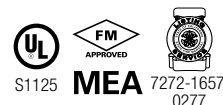


Smoke Detectors with Auxiliary Functions

500N Series



OVERVIEW

500N Series two-wire conventional photoelectric smoke detectors bring together trusted technology and a full line of features that meet the demands of both residential and commercial applications. The 500N offers sounders in two-wire applications, specifically to meet residential code requirements.

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

500N 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 protects 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.*

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. The magnet test causes the LED to blink. The number of blink counts corresponds to a smoke detector sensitivity range.

Models with a built-in 85dB sounder emit the temporal 3 pattern and can be interconnected using the 405-05 polarity reversal relay. This enables all detectors to sound when the initiating detector sounds and meets the requirement of the International Residential Building Code (IRC).

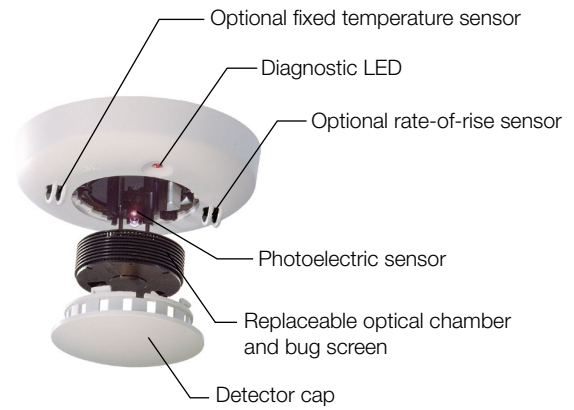
STANDARD FEATURES

- Remote maintenance (CleanMe®) reporting and built-in drift compensation reduces false alarms
- Self-diagnostics meets NFPA 72 sensitivity testing requirements without the need for external meters
- Field-replaceable optical chamber makes service fast and simple
- Large SEMS screw terminals accept 12-18 AWG wire
- Small, low profile design blends with any environment
- Optional auxiliary functions include:
 - Integrated sounder with optional interconnection
 - Auxiliary relay is NFPA 72 listed for applications such as elevator recall
 - Fire system isolated heat detector, integrated with non-latching single station smoke detector
 - Integrated fixed/ROR heat detector
 - Adaptor plate enables replacing legacy 400 Series with 500N Series smoke detectors

Application

500N 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 typical analog/addressable 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.

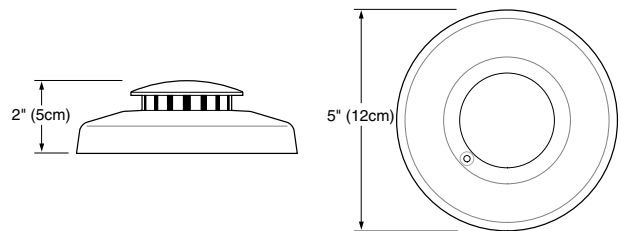
Assembly



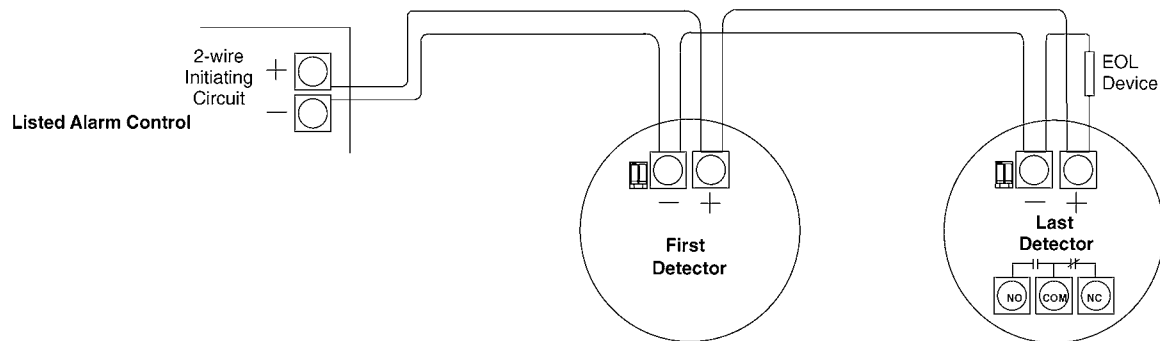
Mounting and Installation

500N Series 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. SEMS terminals accept 24 to 12 AWG field wiring.

