VIGILANT

814SERIES

MX Multi-Sensor Detection Range

Features

- Compatible with *MX* Addressable Loop on VIGILANT *MX1* and MX4428 panels
- Smoke/Heat/CO Multi-Sensor detectors
- AS 1603.1 Listing (heat detectors)
- AS 1603.2 Listing (smoke detectors)
- AS 7240.6 Listing (CO detectors)

814 Series should be used for Service Stock only.

Description

- 814CH Photoelectric Smoke/CO/Heat
- 814PH Photoelectric Smoke/Heat
- 814H Heat only
- 814P Photoelectric Smoke Only

The 814 Series *MX* Virtual Multi-Sensor detectors transmit to the Tyco *MX* Control and Indicating Equipment (CIE) digital values that represent the level of smoke/CO/heat at the sensors. The CIE software interprets the returned values, responding (e.g. to raise an alarm) according to the detection mode selected in the site configuration. By utilising dual sensors (Photoelectric Smoke & Heat or CO & Heat) the CIE detection algorithms can achieve optimum detection by combining the two components in different ways. Heat-enhanced smoke/CO detection lowers the smoke/CO alarm threshold when a heat rate-of-rise is detected. A choice of detection algorithms is available - fuzzy-logic based *MX FASTLOGIC* or the field-proven SMARTSENSE algorithm. The 814H and 814P are single sensor devices. The multi-sensor detectors may be configured to operate in one of the following modes - depending on version of CIE firmware:

- Heat Enhanc'd Smoke/CO+Heat
- Smoke/CO + heat detection
- Heat Enh. Smoke/CO det.
- Smoke/CO detection only
- Heat detection rate-of-rise & fixed temperature[1]
- Heat detection fixed temperature only[1]

The 814 Series detectors will plug into the following bases:

- 4B-I Isolator Base
- 5BI Isolator base
- 814RB Relay Base
- 802SB Sounder Base
- 4B Universal Base
- 5B Universal Base
- MUB Universal Base

Specifications

	814CH	814PH	814H	814P
Mechanical (less base)	Photoelectric/Heat/CO	Photoelectric/Heat	Heat only	Photoelectric
Height	43mm	43mm	43mm	43mm
Diameter	109mm	109mm	109mm	109mm
Weight	88g	76g	79g	76g
Electrical				
Loop Voltage	20V to 40VDC addressable loop voltage is provided by the *MX* CIE			
Quiescent Current (typical)	275µA	275µA	250µA	275µA
Alarm Current[2]	3mA	3mA	3mA	3mA
Alarm Current[3]	10mA	10mA	10mA	10mA
Remote Indicator	VIGILANT E500Mk2 typical for all detectors			
Max. Detectors per Loop[4]	250/200	250/200	250/200	250/200
Normal Environmental				
Ambient Temperature[5]	-10°C to +55°C	-25°C to +70°C	-25°C to +70°C[7]	-25°C to +70°C
Storage Temperature	-20°C to +55°C	-40°C to +80°C	-40°C to +80°C	-40°C to +80°C
Relative Humidity[6]	95%	95%	95%	95%
ActivFire Listed	afp-1425	afp-1424	afp-1427	afp-1699
FPANZ Listed	VF/337	VF/335	VF/213	VF/342
Standards	AS 1603.1-1997[7] AS 1603.2-1997 AS 7240.6-2017	AS 1603.1-1997[7] AS 1603.2-1997	AS 1603.1-1997[7]	AS 1603.2-1997
Part Numbers	516.800.511[8]	516.800.510[8]	516.800.513[8]	516.800.517

1. Service replacement only when used on heat detector spacing. 2. Remote Indicator not fitted, excluding isolator / sounder / relay base currents.
3. With Remote Indicator fitted, excluding isolator / sounder / relay base currents. 4. Depends on the CIE used; *MX1* / MX4428. Refer to CIE manuals for design limitations.
5. Types A & B Heat detector, 45°C max. 6. Maximum, non condensing. 7. AS1603.1-1997 compliance: 814H complies as Types A, B, C, D; 814CH and 814PH comply as Type A & B only. 8. The 814PH, CH, H detectors' heat sensors are coated to provide extra moisture protection, identified by 'MP5' on the label.

