



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.

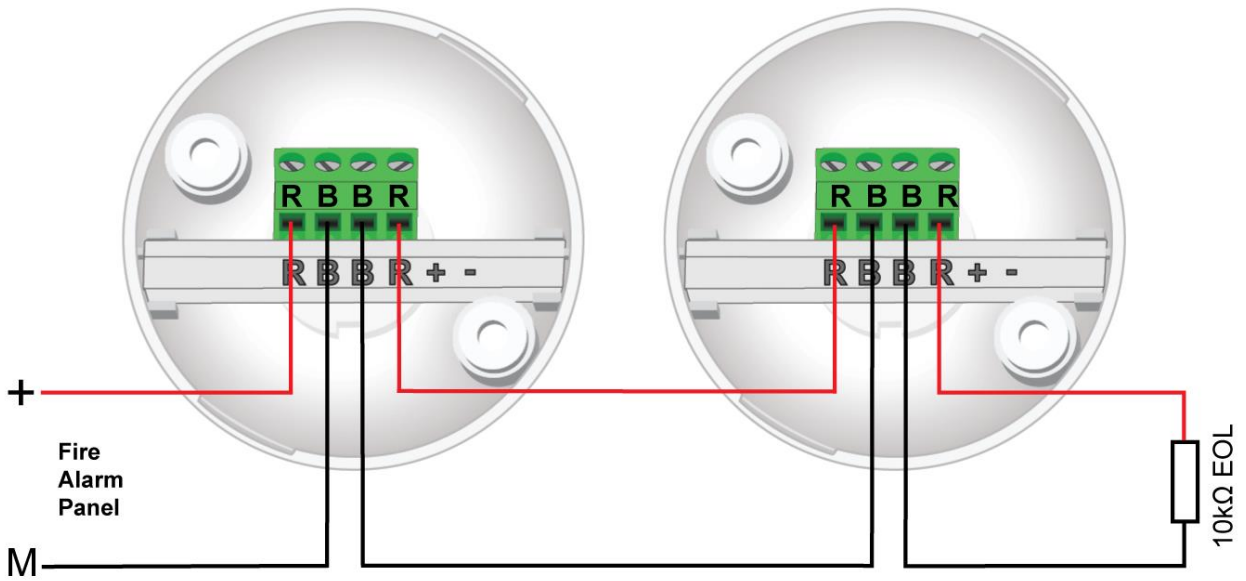
Important Note: an Alarm may be generated if more than 2 x V-Series Heat detectors are connected with polarity reversed.

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

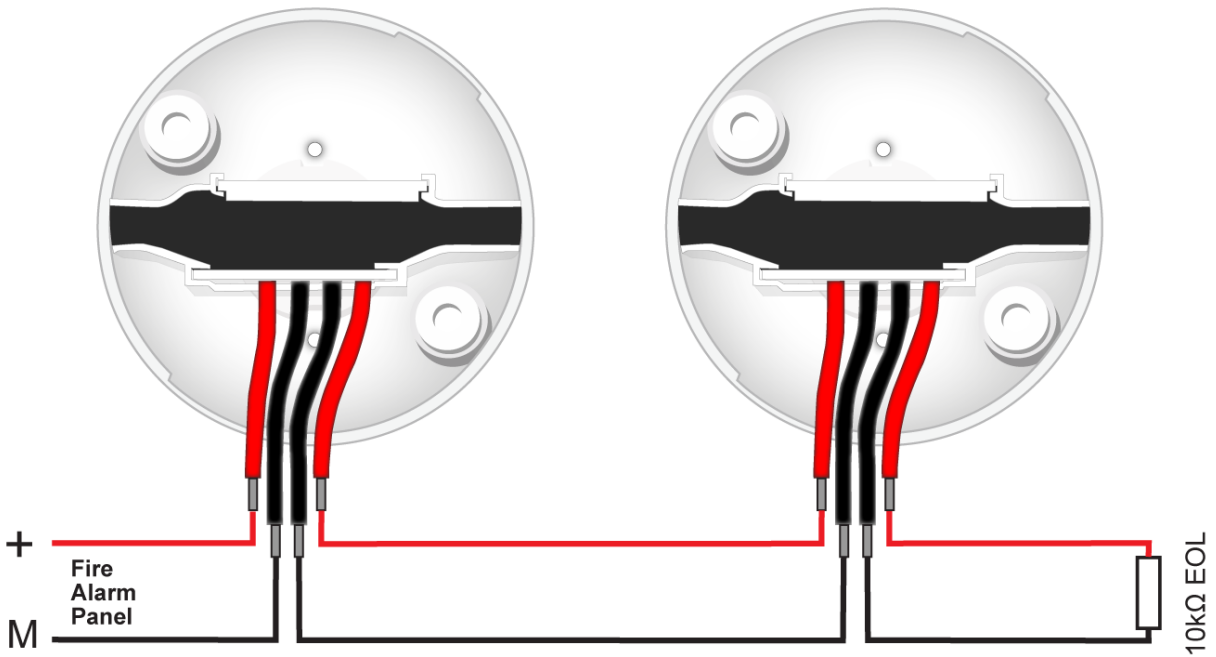
Product	Detector Hardware Version	Panel Software Version	Release Date
F1	v2.6 & above	v2.3 & above	November 2003
F1-2W	v2.6 & above	v9.04 & above	March 2007
F4	v2.6 & above	v2.26 & above	November 2003
F4-2W	v2.6 & above	v9.0 & above	March 2007
F16	v2.6 & above	v7.0 & above	November 2003
F16e	v2.6 & above	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:

