Module (UIO Mount)	0.18 (0.08)
SIGA-CC1S	Synchronization Output Module (Standard Mount)	0.5 (0.23)
SIGA-MCC1S	Synchronization Output Module (UIO Mount)	0.18 (0.08)
SIGA-CC2	Dual Input Signal Module (Standard Mount)	0.5 (0.23)
SIGA-MCC2	Dual Input Signal Module (UIO Mount)	0.18 (0.08)
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)
SIGA-RM1	Riser Monitor Module (Standard Mount)	0.5 (0.23)
SIGA-MRM1	Riser Monitor Module (Plug-in)	0.18 (0.08)
SIGA-IO	Input/Output Module (Standard Mount)	0.34 (0.15)
SIGA-MIO	Input/Output Module (Plug-in)	0.22 (0.10)
SIGA-MAB	Universal Class A/B Module (Plug-in)	0.18 (0.08)
SIGA-CT1	Single Input Module	0.4 (0.15)
SIGA-CT2	Dual Input Module	0.4 (0.15)
SIGA-MCT2	Dual Input Plug-in (UIO) Module	0.1 (0.05)
SIGA-IM	Fault Isolator Module	5 (.23)
SIGA-MM1	Monitor Module	0.4 (.15)
SIGA-WTM	Waterflow/Tamper Module	0.4 (.15)
SMK	Smoke Power Converter Module	0.4 (0.15)
SIGA-REL	Analog addressable releasing module	0.52 (0.23)
276A-REL	Manual releasing station (single-action) English markings, black text on yellow polycarbonate body	1.0 (0.45)

Model	Description	Ship wt.
278A-REL	Manual releasing station (double-action) English markings, black text on yellow polycarbonate body.	1.0 (0.45)
RELA-ABT	Manual Abort Station. English markings, black text on yellow polycarbonate body.	1.0 (0.45)
RELA-SRV-1	Service Disconnect Switch One n/c contact and one n/o contact. English markings, white text on blue polycarbonate body.	1.0 (0.45)
RELA-EOL	Polarized end-of-line relay. English markings on stainless steel cover.	0.2 (0.1)
SIGA-UIO2R	Universal Module Board w/Riser Inputs - Two Module Positions	0.32 (0.15)
SIGA-UIO6R	Universal Module Board w/Riser Inputs - Six Module Positions	0 62 (0 28)
SIGA-UIO6	Universal Module Board - Six Module Positions	0 56 (0.25)
Accessories		
GCI	Graphic Annunciator Driver, provides outputs for common indicators and 32 alarm/supv zones as well as inputs for common switches. Provided with a snap track for mounting in custom graphic enclosures.	
CTM	City Tie Module Provides connection to a local energy fire alarm box.	0.6 (0.3)
RPM	Reverse Polarity Module	3 0 (1.36)
BC-1	Battery Cabinet. 14.0" x 18 25" x 7.25" Holds 2 12V24A batteries.	50.0 (22.7)
BC-1R	Battery Cabinet - Red 14.0" x 18.25" x 7.25". Holds 2 12V24A batteries.	50.0 (22 7)
MFC-A	Multifunction Fire Cabinet, 8" x 14" x 3.5" - RED.	20.6 (9.4)
PT-1S	System Printer - Desktop style	36.6 (16.6)
BC-1EQ	Seismic hardening Kit for iO series panels. Includes battery hardening for BC-1 enclosure and components to harden panel internal components. See note	

Note:
For earthquake anchorage, including detailed mounting weights and center of gravity detail, please refer to Seismic Application Guide 3101676-EN. Approval of panel anchorage to site structure may require local AHJ, structural, or civil engineer review.

Standby batteries must be mounted externally from fire panel in separately mounted BC-1 enclosure. Order BC-1 aand BC-1EQ separately.

Contact us...

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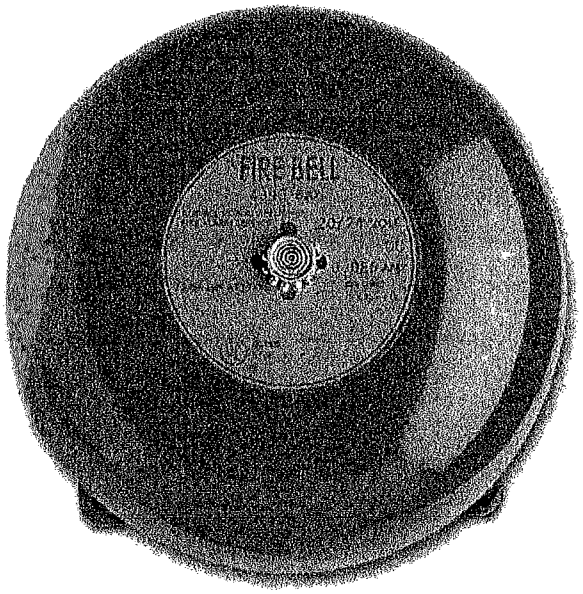
EST
Life Safety & Communications

Fire Alarm Bells



FM APPROVED
MEA
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S218
S2202
7136-1657
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Overview

Edwards Fire Alarm Bells are specially designed for fire alarm applications. The gongs are made of selected alloy steel to give the loud, resonant tones necessary in fire alarm systems.

Two gong sizes are available to overcome different ambient noise level.

The Fire Alarm Bells are of the underdome type with heavy duty mechanisms Each bell is supplied with a mounting plate that fits any standard single-gang opening (see Installation Data). For weather-proof application Edwards offers an optional surface weatherproof back box. Refer to the Specification chart for applicability and cata-log number of the weatherproof back box for the respective bell

Finish — Standard gong and housing furnished gray with red label. Optional red finish available. **Add Suffix "R" to Catalog Number.**

FM — 438 and 439 Series Bells shown below are FM approved.

Standard Features

- Vibrating and single stroke
- 6 inch (150mm), 8 inch (200mm), 10 inch (250mm) sizes
- Red or gray finish
- Rugged compact mechanism
- Heavy duty cast housing
- Low power drain
- Wide voltage selection
- Indoor or weatherproof

Contact us...

Email: edwards.fire@fs.utc.com
Web: www.est-fire.com

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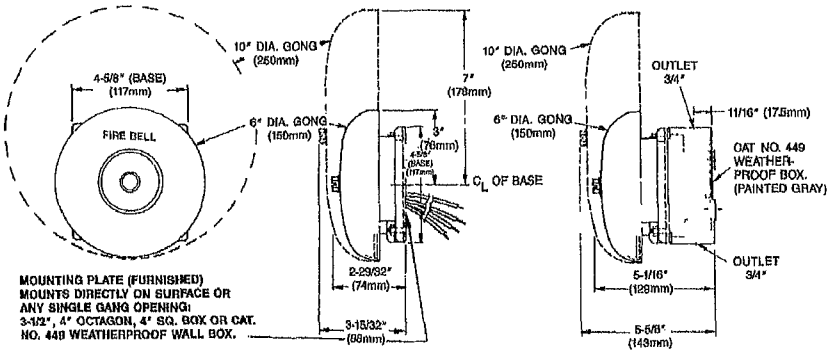
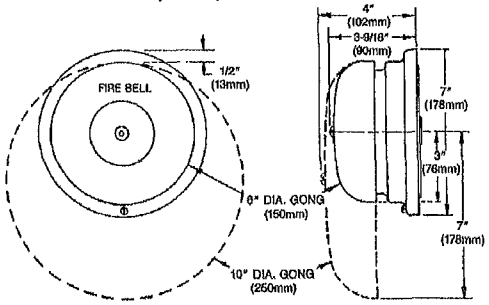
Installation

Cat. Nos. 438D and 439D 6" and 10" Bells



Cat. Nos. 323D and 10" (254mm) Bells



WARNING: These devices will not operate without electrical power. As fires frequently cause power interruptions, we suggest you discuss further safeguards with your local fire protection specialist.

Edwards recommends that these Fire Alarm Bells always be installed in accordance with the latest recognized editions of national and local codes.

Specifications & Ordering Information

Cat. No.	DB @ 10 ft	Description	Volts	Amps	Weatherproof Box
323D-10AW-(R)	79	10" (250mm) Single Stroke, Diode	20-24 Vdc	0.33	N/A
438D-6N5(R)	76	6" (150mm) Vibrating, Diode	120 Vac	0.034	449
438D-10N5(R)	88	10" (250mm) Vibrating, Diode	120 Vac	0.034	449
439D-6AW(R)	83	6" (150mm) Vibrating, Diode	20-24 Vdc	0.085	449
439D-10AW(R)	86	10" (250mm) Vibrating, Diode	20-24 Vdc	0 085	449
438D-8N5	86	8" (200mm) Vibrating, Diode	120 Vac	0.034	449
439D-8AW(R)	84	8" (200mm) Vibrating, Diode	20-24 Vdc	0.085	449
439D-6AWC	83	6" (150mm) Vibrating, Diode, ULC listed	20-24 Vdc	0 085	449
439D-10AWC	86	10" (250mm) Vibrating, Diode, ULC listed	20-24 Vdc	0.085	449

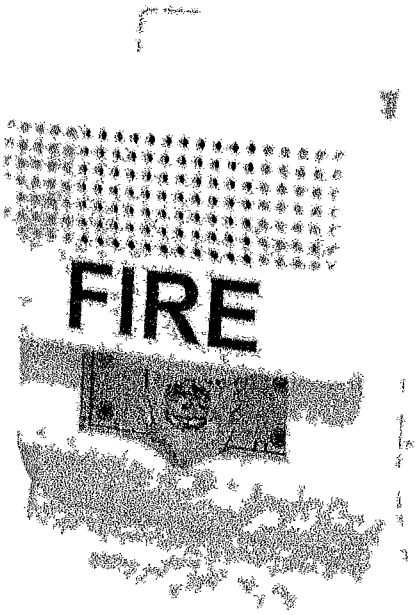
Mounting Accessories

449	Weatherpoof surface mount box, grey. C/w gasket

EST
Life Safety & Communications

Wall Model LED Strobes and Horns

Genesis GL Series



Overview

Genesis GL Series horns and LED strobes break the current draw barrier with innovative technology that not only makes them inexpensive to install and operate, but also allows them to maintain the sleek low-profile design that has made Genesis appliances a favorite among facility owners, architects, and designers the world over.

About the size of a deck of playing cards, Genesis GL strobes do not require bulky specular reflectors to maximize output. Instead, high efficiency optics, combined with patented breakthrough electronics, deliver highly-controlled and uniform light distribution in exchange for extremely low current requirements.

So low, in fact, that these devices will save money by reducing overhead — requiring fewer power supplies and often smaller wire gauge. This makes them ideal for green energy projects, or any installation that calls for high efficiency and clean modern design appeal.

Serviceability is another area where GL Series appliances really shine From installation to maintenance; from service to system expansion, these devices are loaded with features for installers and building owners alike Field configurable light and sound output levels provide the flexibility modern life safety projects demand

GL Series strobes also benefit from the patented Genesis control and synchronization protocol when connected to compatible NAC circuits This powerful Genesis feature keeps multiple strobes fully synchronized to prevailing standards without the need for external modules or wiring.

Standard Features

- **Low, low, low current draw strobe**
  - Breakthrough LED technology
  - High efficiency optics
  - Ideal for Green Energy projects
- **Unique low-profile design**
  - Compact design . single gang mounting
  - Ultra-slim... protrudes about one inch from mounting surface
  - Attractive appearance . no visible mounting screws
- **Field-configurable visible and audible settings**
  - Selectable 15, 30, 75, or 110 cd strobe output
  - Selectable high (default) or low dB horn output
  - Selectable temporal (default) or steady horn output
- **Easy to install**
  - Fits standard 1-gang electrical boxes – no trim plate needed
  - Optional trim plate for 4-inch square boxes
  - Slide switches for field configuration
  - 12 to 18 AWG in-out screw terminals for quick wiring
- **High performance standards for demanding applications**
  - Exceed UL 1971 synch standards – no modules needed
  - RoHS (Restriction of Hazardous Substances) compliant
  - UL/ULC/CSFM/FCC approved

Application

Strobes

Genesis GL 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*.

