MINERVA MR614
PHOTOELECTRIC SMOKE DETECTOR

INSTALLATION INSTRUCTIONS

A. SPECIFICATIONS.

Approvals: SSL tested and listed as a point type smoke detector conforming to AS 1603.2-1997.
FPIS listed as a point type smoke detector conforming to NZS 4512-1997.

	Min	Typ	Max
Operating voltage	16V	24V	28V
Quiescent current		70	130µA
Alarm state voltage	2.5		7.5V
Alarm state current	(must be externally limited)		
at 55°C max	0.7		67mA
at 70°C max	0.7		60mA
Externally powered load	Current		50mA
	Voltage		28VDC

	Min	Typ	Max
Sensitivity to AS1603.2-1997		8% Obsc/m	
Ambient temperature	-20°C		+70°C
Relative humidity (non condensing)			95%
Alarm indicator colour:		RED	
Remote indicator:		Tyco E500 Mk2 series	
Compatible CIE:		Tyco F08, F3200, F4000, MX4428	

B. DESCRIPTION.

The MR614 is an electronic smoke detector operating on the photoelectric (light scattering) principle. The detector must be used with the Minerva M614 base.

When smoke 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 MR614 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 MR614 with M614 base.

C. 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 **L2**: + Out
L1: + In & Remote **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. Avoiding unwanted alarms

Unwanted alarms can be greatly reduced if the following precautions are taken.

a. Do not install smoke detectors in environments contaminated by air borne particles (e.g. dust, saw-dust), where cigarette smoke is prevalent, or in areas with condensing humidity (e.g. bathrooms). Use heat or carbon monoxide detectors in these areas.

b. Do not install detectors where high air velocity is expected. Air flow will increase the amount of dust that accumulates in a detector and will increase the risk of false alarms.

* 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. MAINTENANCE

Minerva MR614 smoke detectors should be maintained in accordance with AS1851.8-1987 (in Australia) or NZS4512-1997 (in New Zealand). The basic requirements are:

a. All detectors shall be visually inspected annually for any condition that is likely to adversely affect their operation (eg excessive dust build up).

b. Operational checks should be carried out as required by the applicable standard. A smoke test tool (P/N X300) is available from TEPG for use with the X500 Test Smoke. Any detectors that require cleaning and calibrating should be returned to the supplier.

G. SALES AND SERVICE.

Tyco Services Detector Clean & Calibration, Wollongong, 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..

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