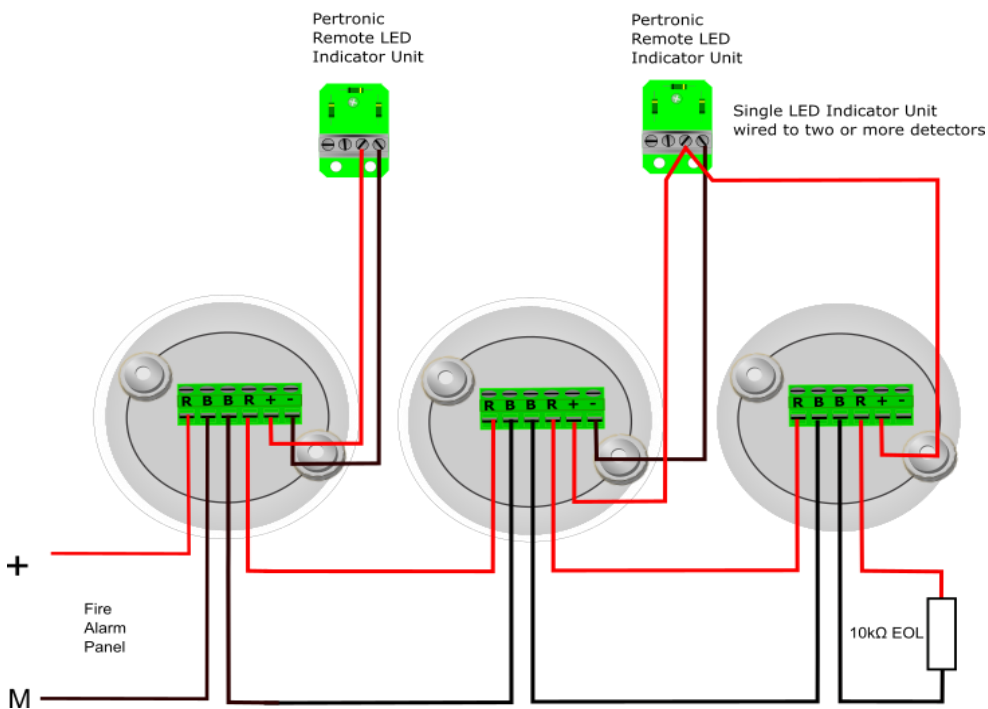
a) Standard, Non-Encapsulated (IHDx-V):



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



d) Remote LED Indicator (DETREM):
 - used with **Non-Encapsulated Remote Heat detectors (IHDxR-V)**



Note:
 When a single LED Indicator unit is connected to multiple detectors, only one ground line is used as shown.

Remote LED Indicator:

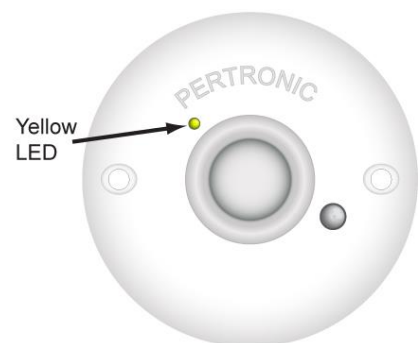


Reverse Polarity Indication:

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) Circuited 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	

Document Change History

Issue Number	Date	Reason for Update	Description of Changes	Author
12	12.10.21	CN3062	Changes to Remote LED Indicator diagram	RJK