

MINERVA MD614 HEAT DETECTOR

INSTALLATION INSTRUCTIONS

A. SPECIFICATIONS

Approvals: SSL tested and listed as a heat detector complying with Australian Standard AS1603.1-1997

	Min	Typ	Max		Min	Typ	Max
Operating voltage	16V		28V	Ambient temperature:			
Quiescent current (type A)	10		38µA	Type A	-10°C		45°C
Quiescent current (type C)	10		70µA	Type C	-10°C		75°C
Alarm state voltage @100mA			8.5V	Relative humidity (non condensing)			95%
Alarm state current (for LED visibility): (must be externally limited)	2mA		100mA	Protection category		IP54	
Rate of rise + fixed temperature		Types A and C		Colour		White	
Fixed temperature set points:				Mass		102g	
Type A		60°C		Alarm indicator colour: RED			
Type C		90°C		Remote indicator :	Tyco E500Mk2 series		
Storage temperature:	-20°C		75°C	Externally Powered Load	Current		50mA
					Voltage		28VDC
				Compatible CIE:	Tyco F08, F3200 F4000, MX4428		

B. DESCRIPTION.

The MD614 combines electro-pneumatic technology (rate-of-rise operation) and thermistor technology (fixed temperature operation) to provide reliable detection of heat produced by fire. The detector must be used with the Minerva M614 base.

When heat is detected, the detector latches into alarm and clamps the voltage across its terminals to approximately 6 volts. This in turn signals an alarm state to the Control and Indicating Equipment (CIE).

Whilst in alarm, the MD614 illuminates its integral and, if fitted, remote alarm LED indicators and/or can control an externally powered load, such as a sounder or relay. The alarm current must be limited by the CIE. The alarm state is reset from the CIE by interrupting the alarm current.



Minerva MD614 with M614 base.

C. DETECTOR TYPES.

1. Type A (no dot)—*Low temperature with fixed-temperature and rate-of-rise operation.* For areas below 45°C with no rapid temperature increases.

2. Type C (green dot)—*High temperature with fixed-temperature and rate-of-rise operation.* For areas below 75°C with no rapid temperature increases.

D. INSTALLATION.

1. Mounting

With a clockwise rotational motion, Minerva detectors mount quickly and easily onto the Minerva M614 base.

2. Wiring

All wiring terminates at the M614 base as follows.

L: – In and Out **L1:** + In & Remote
L2: + Out **R:** – Remote *

3. Location and spacing

The detectors must be located according to the requirements of AS1670.1–1995 (in Australia) or NZS 4512–1997 (in New Zealand)

4. Maintenance

Minerva MD614 heat detectors should be maintained in accordance with AS 1851.8–1987 (in Australia) or NZS 4512–1997 (in New Zealand. TEPG have a tester (P/N X461) available for heat detectors.

* When a common remote indicator is used for two or more detectors, join this terminal to the next M614 base “R” terminal. The remote indicator will then activate when any of the connected detectors signals an alarm..

E. SELECTION GUIDE.

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 do not have optimum performance or value.

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)	MR614 MR614T MF614	MR614 MR614T MF614	MR614 MF614	MR614		
Smoldering (wood, paper)	MR614 MR614T	MR614 MR614T	MR614	MR614		
Flaming (wood, paper, flammable liquids)	MF614 MR614T MR614	MF614 MR614T MR614	MF614 MR614	MF614		
Flaming with high Heat (late stage flaming)	MF614 MR614T	MF614 MR614T MD614	MF614 MD614	MF614	MD614	MD614

F. SALES AND SERVICE.

Tyco Electronic Product Group Service Department provide a fast and efficient CLEAN, CALIBRATE and REPAIR service for all types of fire detectors. All work is done to a fixed price and guaranteed for 6 months. In Australia, a special change over service is available to enable detector servicing to be conducted with minimal interruption to the fire detection system.

For sales and inquiries, contact:

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