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

---

Note: Due to differences in technology and light output characteristics, **Genesis GL Series strobe lights cannot be installed in the same field of view as a Genesis Xenon-based strobe light appliance.**

Horns

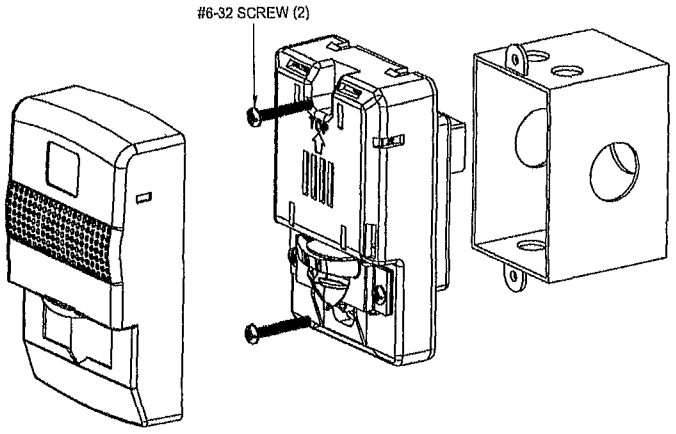
Genesis horn output reaches as high as 95 dBA-fast and features a unique multiple frequency tone that results in excellent sound penetration and an unmistakable warning of danger. Horns may be configured for either coded or noncoded notification appliance circuits. They can also be set for low dBA-fast output. This setting reduces horn output by about 5 dBA-fast. Horn-only models may be ceiling-mounted or wall-mounted

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

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

Installation

Genesis horns and strobes mount to any standard one-gang surface or flush electrical box. Matching optional trim plates are used to cover oversized openings and can accommodate one-gang or four-inch square boxes Optional color matched single-gang surface boxes are available

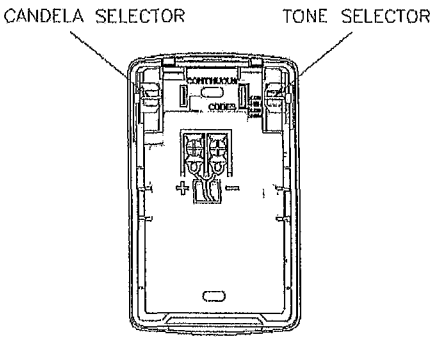


All Genesis devices come with mounting screws for easy installation Two tabs at the top of the device unlock the cover to reveal the mounting holes The shallow depth of Genesis devices leaves ample room behind them for extra wiring Once installed with the cover in place, no mounting screws are visible

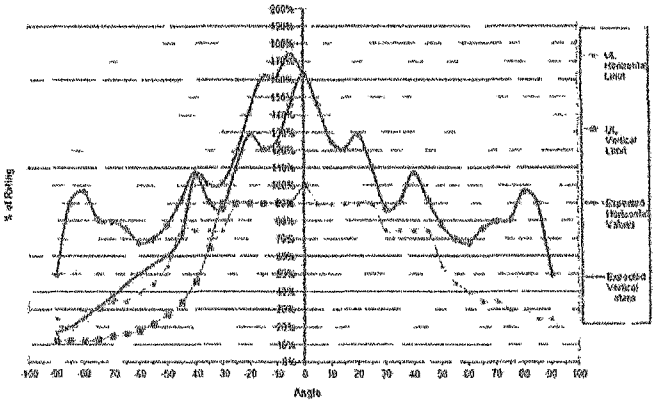
Field Configuration

Temporal horn and horn-strobe models are factory set to sound in a three-pulse temporal pattern Units may be configured for steady (nonpulsed) output that can be coded (turned on and off) at precise intervals by certain Edwards control panels and control modules Genesis strobes and horn-strobes may be set for 15, 30, 75, or 110 candela output The output setting is changed by simply removing the cover and two mounting screws and sliding the switch to the desired setting. The setting remains visible through a small window on the side of the device after the cover is closed

Horns and horn-strobes are factory set for high dB output Low dB output may be selected by sliding the tone selector switch. This reduces the output by about 5 dBA-fast.



Light Output



Sound Output

Horn and Horn-Strobe Sound Output, Reverberant dBA per UL 464

		Horns & Horn-Strobes at 24 V		
Output mode	dB Setting	16.0 V	24.0 V	33.0 V
Continuous	High	80	83	86
Horn	Low	78	81	81
Temporal	High	76	79	81
Horn	Low	75	77	77

Horn and Horn-Strobe Sound Output, Anechoic dBA per CAN/ULC-S525-07

		Horns & Horn-Strobes at 24 V		
Output mode	dB Setting	16.0 V	24.0 V	33.0 V
Continuous	High	91	94	97
Horn	Low	86	90	92
Temporal	High	91	95	96
Horn	Low	86	90	91

ULC Directional Characteristics

Axis	dBA	Angle
Horizontal	- 3 dBA	35 degrees left and right
	- 6 dBA	90 degrees left and right
Vertical	- 3 dBA	45 degrees down; 30 degrees up
	- 6 dBA	90 degrees up and down

Current Draw (mA) at 16 volts

Horn/strobe

		15 cd	30 cd	75 cd	110 cd
DC	Temporal low	38	42	122	209
	Temporal high	40	46	125	219
	Continuous low	42	44	128	214
	Continuous high	47	55	131	209
FWR	Temporal low	58	70	151	261
	Temporal high	66	76	152	263
	Continuous low	68	77	156	267
	Continuous high	77	87	161	270

Strobe Only

	15 cd	30 cd	75 cd	110 cd
DC	30	40	115	200
FWR	44	60	153	266

Horn Only

	Temporal low	Temporal high	Continuous low	Continuous high
DC	22	30	26	37
FWR	50	49	50	59

Notes: Unfiltered Full Wave Rectified Ratings

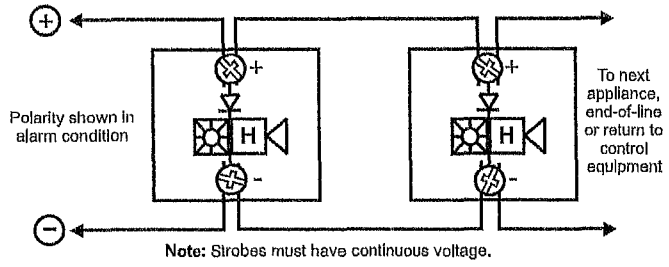
Candela and Horn Settings will determine the current draw of the device

Genesis GL appliances were tested to the regulated voltage limits of 16 0 to 33 0 V Do not apply voltage outside of this range

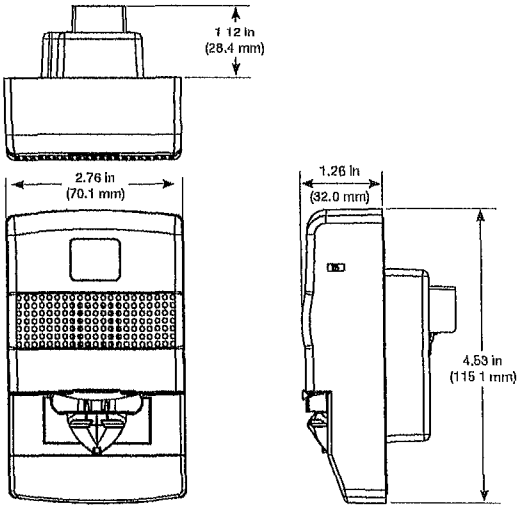
Strobes are not designed to be used on coded systems in which the applied voltage is cycled on and off

Wiring

Field wiring terminals accommodate 12 to 18 AWG (0.75 to 2.5 mm²) wiring. Horns, strobes, and combination horn-strobes are interconnected with a single pair of wires as shown below.



Dimensions



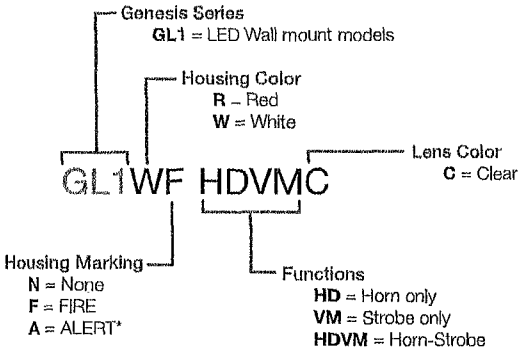
Specifications

Material	Red or white textured UV stabilized, colored impregnated engineered plastic. Exceeds 94V-0 UL flammability rating
Weight	0.35 lbs
Lens	Lexan
Dimensions	**Appliance:** 4.53" H x 2.76" W x 1.27" D (115 mm x 70 mm x 32 mm) **Trimplate:** 5.25" H x 4.58" W x 0.32" D (133 mm x 116 mm x 8 mm)
Operating Temperature	Indoor: 33.8 °F to 120.2 °F (1 °C to 49 °C) and maximum humidity of 93%
Mounting (Indoor only)	Strobes and horn-strobes are for wall-mount installation only. Horn-only models may be ceiling- or wall-mounted **Flush mount:** 2-1/2 inch (64 mm) deep one-gang box. **Surface mount:** Model GL1xN-BB1G surface mount box, wiremold box, or equivalent surface-mount box **With optional GL1xN-TP trim plate:** One-gang or four-inch square box.
Wire Connections	12 to 18 AWG (0.75 to 2.5 mm²)
Operating Voltage	24 VDC, 16 to 33 VDC
Strobe Output Rating	Selectable 15, 30, 75, 110 candela output (UL 1971 and ULC S526)
Strobe Flash Rate	Strobes are designed to flash at 1 flash per second
Synchronization Sources	SIGA-CC1S, SIGA-MCC1S, SIGA-CC2A, SIGA-MCC2A, G1M-RM, BPS6A, BPS10A, APS6A, APS10A, IO64, IO500, Fireshield Plus 3, 5 and 10 zone
Horn Pulse Rate	**Selectable Continuous or Temporal Code 3 Horn tone:** The temporal pattern (1/2 second on, 1/2 second off, 1/2 second on, 1/2 second off, 1/2 second on, 1-1/2 seconds off and repeat) is specified by ANSI and NFPA 72 for standard emergency evacuation signaling.

Ordering Information

Model	Housing	Marking	Lens	Strobe	Horn	Ship Wt. lb. (kg)
Fire Alarm Appliances						
GL1RF-HD	Red	FIRE	N/A	Horn only	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1RF-HDVMC	Red	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1RF-VMC	Red	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
GL1RN-HD	Red	None	N/A	Horn only	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1RN-HDVMC	Red	None	Clear	Selectable 15, 30, 75, or 110 cd	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1RN-VMC	Red	None	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
GL1WF-HD	White	FIRE	N/A	Horn only	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1WF-HDVMC	White	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1WF-VMC	White	FIRE	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
GL1WN-HD	White	None	N/A	Horn only	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1WN-HDVMC	White	None	Clear	Selectable 15, 30, 75, or 110 cd	Temporal or Steady, High or Low dB	0.25 (0.11)
GL1WN-VMC	White	None	Clear	Selectable 15, 30, 75, or 110 cd	Strobe only	0.25 (0.11)
Trim Plates						
GL1WN-TP	White	None	Genesis GL Series Trim Plate (for 4-inch square boxes)			0.15 (0.7)
GL1RN-TP	Red	None	Genesis GL Series Trim Plate (for 4-inch square boxes)			0.15 (0.7)
Surface Boxes						
GL1WN-BB1G	White	N/A	One-gang surface mount box for GL Series			1 (0.4)
GL1RN-BB1G	Red	N/A	One-gang surface mount box for GL Series			1 (0.4)

Model Selector



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EST
Life Safety & Communications

Intelligent Smoke Detector with Optional CO Sensor

SIGA2-PS, SIGA2-PCOS

FM APPROVED 5278-1657 0300 UL UL/C S853

Overview

Signature Series SIGA2-P(CO)S photoelectric detectors bring advanced sensing technology to a practical design that increases efficiency, saves installation time, cuts costs, and extends life safety and property protection capabilities. Continuous self-diagnostics ensure reliability over the long-haul, while innovative field-replacable smoke chambers make detector maintenance literally a snap With its modular CO sensor, this detector pulls double-duty — continually monitoring the environment for signs of smoke, as well as its invisible yet deadly companion, carbon monoxide.

