EDWARDS
United Technologies
LIFE SAFETY & INCIDENT MANAGEMENT

Intelligent Heat Detector with Dual Reporting

SIGA-H2D

S853

Overview

The SIGA-H2D is a dual-reporting heat detector that features a fixed 135 °F (57.2 °C) Alarm threshold plus a separate programmable Emergency threshold:

Fixed temperature reporting generates an Alarm condition when the device's 135 °F (57.2 °C) is reached;

Emergency reporting can be used to report elevated temperatures in evacuation elevator lobbies and machine rooms, as well as heat warnings and freeze warnings for areas that are sensitive to temperature extremes.

The SIGA-H2D does not have a rate-of-rise function. The heat sensor monitors the temperature of the air in its surroundings and the detector analyzes the data to determine when the air temperature near the detector exceeds the device's set 135 °F (57.2 °C) Alarm threshold, or its programmed Emergency reporting point.

Like all Signature Series smoke detectors, the SIGA-H2D brings advanced sensing technology to a practical design that increases efficiency, saves installation time, cuts costs, and extends property protection capabilities. Continuous self-diagnostics ensures reliability over the long-haul, while the latest thermister technology makes these detectors ideal wherever dependable heat detection is required.

Standard Features

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

- Next generation heat sensing technology
- 135 °F (57 °C) fixed temperature alarm point
- Emergency temperature setting from 35 °F to 125 °F (1.7 °C to 51.7 °C)
- Provides temperature sensing per NFPA 72 2016 21.5
- Uses existing wiring
- Automatic device mapping
- Sensor Markings Provide Easy Testing Identification
- Up To 250 Total Signature Devices Per Loop
- Non-volatile memory
- Electronic addressing
- Bicolor (green/red) status LED
- Standard, relay, fault isolator, and audible mounting bases
- 50 foot (15.2 meter) spacing

Application

The SIGA-H2D dual reporting heat detector is ideal wherever temperature is critical to life safety or building integrity. The SIGA-H2D Alarm threshold is fixed at 135 °F (57.2 °C). There is no pre-alarm for this function. Instead, pre-alarm settings are reserved in the SDU for the detector's Emergency reporting feature, which may set between 35 °F and 125 °F (1.7 °C to 51.7 °C) in 5 °F increments. The Emergency reporting feature may be used for elevator lobbies, machine rooms, and other areas that are sensitive to temperature extremes.

Elevator Lobbies

The Emergency reporting capability can be used to report elevated temperatures in elevator lobbies as defined by NFPA 72 2016 Section 21.5. Under this section, these spaces may be used for occupant evacuation if they are monitored by Emergency reporting detectors and if the protected spaces meet relevant building codes.

This provision for Emergency reporting represents a significant departure from traditional life safety requirements, which typically precluded the use of elevators as a means of occupant evacuation. In fact, some of the latest building codes no longer require an additional interior stairway where a code-compliant elevator and elevator lobby is approved for use as a means of occupant evacuation. This new allowed use has a significant impact on building evacuation plans and on interior building architecture.

Heat and freeze warnings

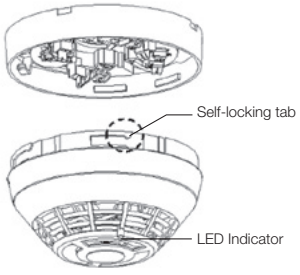
The SIGA-H2D Emergency threshold may be set to report abnormally high or low temperatures. In machine rooms it may be used to monitor for temperature rises caused by equipment malfunction. In areas served by sprinkler, deluge, or water mist systems, the SIGA-H2D may be used to warn of freezing conditions that could compromise the operation of these systems.

Compatibility

Signature Series heat detectors are compatible only with the Signature loop controllers in EST3 and EST3x.

Installation

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



Sensing and reporting technology

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

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

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

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

Accessories

Detector mounting bases have wiring terminals that are accessible from the "room-side" after mounting the base to the electrical box. The bases mount to North American 1-gang boxes and to 3½ inch or 4 inch octagon boxes, 1½ inches (38 mm) deep. They also mount to European BESA and 1-gang boxes with 60.3 mm fixing centers. The SIGA-SB4, SIGA-RB4, and SIGA-IB4 mount to North American 4 inch sq. electrical boxes in addition to the above boxes. They include the SIGA-TS4 Trim Skirt, which is used to cover the "mounting ears" on the base. The SIGA-AB4G mounts to a 4 inch square box only.


