

MINERVA MF614 IONISATION CHAMBER 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		Min	Typ	Max
Operating voltage	16V	24V	28V	Externally powered load:	Current		50mA
Quiescent current			105µA		Voltage		28VDC
Alarm state voltage	2.5		7.4V	Ambient temperature	-20°C		+70°C
Alarm state current (must be externally limited)				Relative humidity (non condensing)			95%
at 55°C max	0.7		67mA	Ionisation source (Americium 241)			34kBq
at 70°C max	0.7		60mA	Alarm indicator colour:		RED	
Sensitivity to AS1603.2-1997		0.35 MIC X		Remote indicator:		Tyco E500 Mk2 series	

B. DESCRIPTION.

The MF614 is an electronic smoke detector operating on the dual ionisation chamber 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 MF614 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 MF614 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.

D. MAINTENANCE.

Minerva MF614 smoke detectors should be maintained in accordance with AS 1851.8–1987 (in Australia) or NZS 4512–1997 (in New Zealand).

The basic requirements are:

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

b. Operational checks should be carried out as required by the applicable standard.

Any detectors that require cleaning and calibrating or repair should be returned to the supplier.

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:	Very clean (computer room)	Clean (office, hotel)	Moderately clean (warehouse)	Moderately dirty/smoky (loading area)	Dirty/smoky (car park)	Dirty/smoky Hot (kitchen)
Fire type:						
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 Services Detector Clean & Calibrate, 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.

For all sales and inquiries



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