Like all Signature Series detectors, the SIGA2-P(CO)S is an intelligent device that gathers analog information from its smoke and CO sensor (if present), converting this data into digital signals To make an alarm decision, the detector's on-board microprocessor measures and analyzes sensor readings and compares this information to historical data Digital filters remove signal patterns that are not typical of fires, thus virtually eliminating unwanted alarms.

The SIGA2-PCOS includes an advanced carbon monoxide sensor and daughterboard When the electrochemical cell reaches its end of life after approximately six years, the detector signals a trouble condition to the control panel. The sensor/daughterboard module is field-replaceable

Standard Features

- Optical smoke sensing technology with optional carbon monoxide sensor
- Field-replacable smoke chamber
- Field-replacable carbon monoxide sensor/daughterboard module
- Uses existing wiring
- Automatic device mapping
- Ground fault detection by module
- Up to 250 devices per loop
- Two levels of environmental compensation
- Two levels of dirty detector warning
- Twenty pre-alarm settings
- Five sensitivity settings
- Non-volatile memory
- Electronic addressing
- Environmental compensation
- Identification of dirty or defective detectors
- Automatic day/night sensitivity adjustment
- Bicolor (green/red) status LED
- Standard, relay, fault isolator, and audible mounting bases

Application

Smoke detection
The SIGA2-PS detects extremely small particles of combustion and triggers an alarm at the first sign of smoke Thanks to its high-performance forward scattering reflective response technology, the photoelectric smoke sensor responds quickly and reliably to a wide range of fire types, especially slow burning fires fuelled by combustibles typically found in modern multi-use buildings

Carbon monoxide detection
CO detection has rapidly become a standard part of life safety strategies everywhere. Monitored CO detection is becoming 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

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

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 can 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. When the CO sensor's electrochemical cell reaches its end of life, the detector signals a trouble condition to the control panel The sensor/daughterboard module is field-replaceable. 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.

This detector will NOT sense fires that start 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 to alarm it

Sensing and reporting technology

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

Self-diagnostics and History Log - Each Signature Series 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

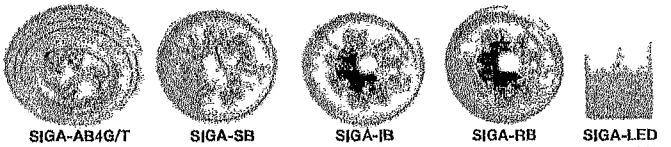
Automatic Device Mapping - The loop controller learns where each device's serial number address is installed relative to other devices on the circuit The mapping feature provides supervision of each device's installed location to prevent a detector from being reinstalled (after cleaning etc.) in a different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

Stand-alone Operation - A decentralized alarm decision by the detector is guaranteed. On-board intelligence permits the detector to operate in stand-alone mode If loop controller CPU communications fail for more than four seconds, all devices on that circuit go into stand-alone mode The circuit acts like a conventional alarm receiving circuit.

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" square box only.



SIGA-AB4G/T 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

SIGA-AB4G and SIGA-AB4GT - These sounder bases are designed for use where localized or group alarm signaling is required The SIGA-AB4G is compatible with Signature Series smoke and heat detectors The SIGA-AB4GT sounder base, when used with the SIGA-TCDR Temporal Pattern Generator module, adds an audible output function to any Signature Series detector, including fire and CO detectors.

Typical Wiring

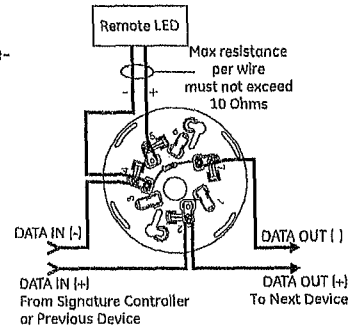
The detector mounting bases accept #18 AWG (0 75mm²), #16 (1 0mm²), #14 AWG (1 5mm²), and #12 AWG (2.5mm²) wire sizes

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

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 the Standard Base.

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



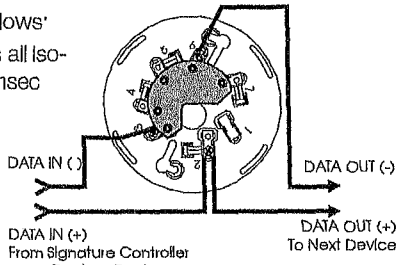
Isolator Detector Base, SIGA-IB, SIGA-IB4

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, reopens within 10 msec.

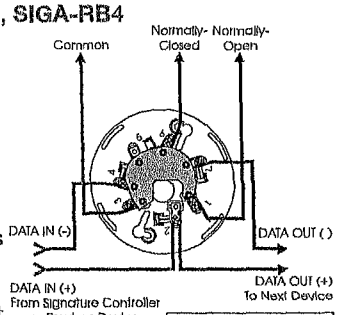
The process repeats beginning on the other side of the loop controller.



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 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 (EST3 V.2 only). The relay base does not support the SIGA-LED Remote LED

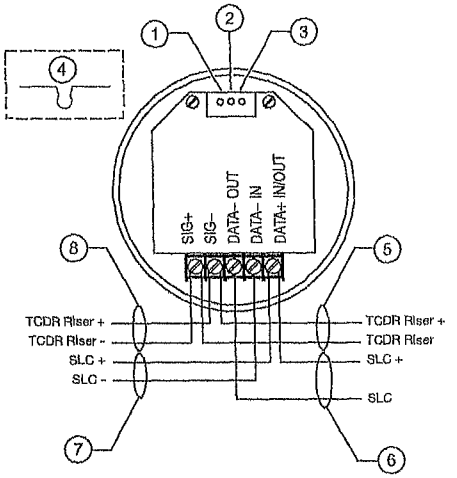


CONTACT RATING
1 0 Amp @ 30 VDC
(Pilot Duty)

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

Audible Detector Base for CO and Fire Detectors, SIGA-AB4GT

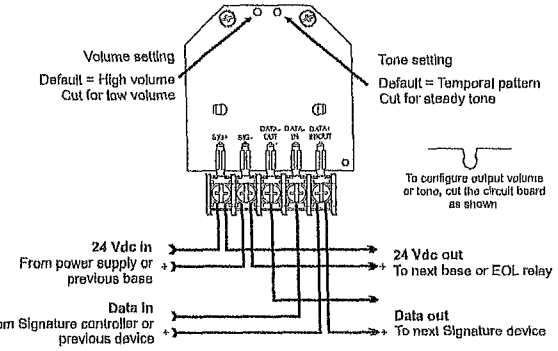
The Signature Series AB4GT sounder base, when used with the SIGA-TCDR Temporal Pattern Generator, adds an audible output function to any Signature Series detector. For more information on this device, refer to *Data Sheet 85001-0623 -- Sounder Base for CO and Fire Detectors*.



1 Volume setting Default is high volume For low volume cut trace per item 4
2 Reserved for future use Do not cut
3. Reserved for future use Do not cut
4. To configure output volume, cut trace as shown.
5 To next SIGA-AB4GT sounder base or EOL relay
6 SLC_OUT to next Intelligent addressable device
7 SLC_IN from intelligent addressable controller or previous device
8 From SIGA-TCDR Temporal Pattern Generator or previous SIGA-AB4GT sounder base

Audible Detector Base, SIGA-AB4G

This base is designed for use where localized or group alarm signaling is required. When the detector senses an alarm condition, the audible base emits a local alarm signal. The optional SIGA-CRR Polarity Reversal Relay can be used for sounding to other audible bases on the same 24 Vdc circuit



Relay and Audible Bases operate as follows

- at system power-up or reset, the relay is de-energized
- when a detector is installed in the base with the power on, the relay energizes for four seconds, then de-energizes
- when a detector is removed from a base with the power on, the relay is de-energized
- when the detector enters the alarm state, the relay is energized.

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Compatibility

SIGA2-P(CO)S detectors are compatible only with the Signature Loop Controller

Warnings & Cautions

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

This detector will NOT sense fires that start 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 to alarm it.

Specifications

	SIGA2-PS	SIGA2-PCOS
Normal operating current	45 µA	70 µA
Alarm current	45 µA	70 µA
Standalone alarm current	18 mA	18 mA
Operating voltage	15.20 to 19.95 VDC	
Air velocity	0 to 4,000 ft./min (0 to 20 m/s).	
Construction	High impact engineering polymer	
Wall mounting	Maximum 12 in (305 mm) from ceiling	
Mounting	Plug-In	
Shipping weight	0 44 lb (164 g)	
Compatible bases	See Ordering Information	
Operating environment	32 to 120°F (0 to 49°C), 0 to 93% RH, noncondensing	
Storage temperature	–4 to 140°F (–20 to 60°C)	
Environmental compensation	Automatic	

Ordering Information

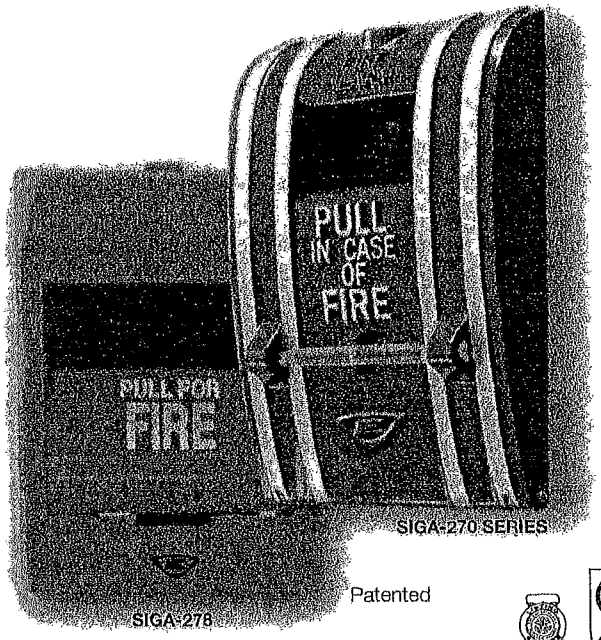
Catalog Number	Description	Ship Wt. lbs (kg)
SIGA2-PS	Intelligent Photoelectric Detector	0.4 (0 16)
SIGA2-PCOS	Intelligent Photoelectric Detector with carbon monoxide sensor	0.4 (0.16)
SIGA2-PCOS-CA	Intelligent Photoelectric Detector with carbon monoxide sensor (for use in Canadian markets only).	0 4 (0.16)

SIGA-SB	Detector Mounting Base - Standard	
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	0 2 (09)
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-AB4GT	Audible (Sounder) Base for CO and Fire Detectors	0.3 (0.15)
SIGA-TCDR	Temporal Pattern Generator	0 3 (0.15)
SIGA-TS4	Trim Skirt (supplied with 4-Inch bases)	0 1 (.04)
2-SPRC1	Replacement Smoke Chamber (for SIGA2-PS detectors)	0.1 (04)
2-SPRC2	Replacement Smoke Chamber (for SIGA2-PCOS detectors)	0.1 (04)
2-CORPL	Replacement CO Sensor	0 1 (04)

EST
Life Safety & Communications

Manual Pull Stations

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



Patented

MEA FM APPROVED 7150 1657 0129 S2318

Overview

The SIGA-270 and SIGA-278 series Manual Pull Stations are part of EST'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.

EST'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.
- **Stand-alone operation**
  The station inputs an alarm even if the loop controller's polling interrogation stops
- **Diagnostic LEDs**
  Status LEDs, flashing GREEN shows normal polling, flashing RED shows alarm state
- **Designed for high ambient temperature operation**
  Install in ambient temperatures up to 120 °F (49 °C)

Application

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

Compatibility

Signature Series manual stations are compatible only with EST'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 75mm²) to #12 AWG (2.5mm²) wire sizes. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications

Wiring Notes

⚠ Refer to Signature Loop Controller manual for maximum wire distance.

