

Spot Thermal Detector – (Fixed Temperature) – Mine Permissible

Features

- Approved by Mine Safety and Health Administration (MSHA)
- Approved by Factory Mutual Research Corporation (FMRC)
- Three temperature settings
- Self-Restoring
- Contact material – Gold plated silver
- Hermetically Sealed – Permanently Protected Internal Mechanism
- Rugged construction
- Compact design

Description

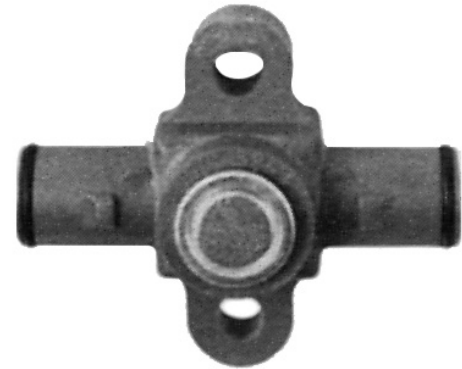
The thermal spot detector, as illustrated, contains a heat sensitive bimetal switch. The thermal spot detector assembly consists of a thermostat fitted into a housing of glass fiber reinforced polyester. The housing is filled with a hard-cast epoxy compound and completely sealed against water, oil, and other fluids.

When the thermostat temperature setting is reached, the bi-metal switch closes, activating the detection/actuation system. When the detector cools, the thermostat switch contacts return to normal.

Application

As an automatic fire detection device, thermal detectors have historically been less expensive, and had the lowest false alarm rate. Frequently, thermal detectors are used in areas where smoke detectors cannot be installed and where the detector will be subjected to difficult environmental conditions. It is designed to withstand a vibrating ship bulkhead, the high pressure cleaning of a vehicle, and the environment surrounding EDM machines, automatic lathes, laminating machines, etc. Typical areas of applications include:

- Approved by Mine Safety and Health Administration (MSHA)
- Approved by Factory Mutual Research Corporation (FMRC)
- Three Temperature Settings
- Self-Restoring

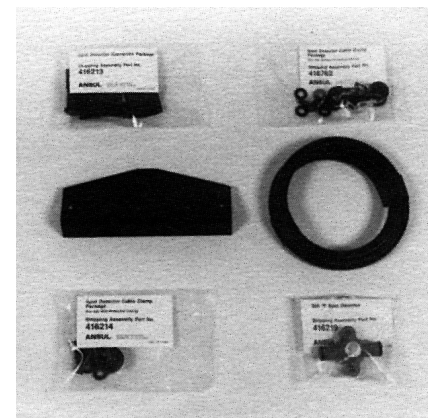


010338

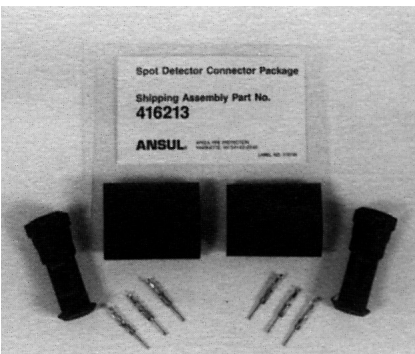
Mounting Guidelines

Thermal spot detectors are designed for use in both ordinary or hazardous locations. For a proper and approved installation, the detector must be installed using a mounting bracket, clamp package, connector package, and the correct multi-conductor cable. The approved list of mounting components are as follows:

- Mounting Bracket Shipping Assembly, Part No. 416221 – Consists of one mounting bracket.
- Detector Clamp Package Shipping Assembly, Part No. 416214 (for use with protective tubing) – Consists of (2) cable clamps, (2) 1/4-20 x 1/2 in. socket head screws, (4) flat washers, (2) spacers, and (2) 1/4-20 x 5/8 in. socket head screws.
- Detector Clamp Package Shipping Assembly, Part No. 416762 (for use without protective tubing) – Consists of (2) cable clamps, (2) 1/4-20 x 1/2 in. socket head screws, (4) flat washers, and (2) 1/4-20 x 5/8 in. socket head screws.
- Detector Connector Package Shipping Assembly, Part No. 416213 – Consists of (2) connector housings, (6) pins, and (2) heat shrinkable sleeves.
- Protective Tubing Shipping Assembly, Part No. 416215 – Consists of 100 ft (30.5 m) of tubing.
- Multi-Conductor Cable – Having a temperature rating of 392 °F (200 °C) minimum, 16-18 gauge, two conductor with drain, minimum OD of 0.230 in. (5.8 mm).



Mounting Guidelines (Continued)



Spacing and Temperature Rating

When used with a vehicle fire suppression system, Johnson Controls recommends mounting a detector in each hazard area. When used in an industrial type application, Johnson Controls recommends 15 ft (4.6 m) spacing for ceiling heights up to 15 ft (4.6 m).

Applications with ceiling heights greater than 15 ft (4.6 m) require reducing the recommended spacing. Contact Johnson Controls Marinette Application Engineering for assistance in locating detectors in high ceiling applications.

Approvals

When used with the CHECKFIRE MP Electric Detection and Actuation System, the total system is MSHA approved under approval No. 2G-3925-0.

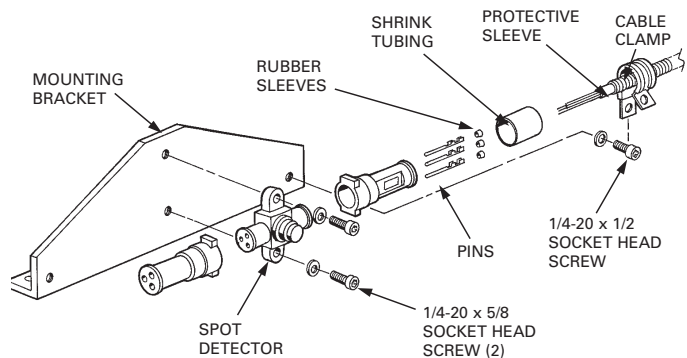
Technical Information

- Housing material – Glass fiber reinforced polyester
- Thermostat cover material – Aluminum
- Internal seal – Epoxy casting
- Contact material – Gold plated silver
- Alarm current – 500 mA maximum
- Voltage – 50 VAC maximum
- Weight – 1.0 oz. (28 g)
- Height – 0.87 in. (22 mm)
- Width – 1.97 in. (50 mm)
- Length without connectors – 2.40 in. (61 mm)
- Length including connectors – 4.88 in. (124 mm)
- Length including bracket – 6.75 in. (171 mm)

Ordering Information

Detector Part No.	Description	Rated Operating Temperature		Maximum Continuous Use Temperature	
		°F	(°C)	°F	(°C)
416218	Thermal Spot Detector – Blue	270	(132)	234	(112)
416219	Thermal Spot Detector – Red	325	(163)	280	(137)
416220	Thermal Spot Detector – Red	360	(182)	312	(155)
416784	Amp Crimping Tool				

Typical Spot Detector Components Assembly



000875

Note: The converted values provided in this document are for nominal reference only and do not reflect an actual measurement.

ANSUL, CHECKFIRE, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.