Dimensions



Typical Wiring



Specifications

Electrical

Voltage	For standard 6/12 V operation (6.5 to 20 VDC), polarity sensitive
	For standard 12/24 V operation (8.5 to 33 VDC), polarity sensitive
Maximum ripple (6/12/24V)	10% (Vp-p)
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
Photoelectric sensitivity	2.0% + 1.08 - 1.02

Environment

Operating temperature	32° to 100°F (0° to 37°C)
Operating humidity	0 to 95% non-condensing

Physical

Field wiring size	12 to 24 AWG (16 to 22 AWG recommended)
Electrical boxes	Fits standard single-gang and 3-1/2 in. and 4 in. round ceiling electrical boxes
Heat detector	Rate-of-Rise: 15°F/min and > 105°F (9.4°C/min and > 40.6°C) Fixed threshold: 135°F (57.2°C)
UL 2-wire compatibility identifiers	S09A, S10A, S11A
Drift compensation adjustment	1.0% ft. max
Detector head dimensions	5.5 D x 2 in. H (14.0 x 5cm)
Mounting dimensions	5.25 in. (13.3cm) diameter; 0.3 in. (0.8cm) height
Reset time	1 second minimum

Regulations

Listings	CSFM UL268 and CAN/ULC-S531
----------	--------------------------------

Smoke Detectors with Auxiliary Functions

500N Series

Ordering Information

Two-Wire Models

521NB	Photoelectric 2-Wire Smoke Detector w/CleanMe, S09 Compatible
521NC	Photoelectric 2-Wire Smoke Detector w/CleanMe, S10 Compatible
521NBXT	Photoelectric 2-Wire Smoke Detector w/CleanMe and Heat Sensor, S09 Compatible
521NCXT	Photoelectric 2-Wire Smoke Detector w/CleanMe and Heat Sensor, S10 Compatible
521NCRXT	Photoelectric 2-Wire Smoke Detector w/CleanMe, Heat Sensor and Auxiliary Relay, 8.5 - 33 VDC. Smart Dual Fixed/Rate of Rise Heat Sensors. Auxiliary Relay
521NCSXT	Photoelectric 2-Wire Smoke Detector w/CleanMe, Heat Sensor and Sounder, 8.5 - 33 VDC. Smart Dual Fixed/Rate of Rise Heat Sensors. 85DB Sounder

Four-Wire Models

541NB	Photoelectric 4-Wire Smoke Detector, 12/24V DC
541NBXT	Photoelectric 4-Wire Smoke Detector w/Heat Sensor, 12/24V DC
541NCRXT	Photoelectric 4-Wire Smoke Detector w/Heat Sensor and Aux. Relay, 12/24V DC
541NCSRH	Photoelectric 4-Wire Smoke Detector w/Heat Sensor, Sounder and Aux. Relay, 12/24V DC
541NCSRXT	Photoelectric 4-Wire Smoke Detector w/Heat Sensor, Sounder and Aux. Relay, 12/24V DC
541NCSXT	Photoelectric 4-Wire Smoke Detector w/Heat Sensor, Sounder, 12/24V DC
541NCSXTE	Photoelectric 4-Wire Smoke Detector w/Heat Sensor, Sounder, End of Line Relay, 12/24V DC
541NCXTE	Photoelectric 4-Wire Smoke Detector w/Heat Sensor and End of Line Relay, 12/24V DC

Accessories

405-05	Polarity reversal module enables sounder interconnection of all 4-wire integral sounder smoke detectors
SM200-12PKG	Smoke! in a Can® canned smoke for functional testing
SM-EXT1	Smoke! in a Can extension tube
211-10PKG	Replacement optical chambers (set of 10)
500PLT-5PKG	Plate adapts 500 Series footprint to larger 400 series footprint, Package of 5

Features

B	6.5 to 20 VDC operation for Two-wire devices
B	6.5 to 33 VDC operation for Four-wire devices
C	8.5 to 33 VDC operation
E	End-of-line relay
H	Isolated rate-of-rise and fixed temp. sensors
R	Auxiliary relay
S	85 dBA sounder
XT	Multiple criteria algorithm, rate-of-rise and fixed temp. sensors

Style

N	New style
----------	-----------

Wiring

2	Two-wire
4	Four-wire



interlogix.com

Specifications subject to change without notice.

© 2018 United Technologies Corporation.
All rights reserved.

All trademarks are the property of their respective owners. Interlogix is part of UTC Climate, Controls & Security, a unit of United Technologies Corporation.

2018/01 (GSP-2182)