2. All wiring is power limited and supervised.

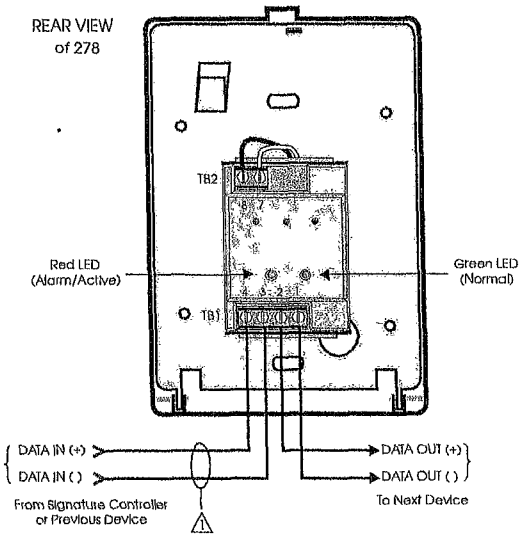


Figure 4. Single Stage Systems

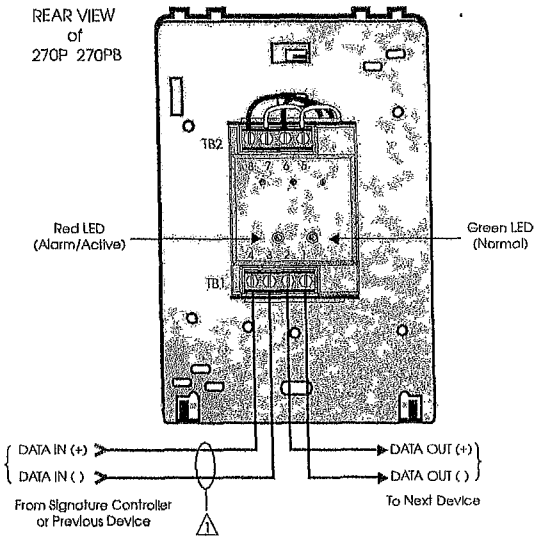


Figure 5. Two Stage Systems

Installation

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

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

All models include terminals are suited for #12 to #18 AWG (2.5 mm² to 0 75 mm²) wire size 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.

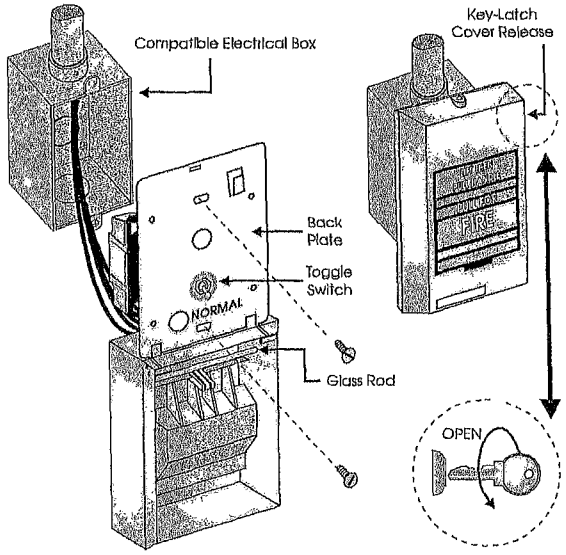


Figure 1. SIGA-278 installation

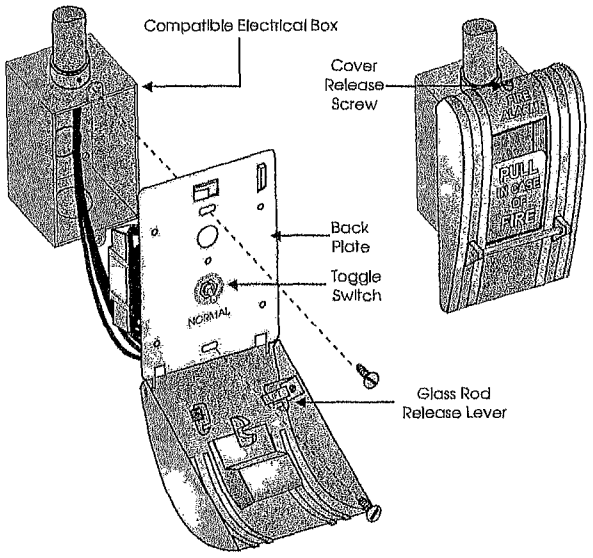


Figure 2. SIGA-270, SIGC-270F, SIGC-270B installation

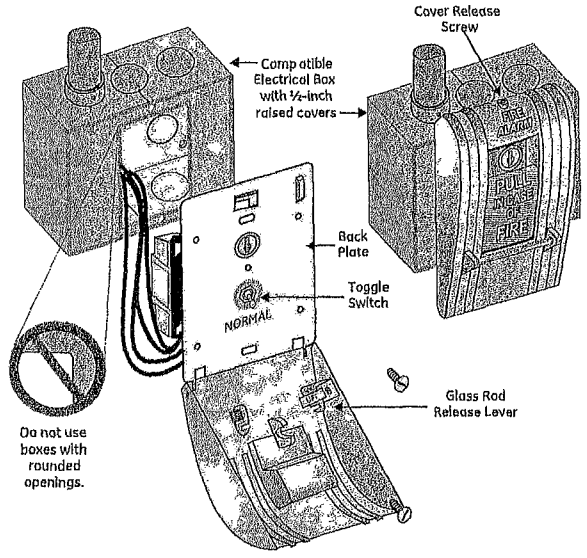


Figure 3. SIGA-270P, SIGC-270PB installation

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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 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 w hen in alarm Both LEDs - Glow steady when in alarm (stand-alone)		
Compatibility	Use With Signature Loop Controller		
Agency Listings	UL, ULC (note 1), MEA, CSFM		

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

Ordering Information

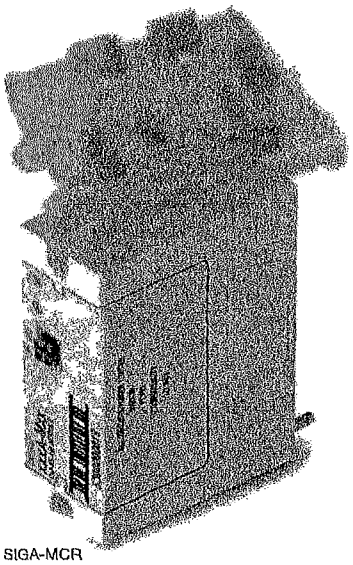
Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-270	One Stage Fire Alarm Station, English Markings - UL/ULC Listed	1 (0 5)
SIGC-270F	One Stage Fire Alarm Station, French Markings - ULC Listed	
SIGC-270B	One Stage Fire Alarm Station, French/English Markings - ULC Listed	
SIGA-270P	Two Stage (Presignal) 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	

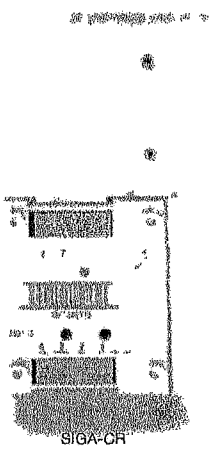
Accessories		
32997	GA Key w/Tag - for pre-signal station (CANADA ONLY)	0 1 (.05)
276-K2	GA Key - for pre-signal station (USA ONLY)	
276-K1	Station Reset Key, Supplied with all Key Reset Stations	
27165	12 Glass Rods - for SIGA-270 series (CANADA ONLY)	
270-GLR	20 Glass Rods - for SIGA-270 series (USA ONLY)	
276-GLR	20 Glass Rods - for SIGA-278 series	
276B-RSB	Surface Mount Box, Red - for SIGA pull stations	1 (0 6)

EST
Life Safety & Communications

Control Relay Modules

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





FM APPROVED MEA 7300-1657 0121 UL UL/C 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.

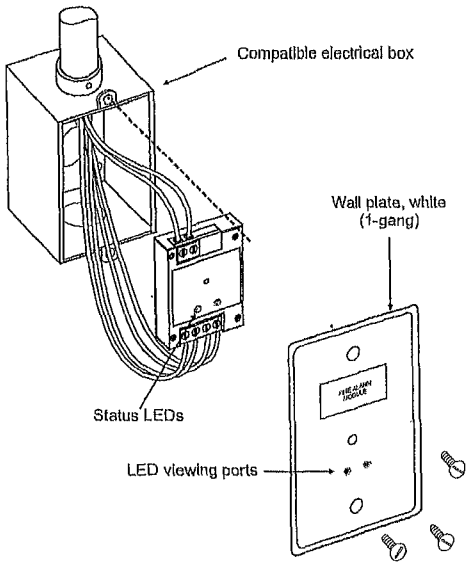
Plug-in UIO versions (SIGA-MCR and SIGA-MCRR) are part of the UIO family of plug-in Signature Series modules. They function identically to the standard mount versions, but take advantage of the modular flexibility and easy installation that characterizes all UIO modules Two- and six-module UIO motherboards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

Standard Features

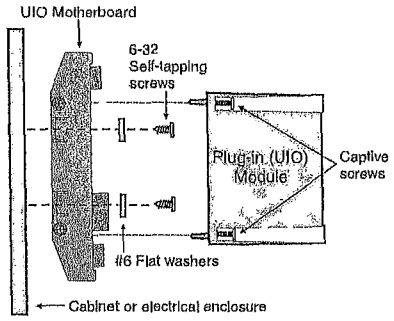
- **Provides one no/nc contact (SIGA-CR/MCR)**
  Form "C" dry relay contact can be used to control external appliances such as door closers, fans, dampers etc
- **Allows group operation of sounder bases**
  The SIGA-CRR/MCRR reverses the polarity of its 24 Vdc output, thus activating all Sounder Bases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

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 mm² to 0.75 mm²) 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 mm² to 0 75 mm²) wire size.



Electronic Addressing - The loop controller electronically addresses each module, saving valuable time during system commissioning Setting complicated switches or dials is not required. Each module has its own unique serial number stored in its onboard 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

The Signature Series modules are compatible only with EST's Signature Loop Controller.

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

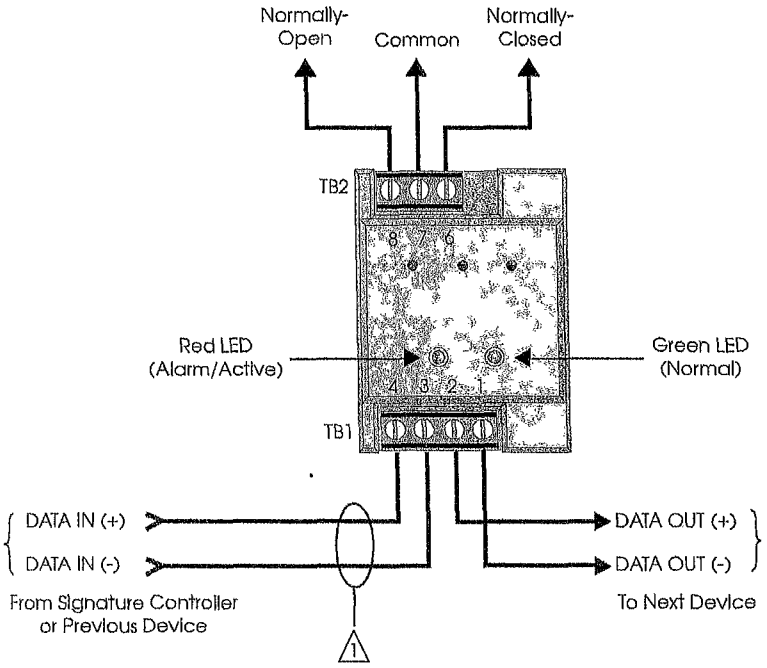
Testing & Maintenance

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.