SIGA-AB4G/T/LF
Audible Base


SIGA-SB
Standard Base


SIGA-IB
Isolator Base


SIGA-RB
Relay Base


SIGA-LED
Remote LED

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

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

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

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

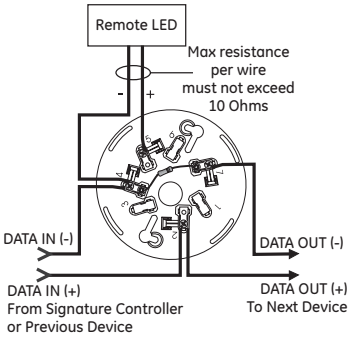
Typical Wiring

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

Standard Detector Base, SIGA-SB, SIGA-SB4

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

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



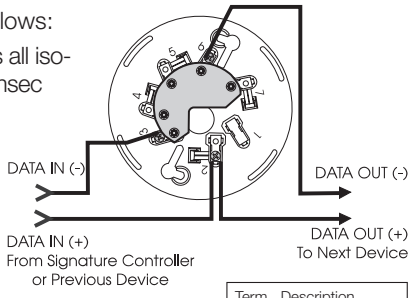
Isolator Detector Base, SIGA-IB, SIGA-IB4

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

The isolator operates as follows:

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

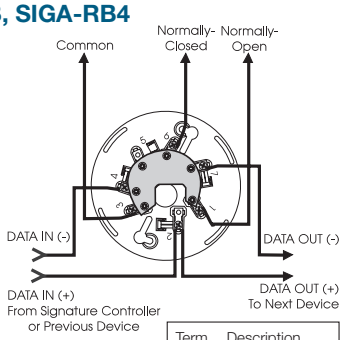
The process repeats beginning on the other side of the loop controller.



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

Relay Detector Base, SIGA-RB, SIGA-RB4

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

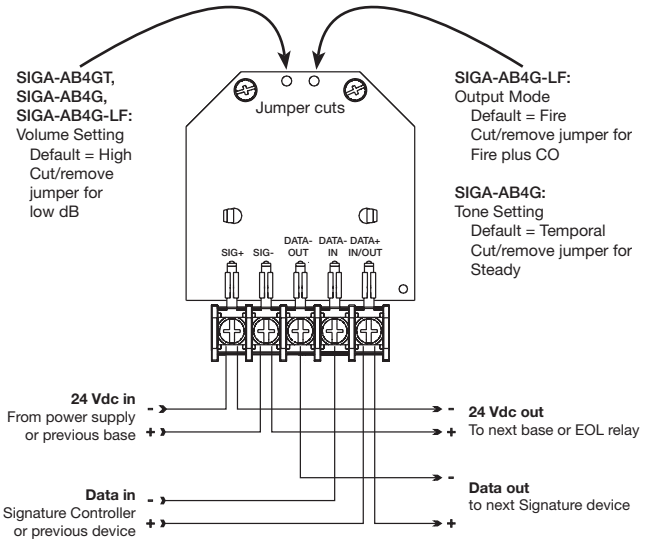


CONTACT RATING
1.0 Amp @ 30 VDC
(Pilot Duty)

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

Audible Sounder Bases, Fire Mode

AB4GT, AB4G, AB4G-LF sounder bases



Warnings & Cautions

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

LIFE SAFETY & INCIDENT MANAGEMENT

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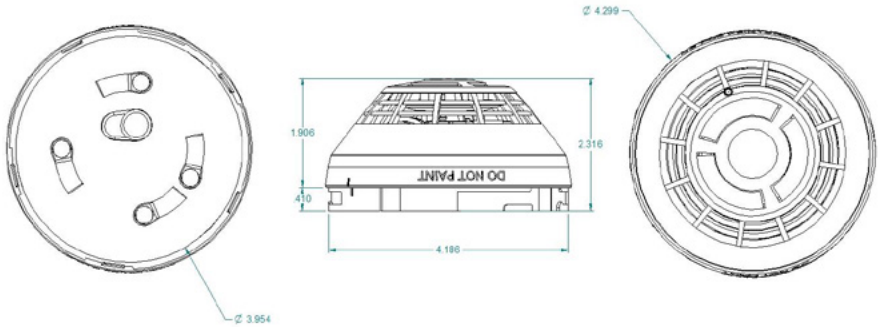
Dimensions



Specifications

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

Ordering Information

Catalog Number	Description	Ship Wt. lbs (kg)
SIGA-H2D	Intelligent fixed temperature heat detector with dual reporting	0.4 (0.16)

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