

Indicating Heat Detector (V-Series) Installation Note

Overview:

The Pertronic Indicating Heat Detector is available in a variety of configurations:

- a) Standard, Non-Encapsulated: for standard installations - should not be used in chemically aggressive environments, including areas where alkaline-based cleaning agents are used.
- b) Encapsulated - High Humidity: for high humidity environments, such as under eaves, parking buildings, bathrooms, etc.
- c) Encapsulated - Alkaline Resistant: for chemically aggressive environments, particularly areas where alkaline-based cleaning agents are used.
- d) Remote LED Indicator: for ceiling voids:
- refer to brochure '0722-Indicating Heat Detector-Remote LED'

Features:

- Fast response fixed-temperature Fire Alarm Heat Detector, protected against false activation caused by vibration or other transient impulses.
- Integral reverse polarity yellow LED, for easy detection of wiring faults.
- Fully complies with NZS4512:2003 and NZS4512:2010
- Terminals accept up to 1.5mm² cable.
- Bi-directional circuit connection terminals.
 - either 'Red' terminal may be connected to the Fire Panel + terminal.
 - either 'Black' terminal may be connected to the Fire Panel M terminal.
- Red LED indication latches on activation of the thermo-mechanical sensor element.
 - the LED is reset by de-powering the detector.
- The detector clamps the circuit voltage at 2.2V.
- Compatible with 12V Bell reversal of 2-Wire (F4-2W and F1-2W) panels.
- For standard panels, reversal of the IHD causes a High Defect.
- The maximum number of Indicating Heat detectors is limited to 50.
- The Datum Level depends upon the number of detectors on the circuit and the number of reversed detectors.

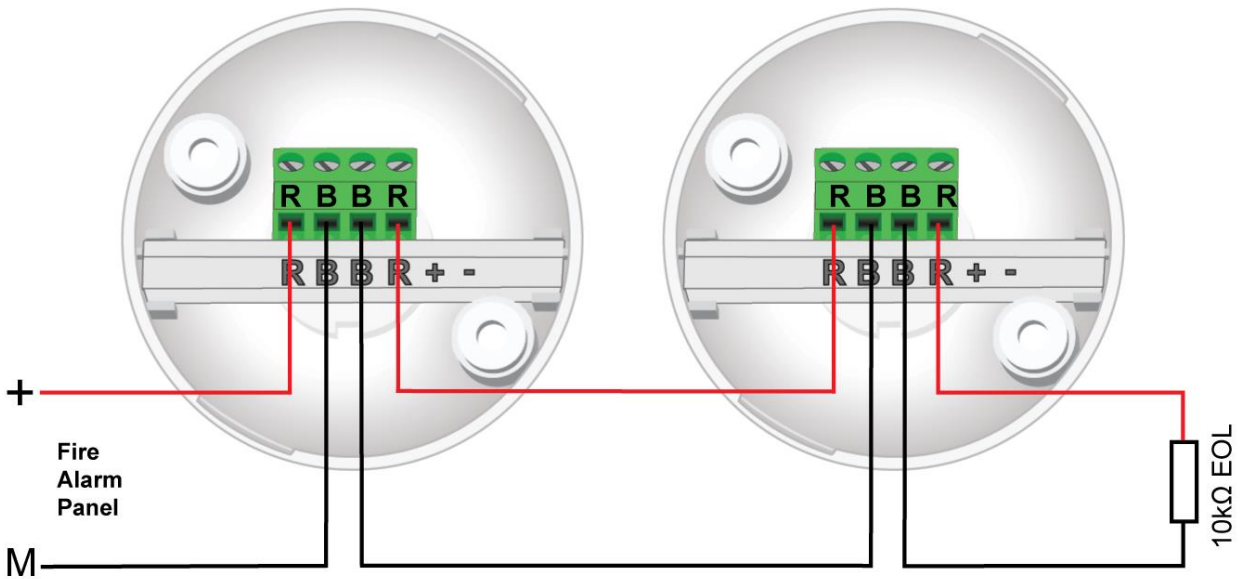
Important Note: an Alarm may be generated if more than 2 x V-Series Heat detectors are connected with polarity reversed.

Compatibility: Indicating Heat Detectors are compatible with the following products:

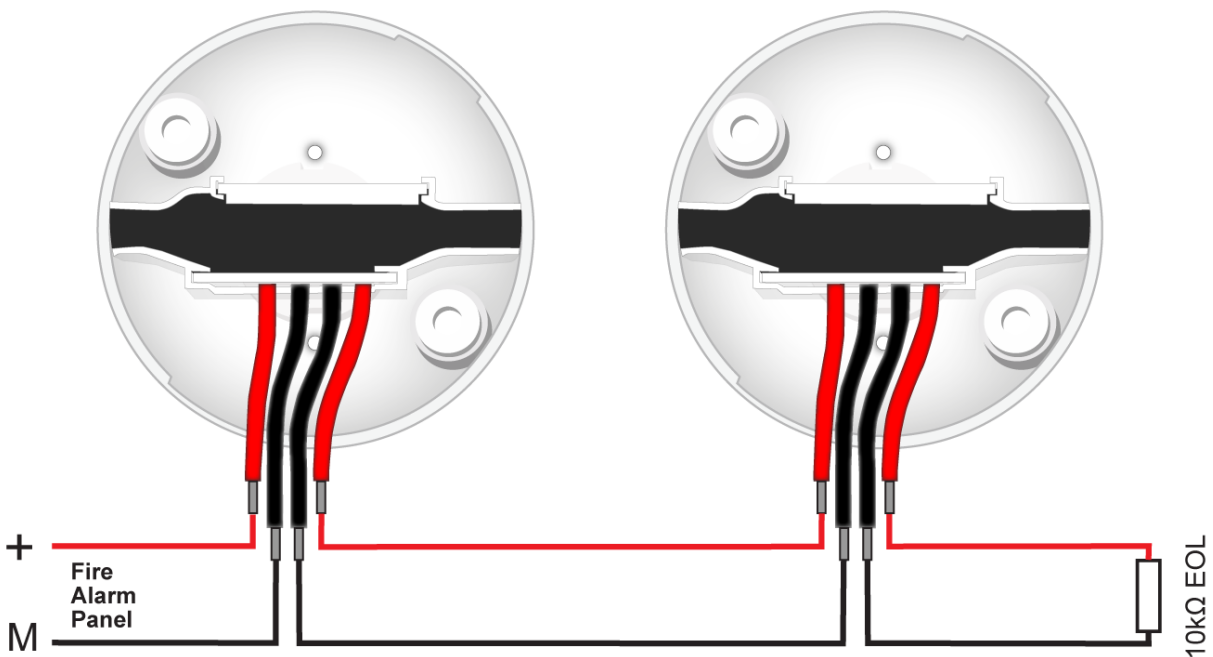
Product	Detector Hardware Version	Panel Software Version	Release Date
F1	v2.6 & above	v2.3 & above	November 2003
F1-2W	v2.6 & above	v9.04 & above	March 2007
F4	v2.6 & above	v2.26 & above	November 2003
F4-2W	v2.6 & above	v9.0 & above	March 2007
F16	v2.6 & above	v7.0 & above	November 2003
F16e	v2.6 & above	v1.10N & above	June 2004
Loop Responder	v2.6 & above	v3.00N & above	May 2004
Apartment Module	v2.6 & above	v1.0 & above	November 2006

Detector Connections:

a) Standard, Non-Encapsulated (IHDx-V):



b) Encapsulated - High Humidity (IHDxE-V) and c) Encapsulated - Alkaline Resistant (IHDxEAR-V):



IMPORTANT NOTE for Installers:

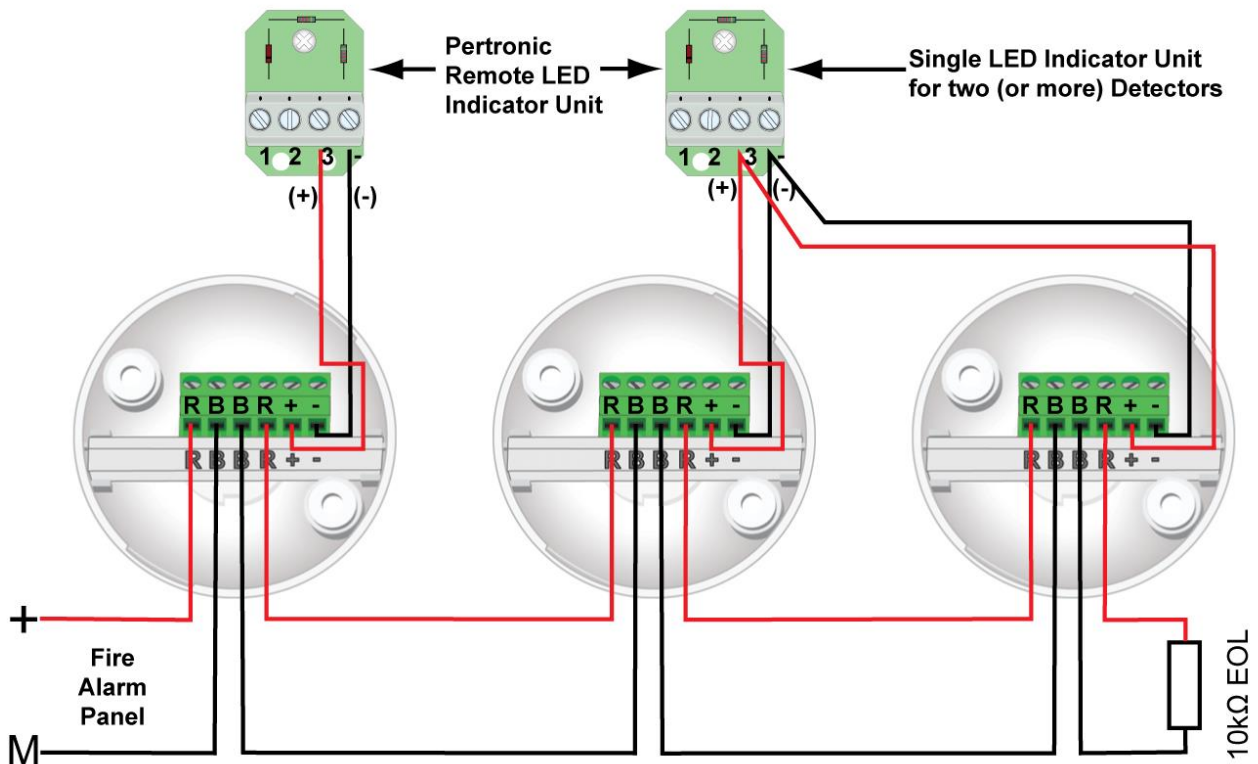
If the detector is mounted on an uneven surface, pressure across the encapsulant bridge may cause the detector housing to crack. To minimise this risk, particularly on polypanel in cooler or chiller environments, Pertronic Industries recommends the following precautions:

- use 6G x 25mm or similar self-tapping screws
- insert a 4mm flat washer between the pillar mount and the panel, ensuring the screw passes through the washer.
- set the electric screwdriver to the minimum torque required to fit the detector to the panel
- slacken off the screws so that the detector can be 'wiggled' when fitted

These precautions ensure the detector is not over-tightened and the plastic should not crack, particularly at low temperatures.

d) Remote LED Indicator (DETREM):

- used with **Non-Encapsulated Remote Heat detectors (IHDxR-V)**



Remote LED Indicator:

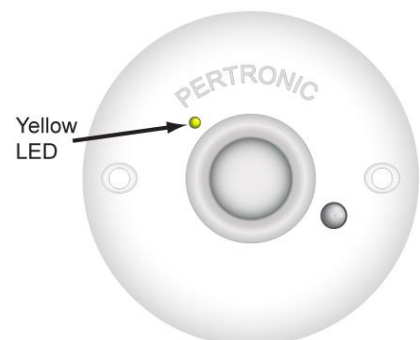


Reverse Polarity Indication:

The integral yellow LED indicates that a detector is incorrectly wired.

If the Yellow Reverse Polarity LED is ON:

- verify the Red cable is connected to the Panel + connector
- verify the Black cable is connected to the Panel M connector
- maintain the polarity of the cable from one detector to the next.



Defect Indication:

An Indicating Heat Detector indicates either a 'High Defect' or 'Open Circuit' on a Pertronic panel or Loop Responder

a) High Defect - likely causes:

- (i) Pertronic V-Series Indicating Heat Detector has been wired with polarity reversed
 Fault Finding Technique: locate the detector with the yellow LED turned ON
Important Note: an Alarm may be generated if more than 2 x V-Series Heat detectors are connected with polarity reversed.
- (ii) Circuit loading is excessive – reduce the number of detectors fitted:
 - the maximum number of Indicating Heat detectors/MCPs per circuit is 50
 - the maximum number of Smoke detectors per circuit is 40
 - where Smoke and Heat detectors/MCPs are mixed, limit the maximum to 40 devices
- (iii) A faulty Smoke detector is drawing excessive current
 Fault Finding Technique: split the circuit in half, re-terminate the 10KΩ EOL and identify if the Defect has cleared. Repeat the process to narrow the search location
- (iv) EOL Resistor is less than 10KΩ
- (v) Low Insulation Resistance on the detector circuit causing excess current draw

b) Open-Circuit - likely causes:

- (i) Broken cable
- (ii) Cable disconnected from device
 Fault Finding Technique: reverse the wiring polarity at the panel circuit termination and identify which Indicating Heat Detectors have the Yellow LEDs turned ON
 - the break is located between the last illuminated Detector and the first non-illuminated Detector. Simple, requires no multimeter or ladder!

Product Codes:

Code	Description	NZFPA Listing
IHDB-V	Indicating Heat Detector, Blue : 57°C	PI/238
IHDY-V	Indicating Heat Detector, Yellow : 77°C	PI/239
IHDBE-V	Encapsulated Indicating Heat Detector, Blue : 57°C	PI/242
IHDYE-V	Encapsulated Indicating Heat Detector, Yellow : 77°C	PI/243
IHDBEAR-V	Encapsulated Indicating Heat Detector Alkaline Resistant, Blue : 57°C	PI/242
IHDYEAR-V	Encapsulated Indicating Heat Detector Alkaline Resistant, Yellow : 77°C	PI/243
IHDBR-V	Remote LED Indicating Heat Detector, Blue : 57°C	PI/240
IHDYR-V	Remote LED Indicating Heat Detector, Yellow : 77°C	PI/241
DETREM	Remote LED Indicating Unit	
IHDBEK-V	Encapsulated Indicating Heat Detector Kit, Blue, 57°C	
IHDBLKEK-V	Encapsulated Indicating Heat Detector Kit, Black, 125°C	