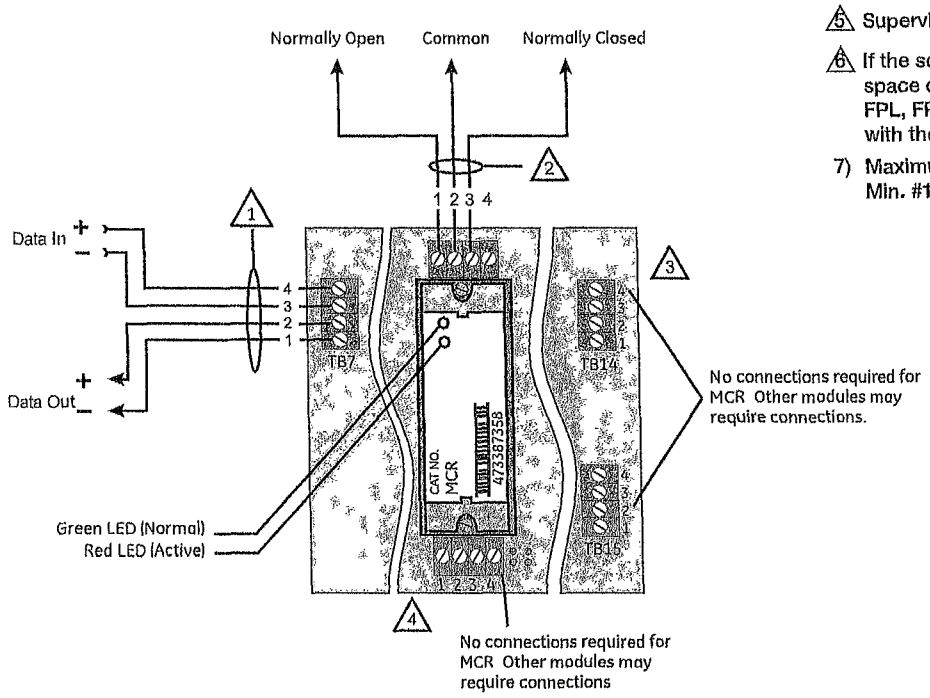
Typical Wiring

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

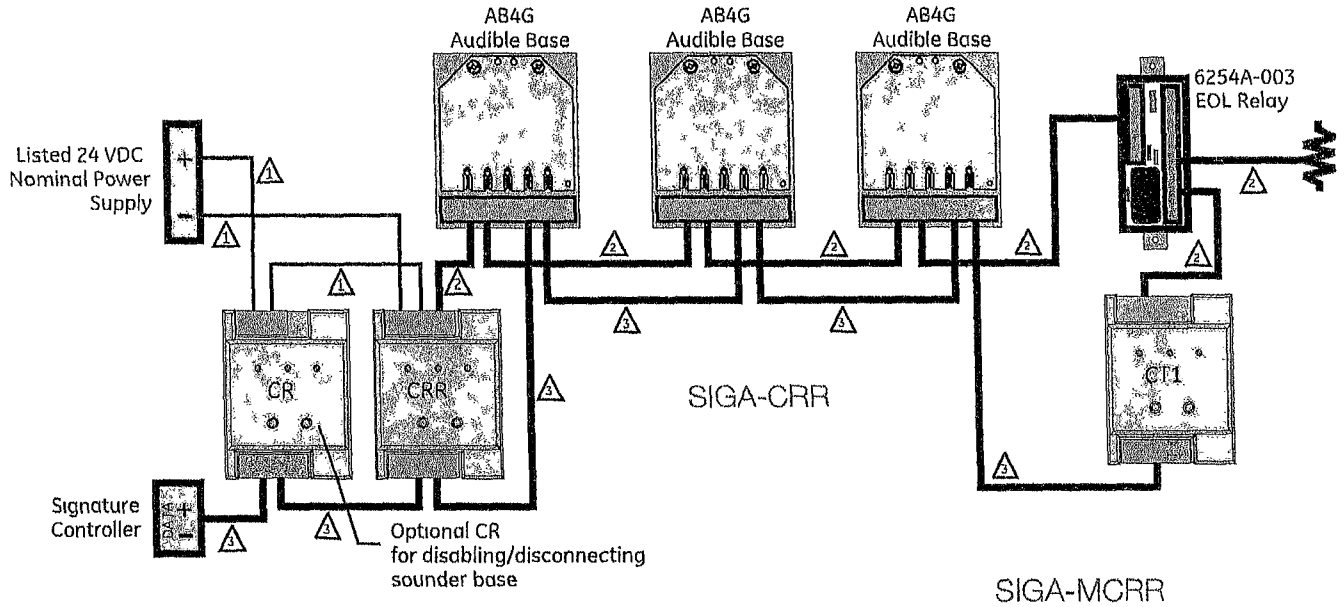
Notes

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).

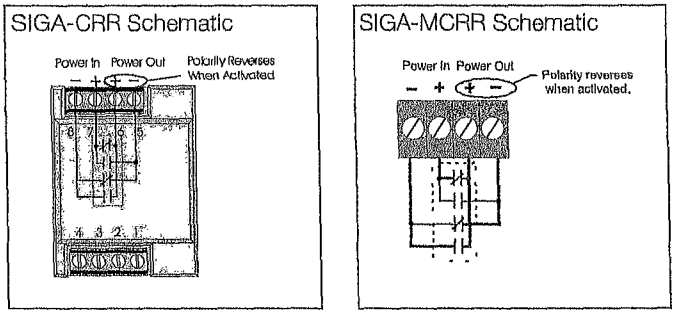
Typical Wiring

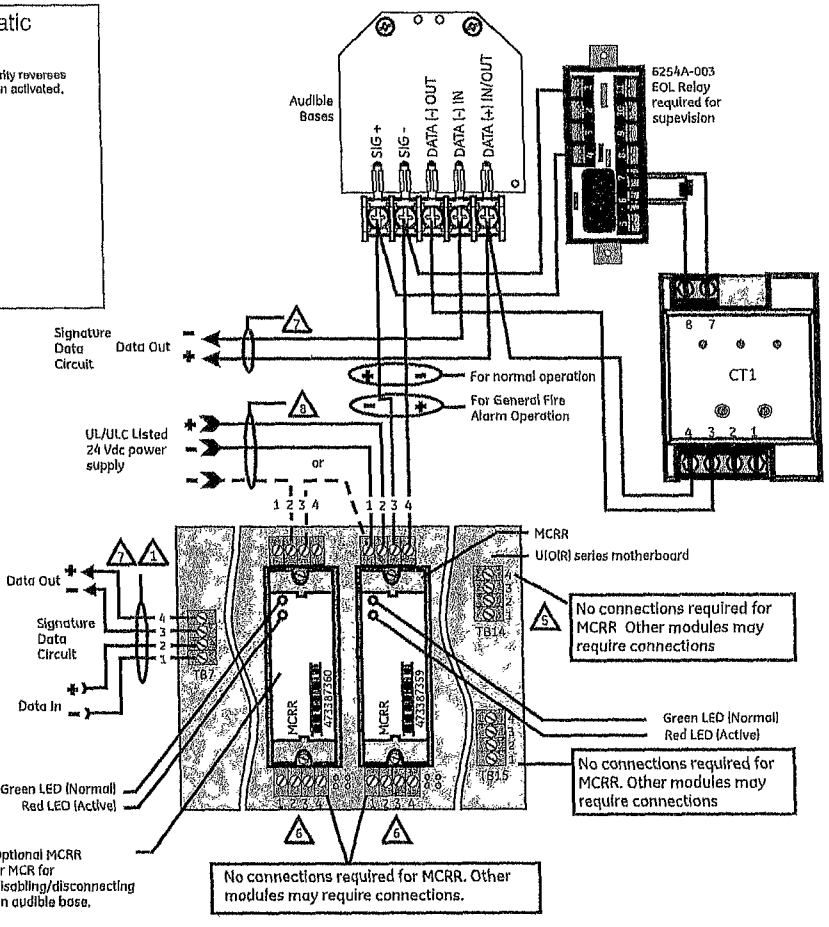
Modules will accept #18 AWG (0 75mm²), #16 (1.0mm²), #14 AWG (1.50mm²) and #12 AWG (2 50mm²) wire sizes

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-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)

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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, Stand-alone Operation and Fast, Stable Communication.

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

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

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

Device mapping allows the Signature Data Controller to discover

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

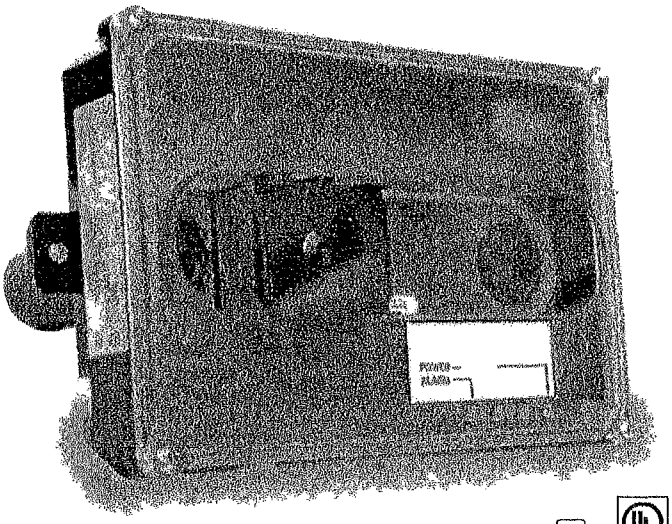
Most Signature modules use a personality code selected by the installer to determine their actual function. Personality codes are downloaded from the SDC during system configuration and are indicated during device mapping.

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

EST
Life Safety & Communications

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.

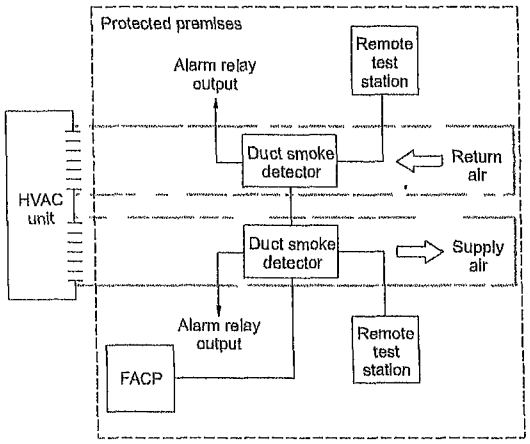
WARNING: Duct detectors have specific limitations. Duct detectors are not a substitute for an open area smoke detector. Duct detectors are not a substitute for early warning detection or a replacement for a building's regular fire detection system. Smoke detectors are not designed to detect toxic gases 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
- -4°F to 158°F (-20°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.

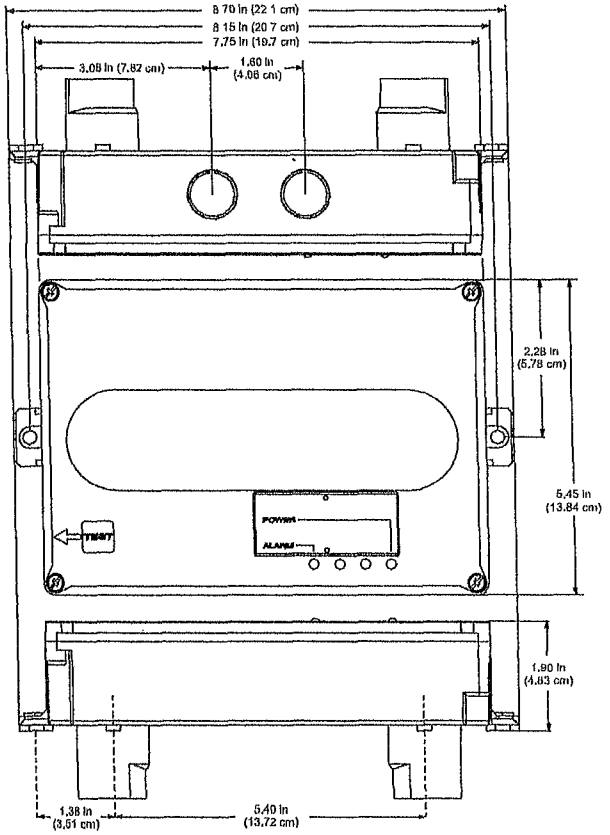
Remote Test Stations

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

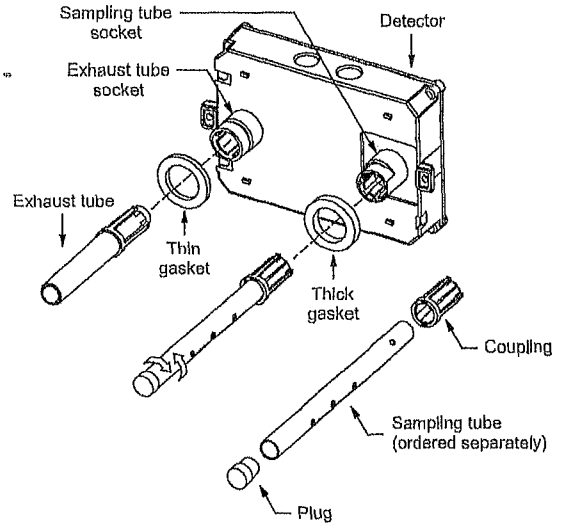
Air velocity in the duct as low as 100 ft/min. maintains adequate air flow into the sensor smoke chamber through air holes in the air sampling tube and discharges through the exhaust tube. *SuperDuct* air sampling tubes must be installed with the inlet holes facing the airstream. Sampling tubes may be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

