

Overview

GE brand 500 Series two- and four-wire conventional photoelectric smoke detectors bring together trusted technology and a full line of features that meet the demands of every type of application. The 500 offers sounders in two- and four-wire applications, specifically to meet residential code requirements.

The 500 Series also offers choices for optional auxiliary relays and isolated heat sensors, not available before in the 500 Series.

GE is also proud to offer proven technology like CleanMe®, dust compensation, field replaceable optical chambers, and self-diagnostics. CleanMe® is only available on the 500 2-wire models and will communicate to the GE FireworX panels when servicing is required.

500 Series detectors work on a light-scattering principle. A pulsed infrared light-emitting diode serves as the light source, and a high-speed photo diode as the sensing element. This design has superior protection against nuisance alarms caused by dust, insects, RF interference, and ambient light.

The proprietary optical chamber is field replaceable. In the event of a confirmed alarm the LED will light continuously. The unit indicates trouble by flashing the LED every second. This meets the NFPA 72 field sensitivity testing requirements.

Units with built-in 85dBA sounders emit a temporal 3-3-3 tone pattern when in alarm and will emit a steady tone when the input power is reversed. All wiring terminates 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.

Standard Features

- Remote maintenance (**CleanMe®**) reporting (2-wire models) and built-in drift compensation reduces false alarms
- Self diagnostics eliminates the need for external meters
- Field-replaceable optical chamber makes service fast and simple
- Small, low profile design blends with any environment
- Optional auxiliary functions include:
 - Integral sounder
 - Fixed/Rate-of-Rise heats
 - Auxiliary relay
 - Single station smoke with system heat
 - Built-in power supervision relay

Smoke Detectors with Auxiliary Functions

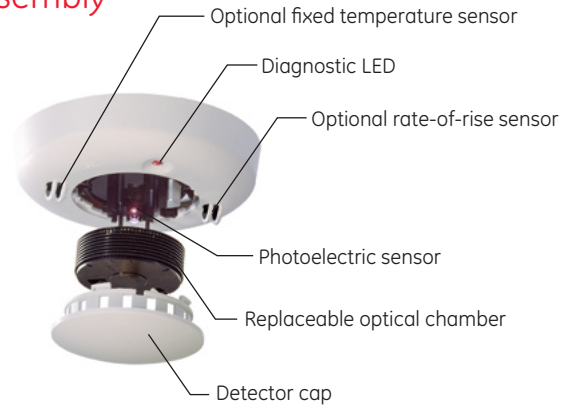
500 Series



Application

500 Series detectors are ideal for both retrofit applications and new installations alike. They are particularly well-suited for installations where detector reliability is essential, but where analog devices may not be appropriate or feasible. With their replaceable optical chambers, these detectors are equally well-suited to dusty environments where detectors require frequent cleaning.

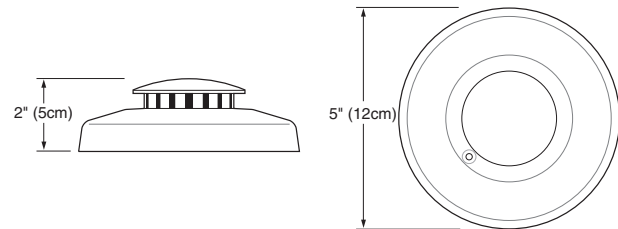
Assembly



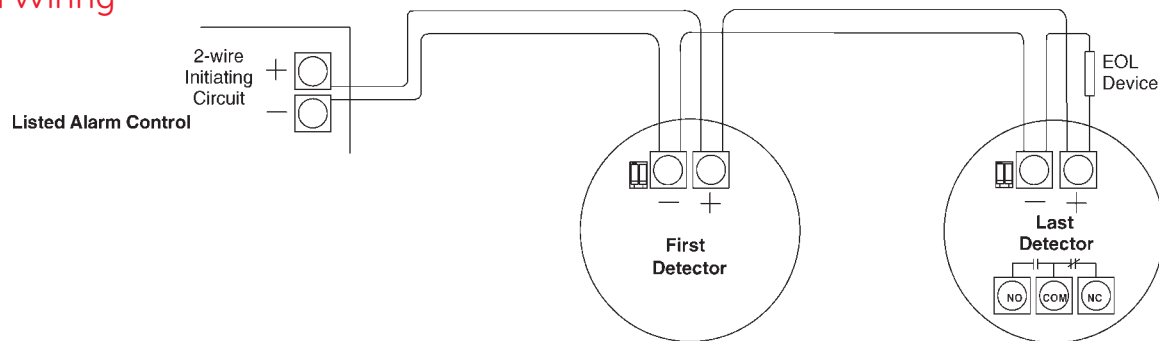
Mounting and Installation

500N detector bases mount directly to standard single-gang electrical boxes, three-inch round, or four-inch octagonal boxes. Detector heads simply twist onto the base. Heads are equipped with a break-away locking tab, which prevents unauthorized removal. Terminals accept 12 to 24 AWC field wiring.

