Honeywell

XLS-HFS/HRS
Intelligent Heat Detectors

SPECIFICATION DATA

FEATURES

- **70-foot (21.3m) Spacing**
- **135°F (57°C) Fixed Temperature Detector Type**
- **Combination 15°F (9°C) Per Minute Minimum Rate-Of-Rise and/or 135°F (57°C) Fixed Temperature Detector Type**
- **Integral Microprocessor**
- **Non-volatile Memory**
- **Electronic Addressing and Device Mapping**
- **Continuous Self-Diagnosis and Storage of Environmental and Operational Data**
- **One Red and One Green Status LED**
- **Standard, Relay, and Fault Isolator Mounting Bases**
- **Design and Manufacture per ISO 9001 Standards**

GENERAL

The XLS-HFS and XLS-HRS Intelligent Heat Detectors gather analog information from their fixed temperature and/or rate-of-rise heat detecting elements and convert it into digital signals. An on-board microprocessor measures and analyzes these signals. It 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, thus eliminating most unwanted alarms.

Continuously running self-diagnostics update device statistics and store them in a history log in non-volatile memory. The history log contains information such as detector type, serial number, and address; manufacture date; hours of operation; analog signal patterns just before the last alarm; and time and date of last alarm.

The electronically coded serial number and address enable controllers on the same circuit to automatically map the location of the detector and use that information in “as-built” drawings.

DESCRIPTION

Each XLS-HFS/HRS Intelligent Heat Detector contains its own microprocessor to provide on-site analysis of environmental conditions for immediate alarm detection and response. It runs continuous self-checks to track its own operation and maintain a history of environmental conditions. The microprocessor stores the results of the self-check in a history log in the detector's permanent, non-volatile memory. Some or all of this information can be printed for review from the control panel on the XLS1000 Loop Controller, a Personal Computer (PC) laptop interface, or the SSST Signature Series Service Tool. History log information includes:

- detector type, serial number, and address.
- date of manufacture, hours of operation, and last maintenance date
- current detector (ambient) temperature values
- number of recorded alarms and troubles
- time and date of last alarm
- analog signal patterns just before the last alarm
- up to 32 possible trouble codes that the detector can use to specify faults.

On-board intelligence permits the detector to operate in stand-alone mode. If controller communication fails for more than 4 seconds and remains powered, all devices on that circuit go into stand-alone mode. The circuit acts like a conventional alarm receiving circuit. Each detector on the circuit continues to collect and analyze information from its surroundings. Both the XLS-HRS and XLS-HFS detectors alarm if the ambient temperature increases to 135°F (57°C). The XLS-HRS also alarms if the temperature increases at a rate exceeding 15°F (9°C)/minute. If the detector is mounted to a relay base, the relay operates.

On-board intelligence also 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 a new condition to report. This feature provides very fast response time and allows use of a lower baud rate for communication on the loop. The lower baud rate offers several advantages including:

- less sensitivity to circuit wire characteristics
- less sensitivity to noise glitches on the cable
- less emitted noise from the wiring

The detector automatically identifies dirty or defective conditions and issues a "dirty detector" message.

APPLICATION

These detectors are best suited for detecting open wood fires and liquid fires without smoke. They are also very suitable for n-Heptane fires and are suitable for poly urethane foam fires.

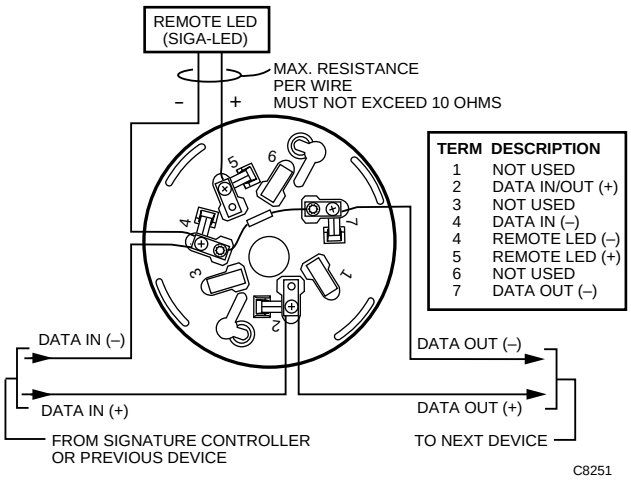
They are not suitable for fires with wood pyrolysis and smoldering cotton.

TYPICAL WIRING

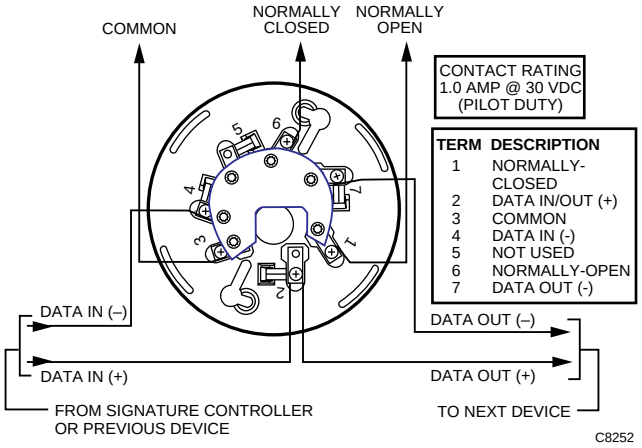
The detector mounting bases accept 18 AWG (0.75 sq. mm.), 16 AWG (1.0 sq. mm.), and 14 AWG (1.5 sq. mm.) wire sizes.

NOTE: Sizes 16 AWG (1.0 sq. mm.) and 18 AWG (0.75 sq. mm.) are preferred for ease of installation.

