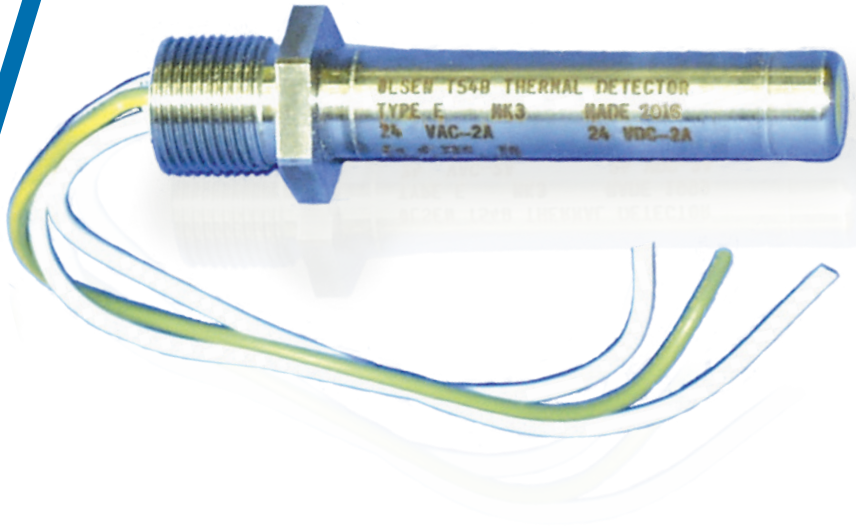# VIGILANT

## T54B Type E Heat Probe Detector

### Rugged, Reliable and Responsive



## KEY FEATURES

// IP67 Ingress Protection

// Robust Stainless Steel Construction

// Proven Reliability

// Normally-open and Normally-closed versions

## DESCRIPTION

The T54B Type E heat detector is a sealed stainless steel tubular device operating on a principle of differential coefficients of expansion. The T54B is available in either normally-open or normally-closed contact configurations. When subjected to heating, the outer stainless steel case lengthens more than the inner strut assembly. Sufficient lengthening of the outer case causes contacts mounted on the inner struts to make or break, as required. This creates a short circuit (or open circuit, as applicable) across the alarm zone circuit triggering an alarm at the control and indicating equipment.

An alarm is triggered when the temperature reaches the detector's factory-set actuation point. However, a rapid temperature rise will magnify the difference in expansion rates and the detector will alarm faster than if the temperature rise is slow. This partially compensates for the detector's body temperature lagging behind the ambient temperature. The T54B is non-latching and returns to its normal state when the temperature drops below the set point.

## SPECIFICATIONS

| | |
|---|---|
| Operating Voltage (max.) | 32Vdc / 32VAC |
| Switching Current[1] | 5mA to 200mA |
| Contact Resistance | <1 ohm |
| Actuating Temp. Range[2] | 60°C to 240°C |
| Accuracy | |
|    Set Point +60°C to +145°C | +/- 5°C |
|    Set Point +160°C to +240°C | +/- 5% |
| Fixed Temp. only | Type E |
| Dimensions (dia.x D) | 15 mm x 100 mm |
| | M20x1.5 Thread |
| Material | Stainless Steel |
| Weight | 95g |
| Ambient Temperature | |
|    Set Point +60°C to +145°C | -40°C to +175°C |
|    Set Point +160°C to +240°C | -40°C to +280°C |
| Relative Humidity | 100% |
| Ingress Protection | IP67 |
| ActivFire Listed | afp-1612 |
| FPANZ Listed | VF/214 |
| Part Number Format[3] | T4EnnnX/T4EnnnNC |

1. Resistive loads only.  2. Actuating temperature is factory-set.   3. nnn represents temperature in degrees C.
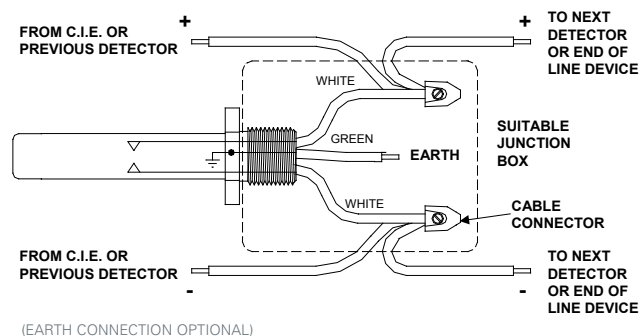
## INSTALLATION

### Mounting

The T54B's external M20 conduit thread is used to screw the device to a suitable bracket or mounting enclosure. The T54B is not certified as flameproof, but may be used as a simple device in an intrinsically safe system when used with an appropriate I.S. barrier, with the approval of the authority having jurisdiction.