Dimensions



Typical Wiring



Specifications

Electrical

Power Supply	8.5-33VDC (12/24 V operation) polarity sensitive
Maximum ripple pk-pk (6/12/24V)	10% (Vpk-pk)
Typical average standby current	70 μ A
Typical alarm current (6/12/24V)	up to 60 mA max if not limited by control panel
Auxiliary relay contacts	1.0 A @ 30 VDC; Form C
Alarm contacts	500 mA @ 36 VDC (resistive)
Photoelectric sensitivity	3.1% + 0.5 - 1.0%

Environment

Operating temperature	32° to 100° F (0° to 37° C)
Operating humidity range	0 to 95% non-condensing
RFI immunity	20 V/m min; 0-1000 MHz

Physical

Color	White
Field wiring size	12-24 AWG (16-22 recommended)
Detector packaging	10 detectors per carton
Heat detector specifications	Rate-of-Rise: 15° F/min and >105° F (8.3° C/min and >40.6° C) Fixed Threshold: 135° F (57.2° C)
UL 2-wire compatibility identifiers	S10A, S11A
Drift compensation adjustment	1.0% ft. max
Detector head dimensions	5.5 D x 2" H (14.0 x 5 cm)
Mounting dimensions	5.25" (13.3 cm) diameter; 0.3" (0.8 cm) height

Regulations

Reset time	1 second min
Listings	C-UL-US, CSFM, MEA

Ordering Information

Model	Description	Compatibility	Alarm Current (mA)	Reverse polarity (mA)
521B	2-wire, photoelectric, 6-33VDC	S09A/S10A	5 min. - 60 max.	
521BXT	2-wire, photoelectric, 6-33VDC, fixed temp and rate-of-rise heat	S09A/S10A	5 min. - 60 max.	
521NCRXT	2-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, aux. relay	S11A	15 min. - 60 max.	
521NCSXT	2-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, temporal 3 sounder	S10A	10 min. - 60 max	10
521NCSRXT	2-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, aux. relay temporal 3 sounder	S11A	15 min. - 60 max	10
541C	4-wire, photoelectric, 6-33VDC	N/A	20	
541CXT	4-wire, photoelectric, 6-33VDC, fixed temp and rate-of-rise heat	N/A	20	
541NCSRXT	4-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, aux. relay, temporal 3 sounder	N/A	35	13
541NCSXTE	4-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, built-in end of line relay, temporal 3 sounder	N/A	45	28
541NCSRH	4-wire, photoelectric, 8.5-33VDC, isolated fixed temp and rate-of-rise heat, aux. relay, temporal 3 sounder, non-latching LED with auto reset	N/A	35	13
541NCRXT	4-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, aux. relay	N/A	25	
541NCXTE	4-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, built-in end of line relay	N/A	35	
541NCSXT	4-wire, photoelectric, 8.5-33VDC, fixed temp and rate-of-rise heat, temporal 3 sounder	N/A	30	13
548C	4-wire, photoelectric, 8.5-33VDC, ULC Listed			
548CT	4-wire, photoelectric, heat, 8.5-33VDC, ULC Listed			

Note: Only 500 Series 2-wire smoke detectors are CleanMe compatible.

Options (add the following suffixes as appropriate)

B	6-33VDC operation
C	8.5-33VDC operation
E	End-of-Line relay
H	Isolated rate-of-rise and fixed temp sensors
R	Auxiliary relay
S	85dBa sounder
XT	Rate-of-rise and fixed temp sensors

Accessories

405-05	Polarity reversal module enables sounder interconnection of all 4-wire smoke detectors, when initiating detector sounds all smokes sound.
401	Test magnet in a plastic shell for pole mounting
SM200-12PKG	<i>Smoke in a Can!</i> [®] canned smoke for functional testing
SM-ext1L	<i>Smoke in a Can!</i> [®] extension tube
211-10PKG	Replacement optical chambers (set of 10)
500PLT-5PKG	6" trim ring for wider coverage area

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