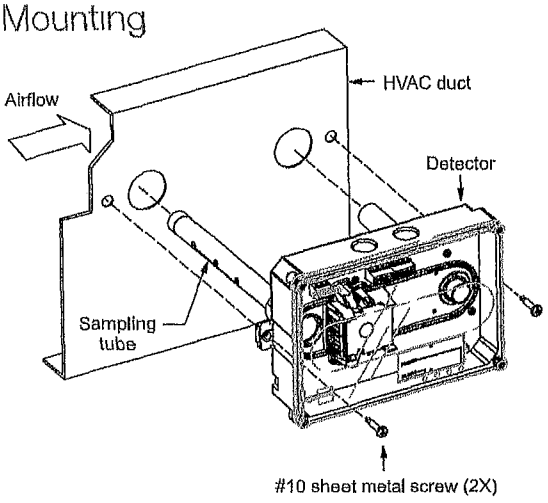
Dimensions



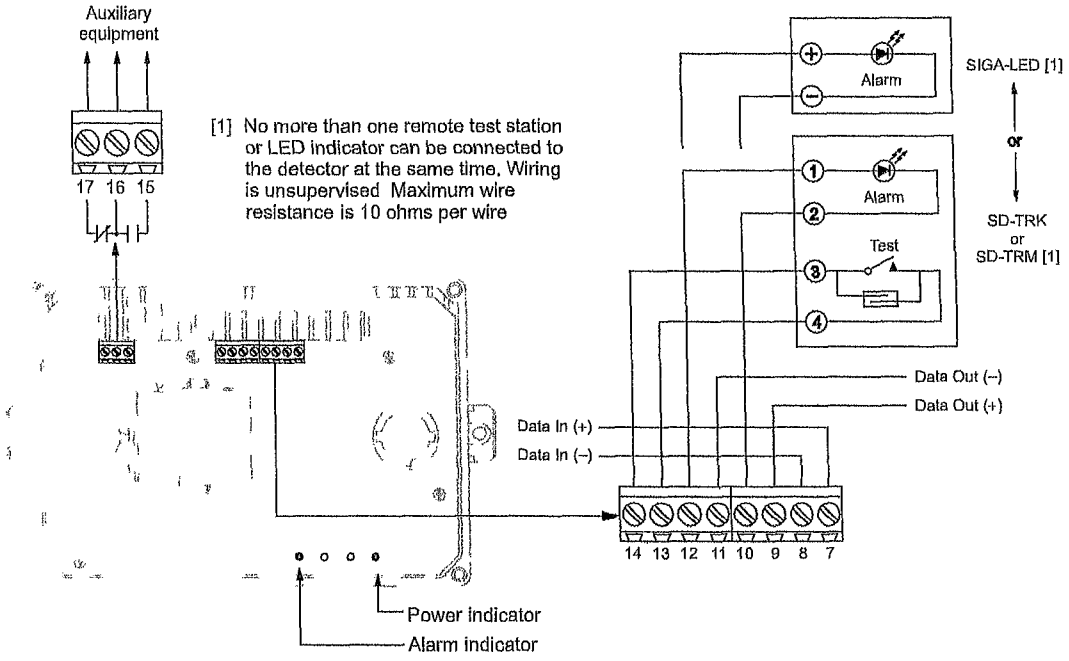
Assembly



Mounting

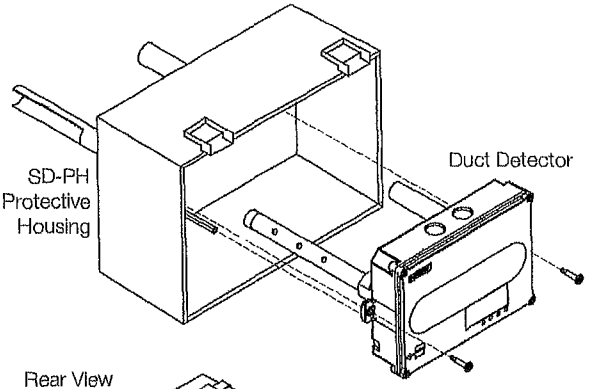


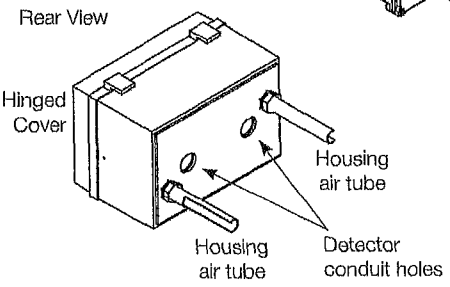
Wiring



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

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Specifications, detector

Dimensions	8 70 x 5.45 x 1.90 inches (221 x 138 x 48 mm)
Wire size	14 to 22 AWG
Detection method	Photoelectric (light scattering principle)
Air velocity rating	100 to 4,000 ft/min and meets the required minimum air pressure differential
Air pressure differential	0.005 to 1.00 inches of water
Sensitivity	0 79 to 2.46 %/ft obscuration
Alarm test response time	5 seconds
LED indicators	Alarm (red), Power (green)
Common alarm relay	Unsupervised and power-limited Quantity: 1 Type Form C Ratings 2.0 A at 30 Vdc (resistive)
Operating voltage	15 2 to 19 95 Vdc
Operating current	Standby· 45 µA Alarm 45 µA Inrush 1 mA Standalone alarm 18 mA
Operating environment	Temperature (UL) -4 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

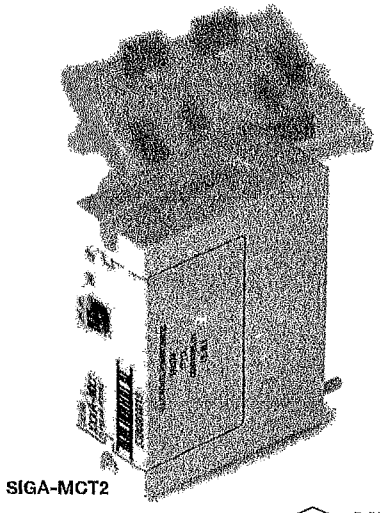
Catalog Number	Description	Ship Wt., lb. (kg)
SIGA-SD	Intelligent SuperDuct Detector	2.4 (1.1)

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)

EST
Life Safety & Communications

Input Modules

SIGA-CT1, SIGA-CT1HT, SIGA-CT2, SIGA-MCT2



FM APPROVED MEA CE Application Notes Available 7300 1657 0121 UL ULC S3424

Overview

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

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

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

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

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

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

Standard Features

- **Multiple applications**
  Including Alarm, Alarm with delayed latching (retard) for waterflow applications, Supervisory, and Monitor The installer selects one of four "personality codes" to be downloaded to the module through the loop controller
- **SIGA-CT1HT rated for high temperature environments**
  Suitable for attic installation and monitoring high temperature heat detectors.
- **Plug-in (UIO) or standard 1-gang mount**
  UIO versions allow quick installation where multiple modules are required The 1-gang mount version is ideal for remote locations that require a single module
- **Automatic device mapping**
  Signature modules transmit information to the loop controller regarding their circuit locations with respect to other Signature devices on the wire loop.
- **Electronic addressing**
  Programmable addresses are downloaded from the loop controller, a PC, or the SIGA-PRO Signature Program/Service Tool There are no switches or dials to set.
- **Stand-alone operation**
  The module makes decisions and inputs an alarm from initiating devices connected to it even if the loop controller's polling interrogation stops. (Function availability dependent upon control panel)
- **Ground fault detection by address**
  Detects ground faults right down to the device level.

Signature Series Overview

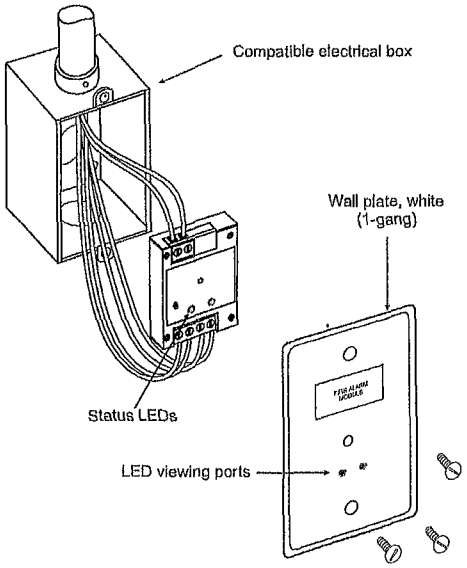
The Signature Series intelligent analog-addressable system from Edwards Security is an entire family of multi-sensor detectors and mounting bases, multiple-function input and output modules, network and non-network control panels, and user-friendly maintenance and service tools Analog information from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

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

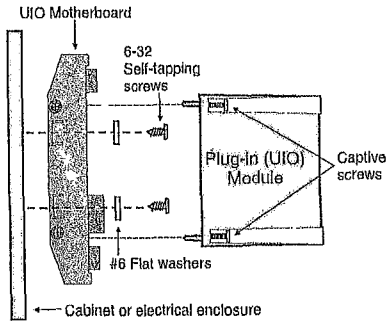
Automatic Device Mapping –The Signature Data Controller (SDC) learns where each device's serial number address is installed relative to other devices on the circuit The SDC keeps a map of all Signature Series devices connected to it. The Signature Series Data Entry Program also uses the mapping feature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

Installation

SIGA-CT1, SIGA-CT1HT and SIGA-CT2: modules mount to North American 2½ inch(64 mm) deep 1-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with 1-gang covers and SIGA-MP mounting plates. The terminals are suited for #12 to #18 AWG (2 5 mm² to 0 75 mm²) wire size



SIGA-MCT2: mount the UIO motherboard inside a suitable Edwards enclosure with screws and washers provided Plug the SIGA-MCT2 into any available position on the motherboard and secure the module to the motherboard with the captive screws. Wiring connections are made to the terminals on the motherboard (see wiring diagram). UIO motherboard terminals are suited for #12 to #18 AWG (2 5 mm² to 0 75 mm²) wire size.



Electronic Addressing - The loop controller electronically addresses each module, saving valuable time during system commissioning. Setting complicated switches or dials is not required Each module has its own unique serial number stored in its on-board memory. The loop controller identifies each device on the loop and assigns a "soft" address to each serial number. If desired, the modules can be addressed using the 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 duty performed by the SIGA-CT1 and SIGA-CT2/MCT2 is determined by their sub-type code or "Personality Code". The code is selected by the installer depending upon the desired application and is downloaded from the loop controller.

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

NORMALLY-OPEN ALARM - LATCHING (Personality Code 1) - Assign to one or both circuits. Configures either circuit A or B or both for Class B normally open dry contact initiating devices such as Pull Stations, Heat Detectors, etc. An ALARM signal is sent to the loop controller when the input contact is closed The alarm condition is latched at the module.

NORMALLY-OPEN ALARM - DELAYED LATCHING (Personality Code 2) - Assign to one or both circuits. Configures either circuit A or B or both for Class B normally-open dry contact initiating devices such as Waterflow Alarm Switches. An ALARM signal is sent to the loop controller when the input contact is closed for approximately 16 seconds. The alarm condition is latched at the module

NORMALLY-OPEN ACTIVE - NON-LATCHING (Personality Code 3) - Assign to one or both circuits. Configures either circuit A or B or both for Class B normally-open dry contact monitoring input such as from Fans, Dampers, Doors, etc. An ACTIVE signal is sent to the loop controller when the input contact is closed. The active condition is not latched at the module.