Note: Do not tighten by tubular body, always use the hexagon provided. Do not exceed torque of 25 Nm.

### Wiring

To comply with AS 1603.1 and AS 1670.1, the flying leads must be terminated by connections within a mounting enclosure for the detector.



(EARTH CONNECTION OPTIONAL)

## T54B SELECTION GUIDE

For reliable operation, it is recommended that T54B detectors have set points 20°C or 20% (whichever is higher) above the maximum anticipated ambient temperature.

The nearest preferred value T54B detector above the calculated set point should be used - refer to the table below.

### Ambient Temperature Range for Preferred Value T54B Detectors

| AMBIENT TEMPERATURE RANGE (°C) | DETECTOR SET TEMPERATURE (°C) | AMBIENT TEMPERATURE RANGE (°C) | DETECTOR SET TEMPERATURE (°C) |
|---|---|---|---|
| 0 - 40 | 60* | 101 - 110 | 132 |
| 41 - 46 | 66* | 111 - 120 | 145* |
| 47 - 52 | 72 | 120 - 133 | 160 |
| 53 - 60 | 80* | 134 - 150 | 180 |
| 61 - 70 | 90* | 151 - 166 | 200 |
| 71 - 80 | 100* | 167 - 183 | 220 |
| 81 - 90 | 110*† | 184 - 200 | 240 |
| 91 - 100 | 120 | | |

\* Normally-open values usually available ex-stock.

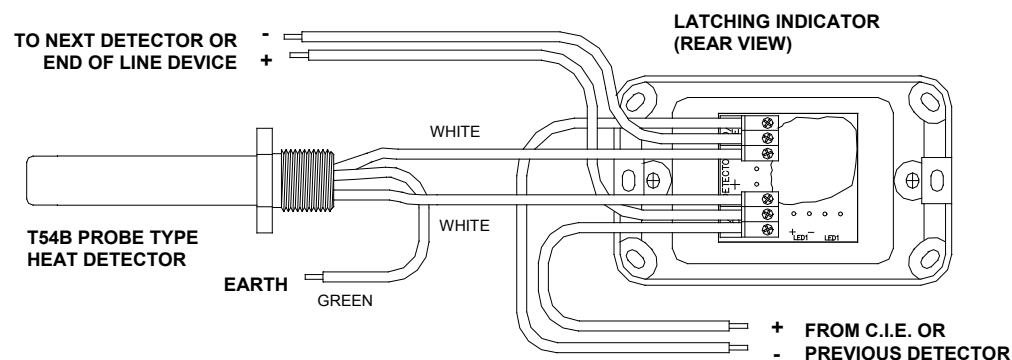† Normally-closed value usually available ex-stock NZ.
Others available with a minimum order quantity of 20.
Please contact TFPP Customer Service to discuss your requirements.

## LATCHING INDICATORS

Tyco Fire Protection Products has available a range of Latching Indicators suitable for use with the T54B probe-type heat detectors. These indicators provide a visual alarm indication even after a T54B has self-reset. The Indicators are reset from the CIE during a zone reset. Note: These Latching Indicators are not suitable for use in hazardous areas and thus must not be connected to a T54B that is in a hazardous location.

The latching indicators are rated at: 30Vdc maximum,    25mA @45°C;    15mA@75°C,    Maximum Ambient Temp. 75°C.



| LATCHING INDICATOR ORDERING CODES | |
|---|---|
| E561 | Fire Alarm in Concealed Space |
| E566 | Fire Alarm in Roof Space |
| E573 | Fire Alarm in Room |
| E574 | Fire Alarm Above |
| E575 | Fire Alarm in Duct |

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