

Overview

The GE FX7 Series conventional self-diagnostic, smoke detectors, with CleanMe® continually monitor their own sensitivity and operational status, and provide a trouble condition at the FireworX conventional control panel and FX detector if they drift out of sensitivity range or fail internal diagnostics. This meets NPFA 72 field sensitivity requirements without the need for external meters.

Additional diagnostic information is activated by applying a magnet near the detector's integral reed switch. This initiates a self-diagnostic routine and provides visual indication of sensitivity level, or if service is required.

If the 400 Series ever does require cleaning simply replace GE's patented field-replaceable optical chamber. All models are designed to reduce false alarms from dust, insects, RFI and external light.

An integral combination rate-of-rise and fixed 135°F (57°C), 50-foot rated, heat sensor is available with all "T" model detectors (see selection guide). An integrated silicon heat sensor and a dedicated microprocessor are used to detect heat and perform the rate of rise calculations, for earlier heat detection.

The 400 Series models allow latching of the alarm for either smoke or heat. The 449CSRH includes an isolated alarm output for heat and activates an internal non-latching sounder (local alarm) for smoke, making it ideal for motel/hotel and dormitory rooms where smoking is permitted.

Standard Features

- Self-diagnostics continuously monitor operational status
- Field-replaceable optical chamber
- CleanMe smoke detector maintenance reporting between conventional FX7 Series and FireworX FACP's
- Low-profile design
- Advanced false alarm immunity
- Models to meet most any application
- Backwards compatible with ESL 400 Series Smoke Detectors
- Optional features include:
 - Integral 85dB temporal sounder
 - Auxiliary Relay
 - Built-in Power Supervision Relay
 - Integral fixed/Rate-of-Rise heat detector
 - Isolated fixed/Rate-of-Rise heat detector
 - 2 and 4 wire models
 - Wide 2 wire compatibility listing

Conventional Photoelectric Smoke Detectors

400 Series



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Engineering Specification

The GE 400 Series low-profile, self-diagnostic, smoke detectors work on the light scattering principle. A pulsed infrared lightemitting diode serves as the light source, and a high-speed photo-diode as the sensing element. When the amount of light reflected onto the photodiode reaches the sensitivity setting, the smoke sampling rate increases. Three (3) successive smoke sensings above the sensitivity setting are required to sound an alarm. This design has superior protection against false alarms caused by dust, insects, RF and ambient-light.

A confirmed alarm causes the normally flashing power indicator LED to light continuously and the optional alarm relay (available in "R" models) to operate. A trouble indication is automatically displayed by flashing the LED every second. An internal 85 dB horn (available in "S" models) emits a temporal tone when the detector alarms or when power polarity is reversed. The proprietary optical sensing chamber is field replaceable, allowing quick and easy cleaning and maintenance.

Models with auxiliary relays are approved for releasing service. The low profile 400 Series detectors are equipped with a hinged cover, a concealed tamper-resistant latch, and insect screens. All wiring terminates in plug-in, clamp-type screw terminals. The detectors mount to a standard single-gang electrical box, a four inch octagonal, four-inch square electrical box, or WIREMOLD No. 5739 fixture box.

Technical Specifications

Electrical

Sensitivity: max	1.26-2.25%/ft., min: 1.60-2.80%/ft.
Operating temperature	32°F to 120°F (0 to 50°C)
Operating humidity range	0 to 95% RH
Minimum voltage	C, CT, CRT, CST, CSRT, CSRH: 8.5V AT: 6.5V
Maximum voltage	C, CT, CRT, CST, CSRT, CSRH: 33V AT: 20V
Maximum ripple	10% (peak to peak)
Standby current	70μA, CSTE: 23mA (typical average)
Field wiring size	14-24 AWG
Alarm current	Draws max of 60mA if not limited by panel
Typical alarm current	C, CT, AT: 15mA CRT: 31mA CST: 40mA CSRT, CSRH, CSTE: 51mA
Polarity reverse current	CST, CSRT, CSRH, CSTE:10mA (Max. avg.)
Sounder specifications	85dB at 10ft.

Environmental

Fixed temp	135°F ± 5°F (57.2°C ± 2.8°C)
Rate of rise	15°F/min., >105°F (8.3°C/min., >40.6°C)
Alarm relay specifications	2A @ 28V DC or 120V AC (resistive)

Physical

Packaging	10 smoke heads & bases per carton
Color	White cover/white base with UV inhibitor to prevent yellowing
2-wire compatibility	See GE Compatibility Index

Regulations

Listings	UL 268, FM, CSFM and MEA (New York City) for Canadian ULC listed products use 4x8 series
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Ordering Information

400	Self-Diagnostic Photoelectric Smoke Detector
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