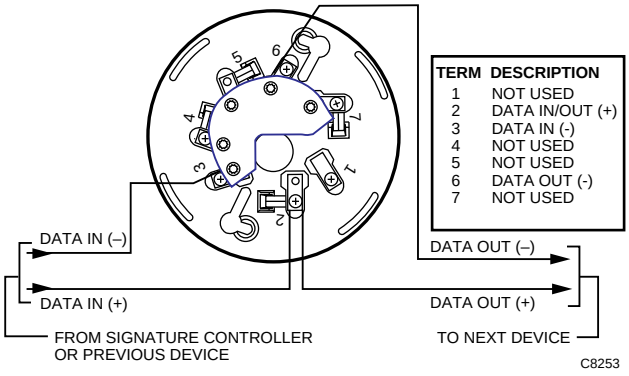
Standard Detector Base, SIGA-SB, SIGA-SB4

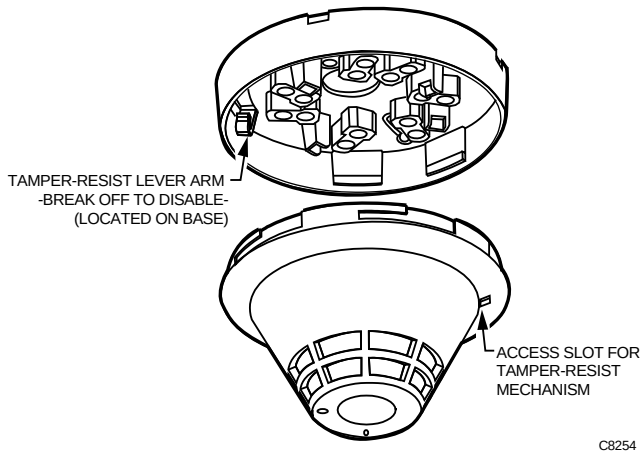


Relay Detector Base, SIGA-RB, SIGA-RB4



Isolator Detector Base, SIGA-IB, SIGA-IB4





⚠ CAUTION

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

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

The heat detector in this device only provides a source of information to supplement the information provided by photoelectric or ionization smoke detectors which may be located nearby. The heat detector by itself does NOT provide life safety protection. Under no circumstances should heat detectors be relied on as the sole means of fire protection.

SPECIFICATIONS

Heat detecting Element:
XLS-HFS: Fixed Temperature
XLS-HRS: Combination Fixed Temperature/Rate-of-Rise

Alarm Point:
XLS-HFS: Alarms at 135°F (57°C) ambient
XLS-HRS: Alarms at 135°F (57°C) ambient or temperature increases exceeding 15°F (9°C) per minute

Operating Environment:
Temperature: 32 to 100°F (0 to 38°C)
Humidity: 0 to 93% RH, non-condensing
Storage Temperature: -4 to +140°F (-20 to 60°C)

Operating Voltage:
15.2 to 19.95V dc (19V dc nominal)

Operating Current:
Quiescent: 45µA at 19V
Alarm: 45µA at 19V
Emergency Stand-alone Alarm Mode: 18 mA
Pulse Current: 100 µA (100 msec)
During Communication: 9 mA maximum

Shipping Weight:
0.5 lb. (0.23 kg)

Carton Dimensions in Inches (Millimeters):
5 (127) wide by 3-3/5 (91) high by 5 (127) deep

Construction and Finish:
High Impact Engineering Polymer - White

All electronics utilize surface mount technology (SMT) for smaller size and greater immunity to RF noise. A conformal coating is used for humidity and corrosion resistance. All critical contacts are gold plated.

Installation Spacing:
Up to 70 ft. (21.3 m) center-to-center spacing. These detectors may be installed in rooms with normal ambient temperatures up to 100°F (38°C).

Mounting:
All detector mounting bases have wiring terminals that are accessible from the “room-side” after mounting the base to the electrical box.

Signature Series detectors mount to bases (see next item, Mounting Bases). For North American 1-gang boxes; 3-1/2 in. or 4 in. octagon boxes; and European BESA and 1-gang boxes with 60.3 mm fixing centers, you can use the SIGA-SB Mounting Base. For 4 in. square electrical boxes (purchased locally) 1-1/2 in. (38 mm) deep, a Trim Ring is used with SIGA-SB4 Mounting Base.

Mounting Bases:
SIGA-SB, SIGA-SB4 Standard Base

SIGA-RB, SIGA-RB4 Relay Base. This base includes a relay. Normally open or closed operation is selected during installation. The dry contact is rated for 1 A at 30V dc (pilot duty). The relay’s contact positions are supervised to issue a trouble message if the detector is accidentally jarred and the contacts switch position. The relay base does not support the SIGA-LED Remote LED.

SIGA-IB, SIGA-IB4 Isolator Base. This base includes a built-in line fault isolator. A detector must be installed for it to operate. The integral isolator relay is controlled by the detector or the loop controller. A maximum of 96 isolator bases can be installed on one circuit. The isolator base does not support the SIGA-LED Remote LED.

Accessories:
Remote LED SIGA-LED (SIGA-SB or SIGA-SB4 Standard Base only). It features a North American size 1-gang plastic face plate with a white finish and red alarm LED.

SIGA-TS Trim Skirt - Supplied with 4 in. bases, it can also be ordered separately to use with the smaller bases.

LED Operation:
On-board Green LED flashes when polled.
On-board Red LED flashes when in alarm.
Both LEDs glow steady when in alarm (stand-alone mode).
Compatible Remote Red LED (model SIGA-LED) flashes when in alarm.

Compatibility:
XLS1000 Loop Controllers

Address Requirements:
One Device Address

Standards:
International ISO 9001 standards

Approvals:
UL, ULC

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