



EXPLOSION PROOF HEAT DETECTOR 08 EPD/MPB 500 SERIES

FEATURES

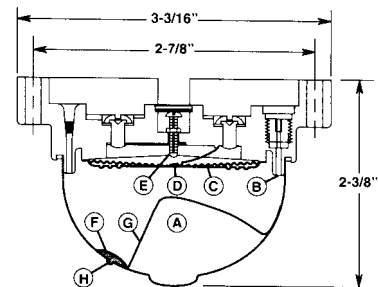
- Cast Metal Enclosure. Special Steel Cover Plate with Attached Standard Mechanism
- 4-wire Entrance, threaded for 1/2" rigid conduit
- Choice of Rate of rise & Fixed Temperature combination or Fixed Temperature Detection
- Suitable for Installation in Class I, Groups C & D, Class II, Groups E, F & G
- UL listed and FM approved



Description

The Progard-Chemtronics Heat Detectors are designed for use in applications requiring protection against weather, moisture and explosive atmospheres. The Series 500 detectors are dual-action electric fire detection thermostat. The detector employs two independent methods of detection.- rate of rise and fixed temperature.

The rate of rise method detects the fire that rapidly grow in intensity. This method quickly responds to abnormally fast temperature increases. The rate of rise element consists of an air chamber, flexible metal diaphragm and restricted orifice vent that can be closely calibrated to control air flow rate in and out of the chamber. The air chamber 'A' will expand and contract as the ambient room temperature changes.



Under normal temperature fluctuations, the unit breathes through its calibrated vent 'B'. Under rapid temperature rise conditions, air expands faster than it can be vented, building up enough pressure to move the thin metal diaphragm 'C' until flexible silver contact 'D' closes the electrical circuit against stationary contacts 'E'. If heat is subsequently removed, pressure is relieved through the vent, and contacts restore to normal.

The fixed temperature method detects the fire that build temperatures to a high level at a slow rate. This method responds to a specific temperature setting. The fixed temperature element is entirely independent of rate of rise. It consists of a phosphor-bronze spring held under tension by fusible eutectic alloy. The spring 'G' is held under tension by a spot of fusible eutectic alloy 'F'. When heated to its rated temperature, the alloy melts, releasing the spring 'G' and closes the contacts.

Construction

Cast metal back box, cover plate, and modified mechanism. Back box has two opposing wire entrances, threaded for 15mm (1/2") rigid conduit. Box, cover and base precision-machined for extremely close-tolerance fit. The PGR-EPB/MPB models are UL listed and FM approved for the following classifications:

- Class I, Group C - Atmospheres containing ethyl-ether vapours, ethylene or cyclo-propane.
- Class I, Group D - Atmospheres containing gasoline, hexane, naphtha, benzene, propane, alcohols, acetone, benzol, lacquer solvent vapours, natural gas.
- Class II, Group E - Atmospheres containing metal dust of aluminium, magnesium or their commercial alloys
- Class II, Group F - Atmospheres containing carbon black, Coal or coke dust
- Class II, Group G - Atmospheres containing flour, starch or grain dust



Electrical Rating

All detectors are one circuit, normally open. In all circuits, current flow through Series 500 should be limited to the following values:

- 6-125 volts AC, 3.0 amps
- 6-28 volts AC, 1.0 amps
- 125 volts, 0.3 amps
- 250 volts, 0.1 amps

Ordering Information

Model	Detector Type/Description	Application	Maximum Spacing Allowance
08 EPB/MPB 501	Rate of Rise and Fixed Temperature 136°F (58°C)	Normal temperature fluctuations and ceiling temperatures not exceeding 100°F (38°C)	50 ft x 50 ft - UL 30 ft x 30 ft - FM
08 EPB/MPB 502	Rate of Rise and Fixed Temperature 190°F (88°C)	Normal temperature fluctuations and ceiling temperatures exceeding 100°F (38°C) but not 150°F (66°C)	50 ft x 50 ft - UL 30 ft x 30 ft - FM
08 EPB/MPB 503	Fixed Temperature only 136°F (58°C)	Unusually violent temperature fluctuations and ceiling temperatures not exceeding 100°F (38°C)	15 ft x 15 ft - UL 15 ft x 15 ft - FM
08 EPB/MPB 504	Fixed Temperature only 190°F (88°C)	Unusually violent temperature fluctuations and ceiling temperatures exceeding 100°F (38°C) but not 150°F (66°C)	15 ft x 15 ft - UL 15 ft x 15 ft - FM

Dimensions

Note: Models 08 EPB/MPB501 and 08 EPB/MPB502 can be tested by the quick application of heat from any convenient source. A common portable hair dryer is recommended. However, do not apply heat that exceeds the fixed temperature rating of the detector.

Model 08 EPB/MPB503 and 08 EPB/MPB504 cannot be tested. However, the fusible alloy element is considered so reliable that testing is not necessary.

