PROTECTWELL

PW-300TRA

Intelligent Point Type Heat Detector

Description

PW-300TRA intelligent point type heat detector, using thermal resistance as measure temperature element, it's especially suitable for the places where smoke and gas can not be detected by other kinds of detectors.

Built-in special microprocessor, using surface mounted technology (SMT) production, having strong anti-corrosion, anti-moisture and anti-interference ability, using advanced algorithms for accurate calculation, the detector effectively prevent false alarm.

Using SLC communication, electronic address programming, occupy one address. Mixed addressing with other detectors or modules, making on-site wiring, installation and commissioning more convenient.

Features

- Well suited for accommodation decks, passages and escape routes.
- Unaffected by wind or atmospheric pressure.
- Ideal for environments that are dirty or smoky under normal circumstances.
- Remote test feature.
- Five approved response modes to EN54.
- Soft Addressing: the device address can be set by a programmer.

***NOTE:** For system compatibility and feature support of this device, please refer to your chosen panel manufacturer.*

Specifications

Detection Principle: Heat sensitive resistance.

Sensor: Single NTC thermistor.

Sampling Frequency: Once per second.

Supply Wiring: Two wire supply, polarity sensitive.

Terminal Functions: L1&L2: Supply in & out connections.
+R: Remote indicator positive connection.
–R: Remote indicator negative connection.

Digital Communication: Core Lite compatible.

Modulation Voltage: 5V – 9V peak to peak.

Supply Voltage (Vmin-Vmax): 17V – 28V DC.

Quiescent Current: 400μA.

Alarm Indicator: One red viewable light emitting diode (LED) illuminating red. Optional remote LED.

Alarm Current, LED Illuminated: 1 mA.

Alarm Level Analogue Value: 55.

Operating Temperature: See table overleaf response mode temperatures.

Storage Temperature: -40°C ~ 80°C.

Humidity: 0% - 95%RH (non-condensing).

Effect of Atmospheric Pressure: None.

Effect of Wind Speed: None in fixed temperature use.

IP Rating: IP44.

Dimension: 99.5mm(D) x 43.5mm(H) (not including base).

Weight: 79g.

Housing Material: White flame-retardant polycarbonate.

Terminals Material: Nickel plated stainless steel.

Standard: GB4716-2005 & EN54-5:2017/A1:2018 by UL.

Approvals: CCCF & UL.
CCC-Mark & UL-EU-Mark.

Operation

In the Addressable Heat Detector, the five response modes correspond to the five 'classes' as defined in EN 54-5. The classes in this standard correspond to different behaviour, each of which is designed to be suitable for a range of application temperatures. All modes incorporate 'fixed temperature' response, which is defined in the standard by the 'static response temperature'. The application temperatures and static response temperatures for all response modes are given in the table on the right.

In addition to the basic classification, each detector mode has an 'R' or 'S' suffix.

The 'R' suffix indicates that the detector has been shown to have a rate-of-rise characteristic. Such a detector will still give a rapid response even when starting from an ambient temperature well below its typical application temperature. This type of detector is therefore suitable for unheated areas in which the ambient temperature may be very low for long periods.

The 'S' suffix on the other hand indicates that the detector will not respond below its minimum static response temperature even when exposed to high rates of rise of air temperature. This type of detector is therefore suitable for areas such as gallies and engine rooms where large, rapid temperature changes are considered normal.

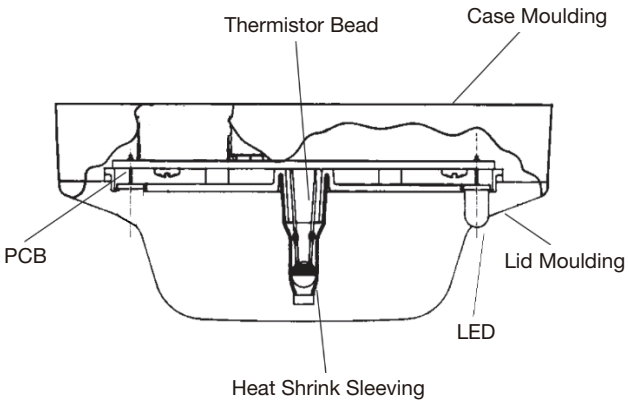
Response Modes

Addressable Heat Detectors can be operated in any one of five EN54 approved response modes below, which can be selected through the fire control panel. Each mode corresponds to a unique response behaviour, which is related to sensitivity to fire.

Response Times

Mode	Class EN54-5	Application Temperature		Static Response Temperature °C		
		Typ	Max	Min	Typ	Max
1	A1R	25°C	50°C	54°C	57°C	65°C
2	A2R	25°C	50°C	54°C	61°C	70°C
3	A2S	25°C	50°C	54°C	61°C	70°C
4	CR	55°C	80°C	84°C	90°C	100°C
5	CS	55°C	80°C	84°C	90°C	100°C

Schematic Diagram



Electrical Description

The Addressable Heat Detector is designed to be connected to a two-wire loop circuit carrying both data and a 17V to 28V DC supply. The detector is connected to the incoming and outgoing supply via terminals L1 and L2 in the mounting base. A remote LED indicator maybe connected between the +R and -R terminals.

Flashing LED

Addressable Heat Detector has a single integral LED indicator, which can be illuminated by the fire control panel to indicate detector in alarm. A flashing LED mode can also be programmed to activate each time the detector is polled.

Remote Test Feature

The remote test feature is enabled from the fire control panel. On receipt of the command signal from the fire control panel, the detector is forced electrically into alarm. An analogue value of 85 is returned to the fire control panel to indicate that the detector is working correctly.

Rejection of transient signals

Addressable Heat Detector is designed to give low sensitivity to very rapid changes in the sensor output, since these are unlikely to be caused by real fire conditions, resulting in fewer false alarms.

Installation

The detector can be installed with two different types of detector base which is BSL300-A(4 terminals) or B300-A(2 terminals).