

Smoke Detectors with Auxiliary Functions

500 Series



Overview

Edwards brand 500 Series two-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-wire applications, specifically to meet residential code requirements.

Edwards 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 with compatible FACP's 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 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
 - Auxiliary relay
 - Fixed/Rate-of-Rise heats

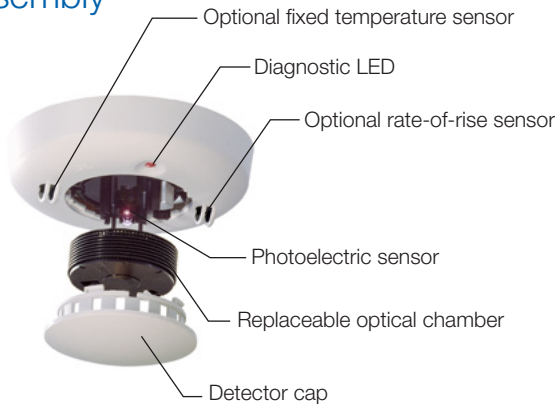
Application

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.

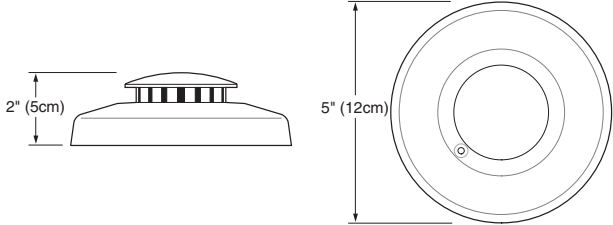
Mounting and Installation

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 24 to 12 AWG field wiring.

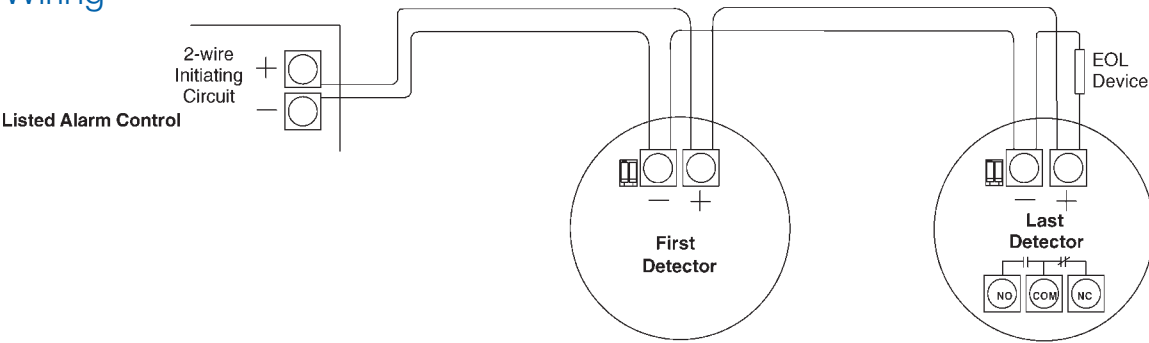
Assembly



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 (521NCRXT only)	1.0 A @ 30 VDC; Form C
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	12-18 AWG (16-22 recommended)
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
Sounder output (521NCSXT only)	85dB @ 10 feet
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

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

Suffix Designations

B	6-33VDC operation
C	8.5-33VDC operation
R	Auxiliary relay
S	85dBa sounder
XT	Rate-of-rise and fixed temp sensors

Accessories

211-10PKG	Replacement optical chambers (set of 10)
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Detection & alarm since 1872

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