Detector Address

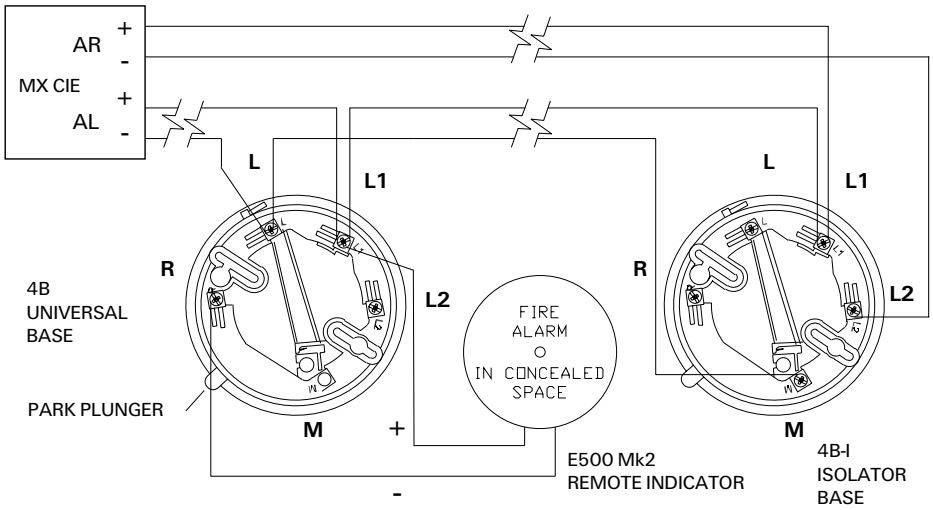
The address label carrier is fitted to the detector before mounting on the base. When the detector is mounted to the base, and turned clockwise until fully located on the base, the address label carrier is transferred to the base. If the detector is removed the address label carrier remains on the base.

Part Number	Desc.
516.800.915	Label Carrier
516.800.931	White Label
516.800.932	Yellow Label
516.800.933	Purple Label
516.800.934	Green Label

Locking Key

A detector locking device is moulded into the 4B 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 by inserting an unlocking tool (a Ø3 x 22mm long rod) into the hole on the detector cover to depress the locking device.

WIRING



The *MX* CIE can be programmed to illuminate a Remote Indicator for detectors in alarm other than the detector base to which the Indicator is connected.

All wiring terminates at the 4B or 4B-I base as follows:

R: – Remote L: – In and Out (4B only) L1: + In, Out & Remote M: – In (4B-I only) L2: – Out (4B-I only)

Cables should be arranged at each side of the terminal screw. A maximum of two 1.5mm^2 cables or one 2.5mm^2 cable can be fitted to one terminal. Any additional cables (such as Remote Indicator) should be fitted with suitable fork or eyelet crimp terminal lugs. The installation should comply with AS 1670.1/NZS 4512. Refer to the relevant information sheet for base wiring details.

DETECTOR IDENTIFICATION

Each detector is identified by a unique label on the top, as shown:

814PH

814I

814P

814CH

814H

Installation

The 814 series of detectors are not suitable for use where they may be exposed to condensing moisture, mist or water spray. When mounting on a damp surface or narrow beams where condensation may enter the rear of the detector, the deckhead mounting base 4B-DHM (part no. 517.050.051) or similar should be used. The 814CH should not be positioned where high localised levels of CO may normally occur, e.g. indoor car parks, warehouses. The 814H Heat detector may be more appropriate. Installation of all detectors should be carried out in accordance with AS 1670.1/NZS 4512. Cable penetrations should be sealed when positive or negative pressures in ceiling spaces may affect the performance or contaminate the installed detectors.

Maintenance And Service

The Tyco *MX* addressable system should be maintained in accordance with AS 1851/NZS 4512. The Tyco X330 Smoke Tester, X461 Heat Tester and CO Test Gas (part no. 517.001.262) may be used for testing in-situ. 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 wiring testing etc. Note that insulation testing must not be done when isolator bases are used. Depressing the plunger at the side of the base allows the detector to be rotated back into its operating position. Although the 814CH has an expected life in excess of 10 years, in order for the 814CH to provide the intended level of fire detection, the detector should be checked for calibration 5 years after installation or within 7 years of the date of manufacture.

Applications Warning In many fires, hazardous levels of smoke and toxic gas can build up before a heat detection device 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 not considered to provide life safety protection and are generally used where property protection is desired, but smoke or CO detectors cannot be used. Typical heat detector applications are satisfied by the use of rate-of-rise and fixed temperature electronic detectors. The addition of rate-of-rise operation provides faster heat detection for use where temperature fluctuations are controlled and 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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VIGILANT, a respected regional brand of Johnson Controls, is a technology leader in the Australian and New Zealand fire detection markets with AS and NZS product approvals. The VIGILANT product line includes a comprehensive range of *MX TECHNOLOGY* fire detection products and the market-leading QE90 voice evacuation systems. VIGILANT product is widely supported throughout Australia and New Zealand by a network of installation companies, service companies and distributors.

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