NORMALLY-OPEN ACTIVE - LATCHING (Personality Code 4) - Assign to one or both circuits. Configures either circuit A or B or both for Class B normally open dry contact monitoring input such as from Supervisory and Tamper Switches. An ACTIVE signal is sent to the loop controller when the input contact is closed. The active condition is latched at the module

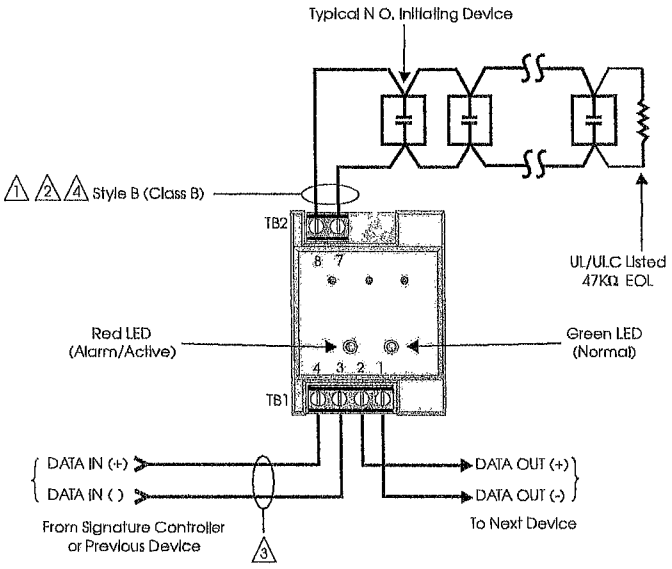
Typical Wiring

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

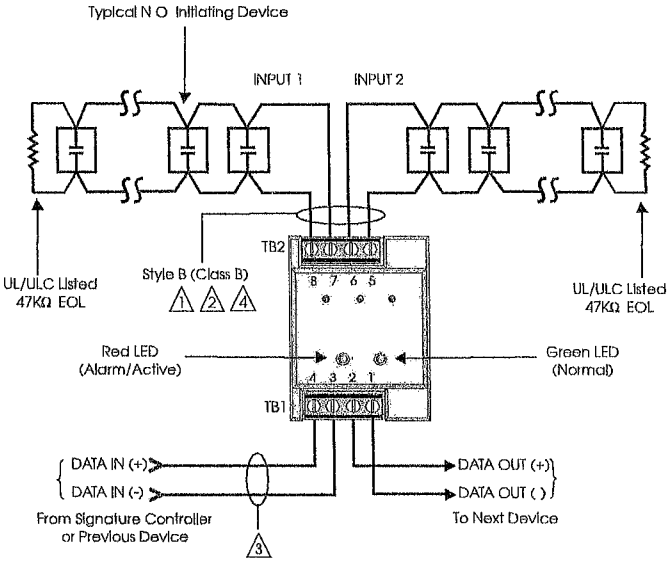
Note· Sizes #16 AWG (1 0mm²) and #18 AWG (0.75mm²) are preferred for ease of installation. See Signature Loop Controller catalog sheet for detailed wiring requirement specifications

Initiating (Slave) Device Circuit Wire Specifications

Maximum Allowable Wire Resistance	50 ohms (25 ohms per wire) per Circuit	
Maximum Allowable Wire Capacitance	0.1µF per Circuit	
For Design Reference	**Wire Size**	**Maximum Distance to EOLR**
	#18 AWG (0.75 mm²)	4,000 ft (1,219 m)
	#16 AWG (1.00 mm²)	
	#14 AWG (1.50 mm²)	
	#12 AWG (1.50 mm²)	



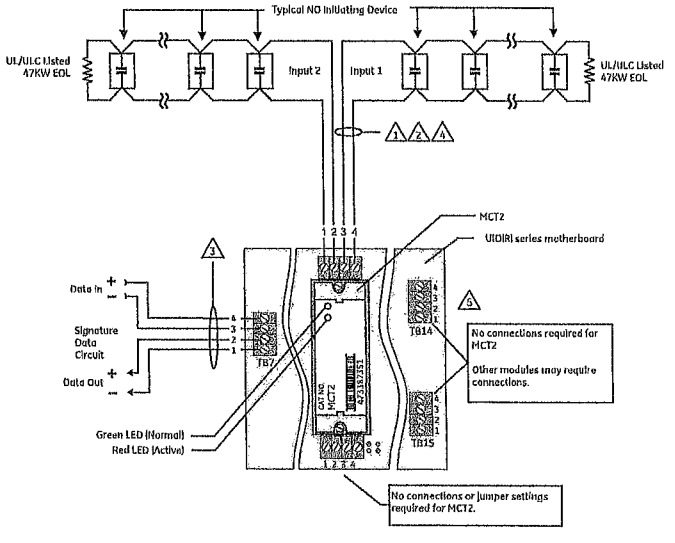
SIGA CT1, SIGA-CT1HT



SIGA-CT2

NOTES

1. Maximum 25 Ohm resistance per wire
2. Maximum #12 AWG (2.5 mm²) wire, Minimum #18 AWG (0 75 mm2)
3. Refer to Signature controller installation sheet for wiring specifications
4. Maximum 10 Vdc @ 350 µA
5. The SIGA-UIO6R and the SIGA-UIO2R do not come with TB14
6. All wiring is supervised and power-limited
7. These modules will not support 2-wire smoke detectors



SIGA-MCT2

Warnings & Cautions

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

Compatibility

The Signature Series modules are compatible only with EST's Signature Loop Controller

Contact us...

Email: edwards.fire@fs.utc.com
Web: www.est-fire.com

EST is an **EDWARDS** brand.

1016 Corporate Park Drive
Mebane, NC 27302

In Canada, contact Chubb Edwards...
Email: inquiries@chubbedwards.com
Web: www.chubbedwards.com

Specifications

Catalog Number	SIGA-CT1HT	SIGA-CT1	SIGA-CT2	SIGA-MCT2
Description	Single Input Module		Dual Input Module	
Type Code	48 (factory set) Four sub-types (personality codes) are available		49 (factory set) Four sub-types (personality codes) are available	
Address Requirements	Uses One Module Address		Uses Two Module Addresses	
Operating Current	Standby = 250µA, Activated = 400µA		Standby = 396µA, Activated = 680µA	
Operating Voltage	15 2 to 19 95 Vdc (19 Vdc nominal)			
Construction	High Impact Engineering Polymer			
Mounting	North American 2½ inch (64 mm) deep one-gang boxes and 1½ inch (38 mm) deep 4 inch square boxes with one-gang covers and SIGA-MP mounting plates			UIO2R/6R/6 Motherboard
Operating Environment	32°F to 158°F (0°C to 70°C)	32°F to 120°F (0°C to 49°C)		
Storage Environment	-4°F to 140°F (-20°C to 60°C), Humidity· 0 to 93% RH			
LED Operation	On-board Green LED - Flashes when polled, On-board Red LED - Flashes when in alarm/active. Both LEDs - Glow steady when in alarm (stand-alone)			
Compatibility	Use with Signature Loop Controller			
Agency Listings	UL, ULC, MEA, CSFM			

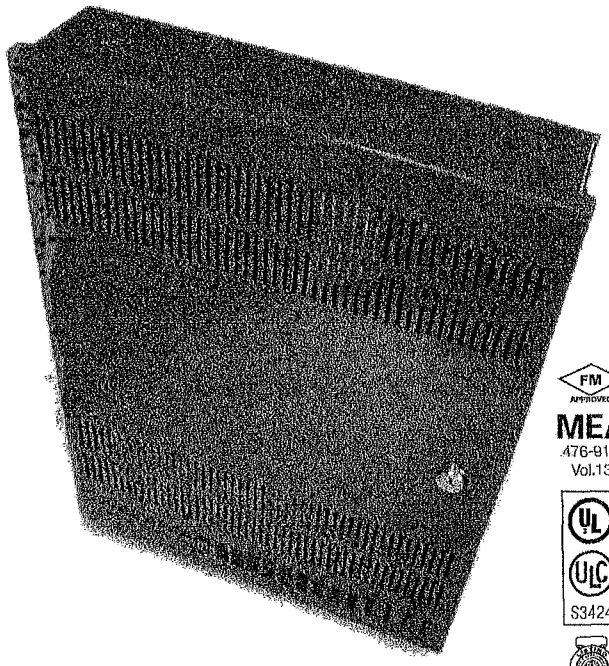
Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-CT1	Single Input Module — UL/ULC Listed	0.4 (0 15)
SIGA-CT1HT	Single Input Module High Temperature Operation UL/ULC Listed	0.4 (0.15)
SIGA-CT2	Dual Input Module — UL/ULC Listed	0 4 (0 15)
SIGA-MCT2	Dual Input Plug-in (UIO) Module — UL, ULC Listed	0 1 (0 05)
Related Equipment		
27193-11	Surface Mount Box - Red, 1-gang	1.0 (0.6)
27193-16	Surface Mount Box - White, 1-gang	1.0 (0.6)
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)
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)

EST
Life Safety & Communications

Remote Booster Power Supplies

BPS6A, BPS10A



FM APPROVED
MEA
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Vol.13

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Overview

The Booster Power Supply (BPS) 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 BPS contains the circuitry to monitor and charge internal or external batteries Its steel enclosure has room for up to two 10 ampere-hour batteries. For access control-only applications, the BPS can support batteries totaling up to 65 ampere-hours in an external enclosure. The BPS has four Class B (convertible to two Class A) NACs These can be activated in one or two groups from the BPS's unique dual input circuits.

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

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

Standard (CCN)	Description
UL864 9th edition (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)

Standard 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

Application

The BPS 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 BPS can still be activated upon command. A separate AC Fail contact is available on the BPS 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 BPS 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 BPS also has a separate 200 mA 24 Vdc output that can be used to power internal activation modules.

BPS 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 BPS ideal for applications requiring signaling rates that are not available from the main system.

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

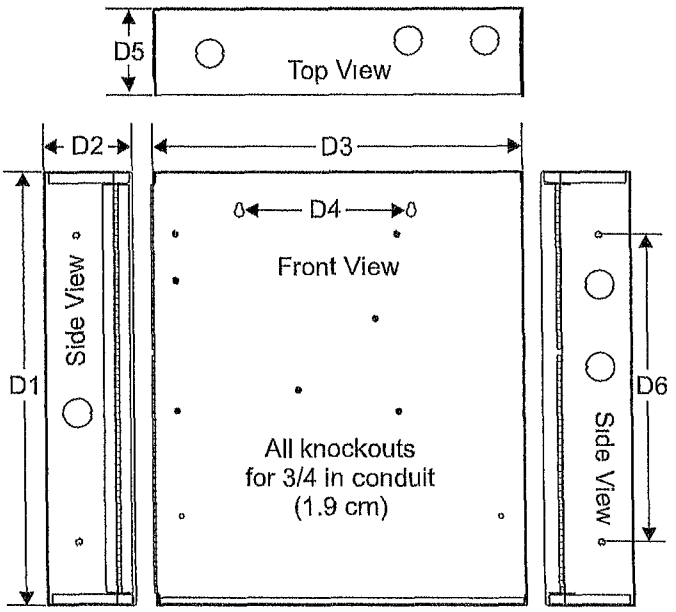
The BPS enclosure has mounting brackets for up to three Signature modules to the right of the circuit board

Engineering Specification

Supply, where needed, Edwards BPS Series Booster Power Supplies (BPS) that are interconnected to and supervised by the main system The BPS shall function as a stand-alone auxiliary power supply with its own fully-supervised battery compliment. The BPS battery compliment shall be sized to match the requirements of the main system The BPS 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.

