

PERTRONIC INDUSTRIES LTD

DATASHEET

Thermistor Heat Detectors

THDB-57C, THDB-57C-WP, THDBAR-57C, THDBR-57C, THDB-57C-WP-FZR
THDY-77C, THDY-77C-WP, THDYAR-77C, THDYR-77C



Overview

Pertronic THD-series Thermistor Heat Detectors are conventional indicating heat detectors with fixed temperature thresholds, for use in NZS 4512-compliant fire systems.

The following versions are available:

- » Standard: For benign interior applications
- » Weatherproof: For use in high humidity environments, such as under eaves, parking buildings, bathrooms, etc.
- » Remote Indicator: For interior applications in which the detector is not normally visible, such as ceiling spaces
- » Alkaline Wash Resistant (AR): For use in chemically aggressive interior environments, particularly where alkaline cleaning agents are used. For example, swimming pools with chlorine water treatment
- » Freezer: For use in sub-zero ambient temperatures down to -40 °C

Internal electronics in all THD-series detectors are encapsulated. The alkaline wash resistant and weatherproof versions have wire tail terminations for additional moisture resistance.

Pertronic THD-series Thermistor Heat Detectors (except the freezer variant) are available in two temperature ranges:

- » Blue, 57 °C, and
- » Yellow, 77 °C.

Features

- » Conventional indicating heat detector with fixed temperature threshold
- » Smooth uncluttered design
- » Encapsulated PCB in all versions
- » Corrosion-resistant materials
- » Alkaline wash resistant (AR) versions tolerate cleaning solutions with up to 3 % potassium hydroxide and/or up to 3 % sodium hypochlorite
- » Red LED indication latches ON when an alarm condition is detected
- » Remote indicator versions have an output connection for a remote LED indicator (DETREM). The remote indicator latches ON when an alarm condition is detected
- » De-powering the detector resets the red LED indication, and the remote LED (if fitted)
- » Bi-directional Zone In & Zone Out terminations
- » Weatherproof, alkaline wash resistant (AR), and freezer versions have wire tail terminations
- » Terminals on interior versions accept up to 1.5 mm² cable
- » Yellow LED indicates reverse polarity connection
- » Reverse polarity connection initiates the **Defect: High** status in Pertronic panels
- » In the alarm state, the detector clamps the detection circuit voltage to 2.7 V
- » Resistant to false activation caused by vibration or other transient impulses
- » Complies with NZS 4512:2021



Pertronic THD-series Thermistor Heat Detector (THDx)

The freezer variant has a 57 °C alarm threshold. Each Pertronic thermistor heat detector has a bi-colour indicator LED. When the detector is in the alarm state, the LED glows red. If the detector is wired with incorrect polarity, the LED glows yellow.

Specification

System Voltage		12 V dc or 24 V dc (nominal)	Dimensions	66 mm diameter x 32 mm high
Zone Circuit Voltage		9.5 V dc to 28 V dc	Weight	51 g (standard) 52 g (remote indicator) 74 g (weatherproof & alkaline wash resistant)
Current	Quiescent	11 μ A		
	Alarm	< 25 mA on a Pertronic zone	Chemical Resistance (Alkaline wash resistant versions only)	Resistant to alkaline cleaning solutions containing up to 3 % Potassium Hydroxide and/or up to 3 % Sodium Hypochlorite
Note:	External equipment must limit the alarm current to: Minimum: 5 mA Maximum: 50 mA			
Housing Material		Polycarbonate (except AR) Filled Polypropylene (AR)	Operating Temperature	0 °C to 80 °C (except freezer) -40 °C to 80 °C (freezer variant)
Colour		White (except AR) Grey (AR)	Humidity	≤ 95 % RH non-condensing

Compatibility & Circuit Capacity

Up to 50 Thermistor Heat Detectors may be connected to the conventional detection circuit of any current version Pertronic fire panel or module.

Compatible Pertronic Products (excluding detection zone circuits to NZS 4512:1997)	
Product	Software Version
FH1 and FR1	All
F1	v2.30 & above
F4	v2.26 & above
F16e	All
Apartment Module	All
Loop Responder	v3.00N & above
Multi-Function Loop Responder	All

Please refer to the appropriate technical manual or contact us for more information.

Identification

Please note that all Pertronic Thermistor Heat Detectors have encapsulated electronics. The different versions can be identified by their terminations.



*Standard versions have four screw terminals (left)
Remote indicator versions (not shown) have six screw terminals.*



Weatherproof (shown), alkaline wash resistant and freezer versions have wire tail terminations.

Ordering Information & Notes

Product Code	Description	FPANZ Listing
THDB-57C	Thermistor Heat Detector, Blue, 57C	PI/256
THDY-77C	Thermistor Heat Detector, Yellow, 77C	PI/259
THDB-57C-WP	Thermistor Heat Detector, Blue, 57C, Weatherproof	PI/257
THDY-77C-WP	Thermistor Heat Detector, Yellow, 77C, Weatherproof	PI/260
THDBAR-57C	Thermistor Heat Detector, Alkaline Wash Resistant, Blue, 57C	PI/270 (pending)
THDYAR-77C	Thermistor Heat Detector, Alkaline Wash Resistant, Yellow, 77C	PI/271 (pending)
THDBR-57C	Thermistor Heat Detector, Blue, with Remote O/P, 57C	PI/258
THDYR-77C	Thermistor Heat Detector, Yellow, with Remote O/P, 77C	PI/261
THDB-57C-WP-FZR	Thermistor Heat Detector, Blue, 57C, Weatherproof, Freezer Variant	PI/266 (pending)
DETREM	Remote LED Indicator	—

Note: Only weatherproof, alkaline wash resistant, and freezer versions meet NZS 4512:2021 section E4.7 and are suitable for the type of wet environments mentioned in NZS 4512:2021 section 2.16.13.

The information in this document must not be treated as partial or complete instructions for the design, construction, installation, commissioning, or maintenance of fire detection, fire alarm, or building evacuation systems. Fire and evacuation systems must be designed and installed by properly qualified persons, in accordance with all regulatory requirements.

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