Tyco T614 Mk2

Collective
Heat Detectors

INFORMATION SHEET

DESCRIPTION

Tyco T614 Mk2 heat detectors use a fast response thermistor based design to provide temperature sensing that quickly, accurately and consistently identifies when the ambient temperature exceeds the fixed temperature threshold. This eliminates the time required to melt eutectic solder or heat a bimetallic element as occurs in mechanical heat detector designs. For Type A and Type C detectors, rate-of-rise detection is achieved by comparing the response of two thermistors, one of which has a slower thermal response. By combining accurate thermistors with proper physical placement, this patented rate-of-rise detection design achieves a high level of performance not normally available with mechanical detection. T614 Mk2 detectors include a built-in diode on the remote indicator output and do not require a series resistor when used on F3200 as was previously required on the original T614 detectors. T614 Mk2 detectors may be intermixed with Minerva and Tyco 614 detectors and are compatible with Tyco F3200, 4100U and MX4428 c.i.e. They may be used as service replacements for the T614 detectors both on these and the obsolete F08 and F4000 panels.

INSTALLATION

The base should be fixed such that the park plunger faces toward the door or trafficable area. This ensures the detector LED will be visible from the direction of entry, in accordance with AS 1670.1-2004. Refer to the 5B base information sheet for more details.

With a clockwise rotational motion, the detector mounts quickly and easily onto the base. Rotating the detector anticlockwise past an indent to the park position disconnects the detector from the circuit whilst still retaining it in the base, allowing circuit separation. Depressing the plunger at the side of the base allows the detector to be rotated back into its operating position.

MAINTENANCE

T614 Mk2 detectors should be maintained in accordance with the relevant section of AS 1851. Wormald Detector Clean & Calibration Wollongong are equipped and competent to service T614 detectors.

LOCKING DEVICE



A detector locking device is moulded into the 5B base. This must be detached and inserted into the locking aperture if required, prior to the selected detector being installed. The detector may then be removed only after inserting an unlocking tool (a Ø3 x 22mm long rod) into the hole on the detector cover to depress the locking device.



SPECIFICATIONS

Mechanical (including 5B base)

Dimensions:	
Height	53mm
Diameter	127mm
Mass	174g
Compatible Bases	5B, MUB (M614)

Electrical

Operating Voltage	11Vdc to 32Vdc
Quiescent Current [1]	85µA @ 24Vdc
Alarm State Current [2]	5mA to 80mA
Alarm State Voltage [3]	3V to 12.4V
Remote Indicator	Tyco E500 Mk2

Specifications are typical unless stated otherwise.
1. Max. quiescent current 110µA. 2. Min. 5mA for LED visibility; max. current must be externally limited. 3. Min. voltage with remote indicator shorted @ 5mA. Max. @ 80mA without remote indicator connected.

Environmental Indoor applications only

Part Numbers	T614A	T614B	T614C	T614D
Class	Type A	Type B	Type C	Type D
Ambient Temp	-10°C to +45°C		-10°C to +75°C	
Storage Temp	-10°C to +75°C			
Relative Humidity	10% to 95% (non-cond.)			
CSIRO ActivFire Listing	afp-1742	afp-1743	afp-1744	afp-1745

TESTING

The T614 Mk2 is tested in-situ using the X461 test unit.

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WIRING

A maximum of two 1.5mm^2 cables can be connected at any one terminal. All cables terminate at the base as follows:

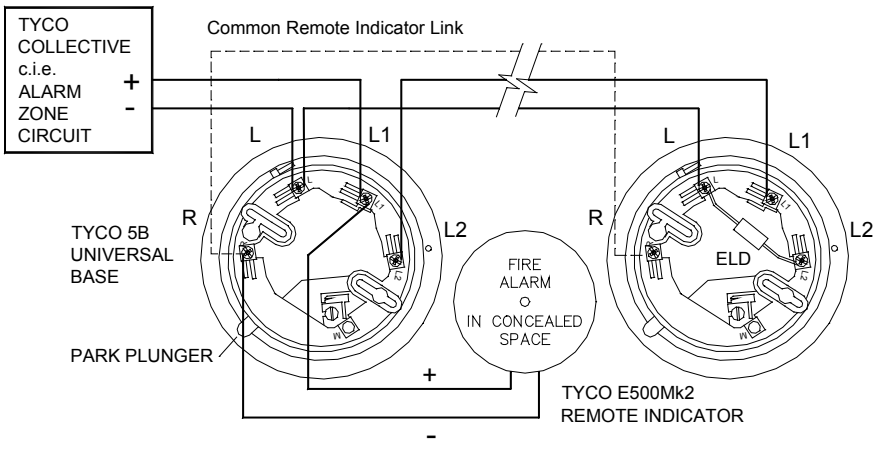
R: – Remote *

L: – In and Out

L1: + In & + Remote

L2: + Out

* When a common remote indicator is used for two or more detectors, join the 'R' terminal to the next base 'R' terminal. The remote indicator will then activate when any of the connected detectors signal an alarm. Only the E500Mk2 remote indicators can be used. They must connect to L1 (+In), not external power.



APPLICATION NOTES

Note the T614 Mk2 series of detectors are not suitable for use in areas subject to condensing moisture or salt mist.

When mounting on a damp surface or narrow beams where condensation may enter the rear of the detector, the deckhead mounting base DHM5B (part no. 517.050.603) or similar should be used.

The T614 Mk2 does not require a resistor to be wired in series when used with an F3200 c.i.e. and the SU0600 MCP, or a diode to be connected to the R terminal when used with a common remote indicator, as was previously the case with the original T614 detector.

The T614 Mk2 is backwards compatible with the original T614 detector. For installations where T614 Mk2s are replacing original T614s, no wiring modifications are necessary.

DETECTOR SELECTION GUIDE

The T614 Mk2 heat detectors are part of the Tyco 614 series of detectors. In the table below, detectors in **BOLD** are recommended as the most suitable for detecting the given type of fire in the particular environment. Non-bold detectors are suitable but will not give optimum performance for that application.

Environment / Fire type	Very clean (computer room)	Clean (office, hotel)	Moderately clean (warehouse)	Moderately dirty/smoky (loading area)	Dirty/ smoky (car park)	Dirty/smoky Hot (kitchen)
Overheating (electrical/ electronic equipment)	**614P** 614I	**614P** 614I 614CH	**614P** 614I	**614P**		
Smouldering (wood, paper)	**614CH** **614P**	**614CH** **614P**	**614P** 614CH	**614P** 614CH		
Flaming (wood, paper, flammable liquids)	**614CH** **614I** 614P	**614CH** **614I** 614P	**614I** **614CH** 614P	**614I** 614CH T614**		
Flaming with high heat (late stage flaming)	**614P** **614I** 614CH	**614P** **614I** 614CH T614**	**614I** T614** 614CH	**614I** T614**	**T614****	**T614****

614I = Ionisation Smoke Detector 614P = Photoelectric Smoke Detector 614CH = combined Carbon Monoxide (CO) and Class A1R Heat Detector
T614 = T614 Mk2 Heat Detector. These detectors can be used separately, or combined, to provide fire detection for most applications.

** Not suitable for use in areas subject to condensing moisture or salt mist.

Applications Warning In many fires, hazardous levels of smoke and toxic gas can build up before a heat detectors will initiate an alarm. In cases where life safety is a factor, the use of smoke and/or CO detection is highly recommended. Heat detectors are used where property protection is desired. Typical heat detector applications are satisfied by use of rate-of-rise and fixed temperature electronic detectors. The addition of rate-of-rise operation provides faster heat detection for use where normal temperature fluctuations are controlled and are less than 6° C/min. Where temperatures may fluctuate more quickly, use fixed temperature detection only (Type B or Type D).

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