



400 Series Plug-In Thermal Detectors

System Sensor 400 Series plug-in thermal detectors meet the performance criteria designated by Underwriters Laboratories.



Features

- Low standby current
- Two visible LEDs "blink" in standby and provide a 360° field viewing angle
- Wide variety of mounting bases with built-in shorting spring
- Detector head plugs easily into base
- Built-in test switch
- Field sensitivity metering of detector to meet the requirements of NFPA 72
- Built-in tamper-resistant feature
- SEMS screws for easy wiring
- Optional recessed mounting

The 5451 thermal detector meets the needs for applications where rapid response is vital and rapid temperature increases would only be caused by a fire emergency.

This detector contains a unique dual thermistor heat sensing circuit that provides maximum performance and solid-state reliability. It initiates an alarm in response to both rapid rate-of-rise conditions (increases in excess of 15°F per minute) and fixed heat (135°F). This enables the heat detector to communicate an alarm to the central control panel prior to reaching its fixed set point for high rates of rise, providing a timely response to both rapid and slow temperature increases.

Additional key features include a recessed mounting option, a variety of mounting bases, and a full line of optional accessories.

Agency Listings



S2101



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7270-1653-104

400 Series Plug-In Smoke Detector Specifications

Physical/Operating Specifications	
Size	3.2" (8.1 cm) H; 4.0" (10.2 cm) Dia., unflanged base; 6.2" (15.7 cm) Dia., flanged base
Weight	0.3 lb (136 g)
Operating Temperature Range	32°F to 100°F (0°C to 38°C)
Humidity Range	10% to 93% RH non-condensing
Construction	Flame retardant Noryl® plastic
Alarm Point	135°F (57.2°C) or 15°F/min rate-of-rise
Smoke Detector Spacing	On smooth ceilings (as defined in NFPA 72), spacing of 50 feet (2500 sq ft) may be used. Other spacing may be used depending on ceiling height, high air movements, and other conditions or response requirements.
Standby Current	100 µA maximum
Operating Voltage/Alarm Current	Mounting base dependent (see Mounting Base Selection Guide below)

Mounting Base Selection Guide						
Base Model Number	Version	Loop Type	Current Limit Resistor	Alarm Contact Type	Nominal Voltage	Current Draw on Alarm (mA)
B401†	UL/EN-54	2-wire*	No	—	12/24 VDC††	10 to 100**

*Functionality contingent on panel compatibility.

**Must be limited by control panel.

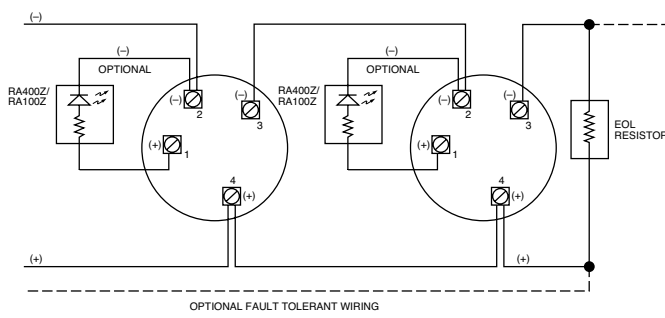
† Flangeless base

†† Although B401 bases are capable of operating at 12 and 24 VDC, they cannot be used with the 5451 in 12 V applications.

Junction Box Selection Guide*							
	Single Gang	3.5" Octagon	4" Octagon	4" Square	50 mm	60 mm	75 mm
B401	No	No	No	No	Yes	Yes	No

*Box depth contingent on base and wire size. Refer to National Electrical Code of local applicable codes for appropriate recommendations.

Wiring



B401

Ordering Information

Part No.	Description
5451	Fixed heat detector with rate-of-rise. Alarm point at 57.2°C (135°F). Must be mounted to one of the 400 Series Bases listed in Mounting Base Guide.

Accessories

RA100Z	Remote annunciator for 2- or 4-wire systems, 3 to 32 V. Use with ion and photo plug-in detectors. Fits standard U.S. single-gang electrical box.
MOD400R	Detector sensitivity test tool. (See above.) Use with most analog or digital multimeters. Satisfies requirement of NFPA 72 for sensitivity testing. (See above.)
EOLR-1	End of line relay for power supervision, 12/24 VDC, 4-wire only.
DUST45	Replacement protective dust cover for plug-in 400 Series.
M02-04-01	Test magnet.
M02-09-00	Test magnet with 32-inch telescoping handle.
XR5	Detector removal tool. Allows installation and/or removal of detector heads from base in high-ceiling installations.
XP-4	Extension pole for XR5. Comes in three 5 ft. sections.

Accessories



The MOD400R Field Sensitivity Test Module can be used with any standard DC voltmeter or multimeter to check the sensitivity range of System Sensor's detectors (satisfies NFPA 72 requirement for sensitivity testing).



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