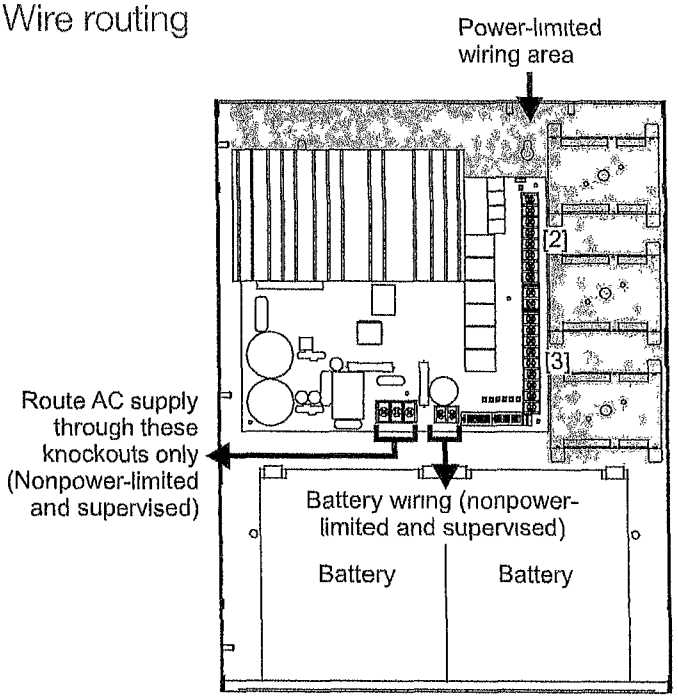
<<The BPS shall be capable of installation for a seismic component Importance Factor of 1.5 >> The BPS shall provide a minimum of four independent, fully supervised Class B circuits that can be field configurable for notification appliance circuits or auxiliary 24 Vdc power circuits. BPS NACs shall be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

Dimensions



D1	D2	D3	D4	D5	D6
17.0 in (43.2 cm)	3 5 in (8 9 cm)	13.0 in (33 0 cm)	6.5 in (16 5 cm)	3.375 in (8.6 cm)	12 0 in (30.4 cm)

Wire routing



Notes

1 Maintain 1/4-inch (6 mm) spacing between power-limited and nonpower-limited wiring or use type FPL, FPLR, or FPLP cable per NEC

[2] Power-limited and supervised when not configured as auxiliary power Non supervised when configured as auxiliary power

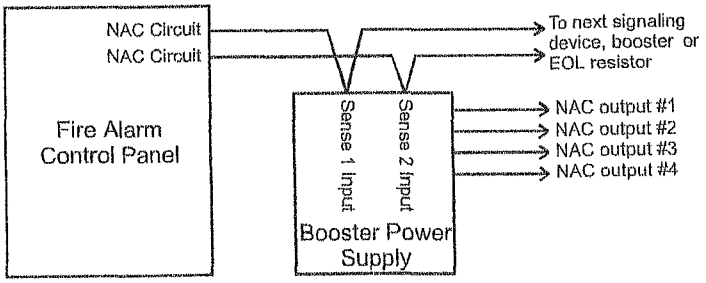
[3] Source must be power-limited Source determines supervision

4 When using larger batteries, make sure to position the battery terminals towards the door

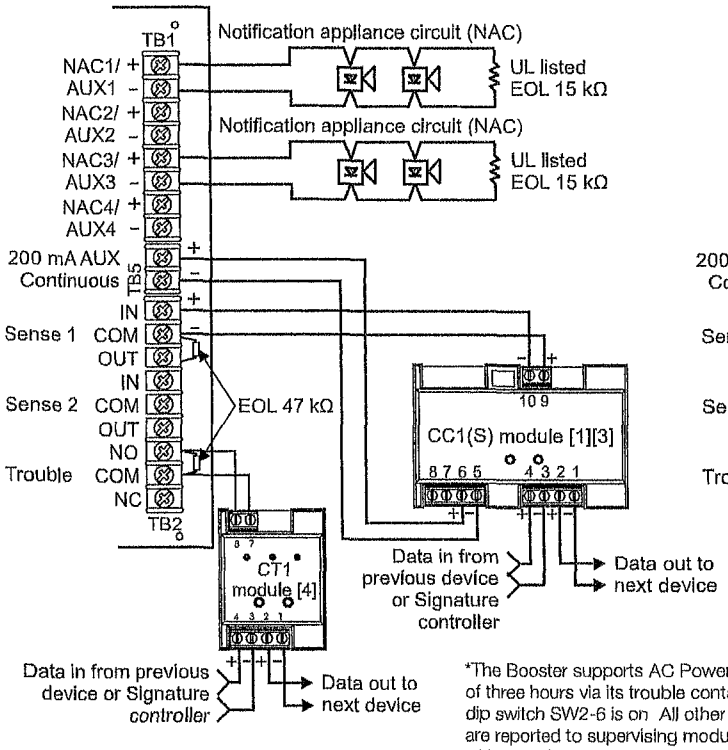
Typical Wiring

Single or cascaded booster anywhere on a notification appliance circuit

Existing NAC end-of-line resistors are not required to be installed at the booster's terminals This allows multiple boosters to be driven from a single NAC circuit without the need for special configurations

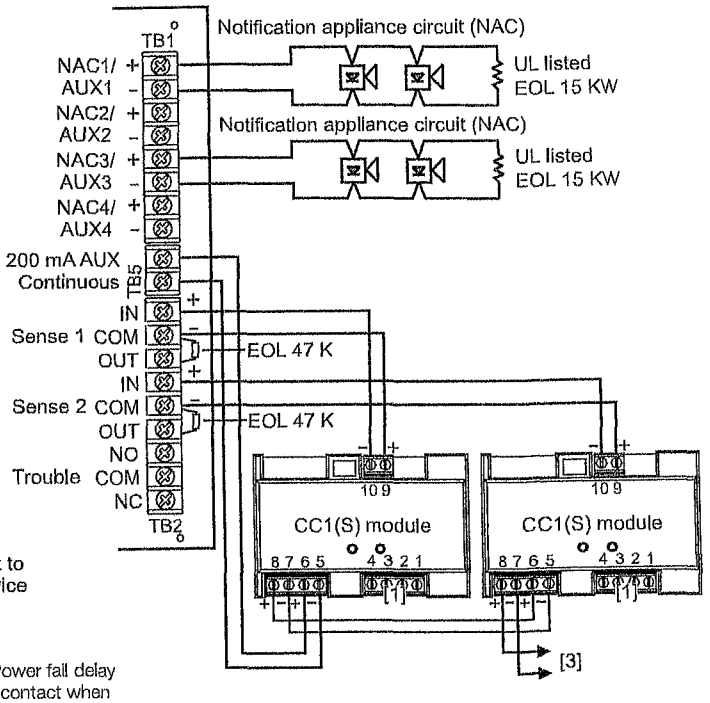


Configuring the Booster for AC Power Fail delay operation*

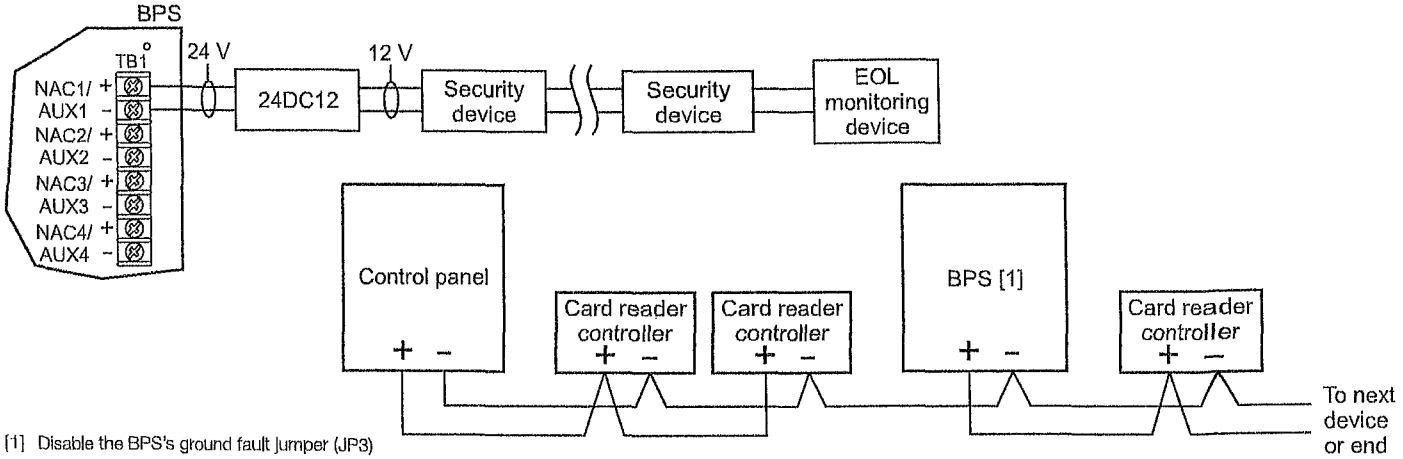


*The Booster supports AC Power fail delay of three hours via its trouble contact when dip switch SW2-6 is on All other troubles are reported to supervising module or panel without delay via Sense inputs

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



Security and access



[1] Disable the BPS's ground fault jumper (JP3)

Contact us...

Email: edwards.fire@fs.utc.com
Web: www.est fire.com

EST is an **EDWARDS** brand.

1016 Corporate Park Drive
Mebane, NC 27302

In Canada, contact Chubb Edwards...
Email: inquiries@chubbedwards.com
Web: www.chubbedwards.com

Specifications

Model	6.5 amp Booster	10 amp Booster
AC Line Voltage	120VAC or 220-240VAC 50/60Hz 390 watts	120VAC or 220-240VAC 50/60Hz 580 watts
Notification Appliance Circuit Ratings	3.0A max. per circuit @ 24Vdc nominal 6.5A max total all NACs	3.0A max per circuit @ 24Vdc nominal 10A max total all NACs
Trouble Relay	2 Amps @ 30Vdc	
Auxiliary Outputs	Four configurable outputs replace NACs 1, 2, 3 or 4. as auxiliary outputs and 200 mA dedicated auxiliary (See note 2)	
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	
Signature Mounting Space	Accomodates three two-gang modules.	
Maximum Battery Size	10 Amp Hours (2 of 12V10A) in cabinet up to 24 Amp hours with external battery cabinet for fire and security applications, up to 65 Amp hours for access control applications in external battery box	
Terminal Wire Gauge	18-12 AWG	
Relative Humidity	0 to 93% non condensing @ 32°C	
Temperature Rating	32° to 120°F (0° to 49°C)	
NAC Wiring Styles	Class A or Class B	
Output Signal Rates	Continuous, California rate, 3-3-3 temporal, or follow installed panel's NAC. (See note 1)	
Ground Fault Detection	Enable or Disable via jumper	
Agency Listings	UL, ULC, CSFM	

1 Model BPS*CAA provides selection for California rate, in place of temporal.
2 Maximum of 8 Amps can be used for auxiliary output

Ordering Information

Catalog Number	Description	Shipping Wt. lb (kg)
BPS6A	6.5 Amp Booster Power Supply	13 (5 9)
BPS6AC	6.5 Amp Booster Power Supply (ULC)	13 (5.9)
BPS6A/230	6 5 Amp Booster Power Supply (220V)	13 (5.9)
BPS6CAA	6.5 Amp Booster Power Supply with California rate	13 (5.9)
BPS10A	10 Amp Booster Power Supply	13 (5.9)
BPS10AC	10 Amp Booster Power Supply (ULC)	13 (5 9)
BPS10A/230	10 Amp Booster Power Supply (220V)	13 (5 9)
BPS10CAA	10 Amp Booster Power Supply with California rate	13 (5.9)
Related Equipment		
12V6A5	7.2 Amp Hour Battery, two required	3 4 (1.6)
12V10A	10 Amp Hour Battery, two required	9.5 (4 3)
3-TAMP	Tamper switch	
BC-1EQ	Seismic Kit for BC-1. Order BC-1 separately. See note 3.	
BPSEQ	Seismic kit for BPS6A or BPS10 Booster Power Supplies. See note 3	
BC-1	Battery Cabinet (up to 2 - 40 Amp Hour Batteries)	58 (26.4)
BC-2	Battery Cabinet (up to 2 - 17 Amp Hour Batteries)	19 (8 6)
12V17A	18 Amp Hour Battery, two required (see note 1)	13 (5.9)
12V24A	24 Amp Hour Battery, two required (see note 1)	20 (9.07)
12V40A	40 Amp Hour Battery, two required (see notes 1, 2)	32 (14 5)
12V50A	50 Amp Hour Battery, two required (see notes 1, 2)	40 (18.14)
12V65A	65 Amp Hour Battery, two required (see notes 1, 2)	49 (22.2)

1 Requires installation of separate battery cabinet.
2 BPS 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