

FCH-350 Heat Detectors



The FCH-350 series fixed temperature/rate-of-rise heat detectors are suited for installation where high heat output fires are expected or in areas where ambient conditions would not allow use of other detection methods. Heat detectors are intended for protection of property.

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Heat detectors are not life safety devices. Where life safety is a concern, smoke detectors must also be used. A UL listed fire alarm panel must electronically supervise the FCH-350-135/-190 heat detectors.

System overview

The FCH-350-135/-190 fixed temperature/rate-of-rise heat detectors are suited to detect in the presence of slow or fast rising temperatures due to burning combustibles. The construction of these models incorporate a thermistor heat element protected from damage by the built-in, durable plastic guard. These electronic heat detectors incorporate two power/ alarm LED's for 360° indication of status. In standby condition the power LED's flash green. In an alarm condition the LED's latch on red. The FCH-350-135/-190 electronic heat detection circuitry performs the same function as a Mechanical Device, but with Electronic Precision. If the heat rise is less than 12°/minute the detector will not alarm until it reaches its alarm temperature (135° or 190° ± 7.5°F). If the heat rise is greater than 12°/minute the detector will alarm immediately giving an early warning signal and latching the Red alarm LED's on.



- ▶ Fixed temperature/rate-of-rise 135°F or 190°F heat detector
- ▶ 2-wire, 4-wire, and POPIT base compatibility
- ▶ Highly stable operation, RF/Transient protection
- ▶ Two built-in power/alarm LED's for 360° viewing
- ▶ Power/alarm LED's confirm detector status

Functions

The FCH-350-135F can be installed in ambient temperatures that do not exceed 120°F. For areas where ambient temperatures exceed 120°F, but not 160°F, the FCH-350-190 fixed temperature/rate-of-rise heat detector rated at 190°F can be used. Electrical contacts shall be normally open, rated at 150mA @ 24VDC.

Heat detectors shall be installed in accordance with National Fire Protection Association Standard 72, the spacing assigned by Underwriters Laboratories and in accordance with the rules and regulations set forth by the local authorities having jurisdiction. Automatic heat detectors shall be Underwriters Laboratories listed.

Compatible Bases

The detectors are addressable, two-wire or four-wire depending on the mounting base selected. These detectors are compatible with any of the FCA-350 bases:

- FCA-350-B6 12/24 VDC Two-wire Mounting Base
- FCA-350-B6R24 24 VDC Four-Wire Mounting Base
- FCA-350-B6R12 12 VDC Four-Wire Mounting Base
- FAA-350 addressable POPIT Mounting Base (FCH-350-135 model only)

Dual-color LED

The detectors incorporate two power/alarm LEDs for 360° indication of status. In standby condition, the power LED's flash green. In an alarm state, the LED's latch on red.

Supervision

The control panel supervises two-wire systems with an EOL resistor. Supervision is provided by end-of-line (EOL) power supervision resistor as specified by the control panel manufacturer.

Supervision of four wire circuit is provide by end-of-line (EOL) supervision relay. POPIT supervision is managed by the control panel bus.

Regulatory information

Region	Agency	Certification
US	UL	UL 521: Heat Detector for Fire Protective Signaling Systems
	CSFM	California State Fire Marshall (see our website)
	FM	FCH-350 Heat

Installation/configuration notes

Compatible Control Panels

Addressable Systems: These detectors are compatible with addressable systems when using Bosch FAA-350 Addressable Detector Bases and B299 or D8125 addressable modules.

Two-wire: These detectors are compatible with conventional two wire systems when using Bosch FCA-350-B6/FCA-350-B4 Detector Bases and the B201 or D125B modules.

Four-wire: These detectors are compatible with all UL Listed four-wire control panels when using the Bosch FCA-350-B6R24/FCA-350-B6R12. For proper end-of-line (EOL) resistor selection, see the control panel's installation instructions.

Mounting the bases

Depending on local regulations, the bases can be surface mounted directly on four-inch square or octagonal electrical boxes and single-gang switch boxes.

End-of-Line power supervision

Loop supervision requires one PAM-4 per loop when using FCA-350-B6R24/B6R12 bases and is accomplished by the control panel.

Wiring the bases

For detailed wiring instructions, see the FCH-350 Series Detectors Installation Instructions.

Technical specifications

Mechanical

Dimensions (H x W x D) (cm)	10.03 cm x 10.03 cm x 3.81 cm
Dimensions (H x W x D) (in)	3.95 inch 3.95 inch x 1.50 inch
Weight	3.4 oz
Material	Plastic (ABS)

Color Ivory

Environmental

Response temperature	135 +/- 7.5°F 190 +/- 7.5°F
Relative Humidity	0% to 95% non-condensing
Operating temperature (C)	0°C - 49°C
Operating temperature (F)	32°F - 120°F
Usage	Indoor/dry

Note: The normal environment where these detectors are installed should be within the specified normal operating temperature limits.

Electrical

Voltage	17.7 - 30.0 VDC (4 wire) 15.0 - 33.0 VDC (2 wire)
Supervisory current (detector head only)	40µA @24 VDC
Surge current	160µA max. @ 24 VDC
Alarm current	150mA maximum @ 24 VDC

Ordering information

FCH-350-135 Heat detector head, fixed/ROR, 135

Fixed temperature heat detector head, requires base.
Order number **FCH-350-135 | F.01U.397.733**

FCH-350-190 Heat detector head, fixed/ROR, 190

Fixed temperature heat detector head, requires base.
Order number **FCH-350-190 | F.01U.397.734**

FCA-350-B4 Detector base, 4", 2-wire

Standard base for two-wire applications. The base works with the FCP-350 series smoke detectors and FCH-350 heat detectors.
Order number **FCA-350-B4 | F.01U.397.740**

FCA-350-B6 Detector base, 6", 2-wire

Standard base for two-wire (12 VDC or 24 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6 | F.01U.397.737**

FCA-350-B6R12 Detector base, 6", 4-wire, 12V

Standard base for four-wire (12 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6R12 | F.01U.397.739**

FCA-350-B6R24 Detector base, 6", 4-wire, 24V

Standard base for four-wire (24 VDC system) applications. The base works with the FCH-350 and FCP-350 smoke detectors and heat detectors.
Order number **FCA-350-B6R24 | F.01U.397.738**

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