850 Series

Generation 6 *MX* Detection Range

VIGILANT

Features

// Optical Smoke, Heat, or Multi-Sensor detectors

// Enhanced chamber design

// Extended drift compensation

// Built-in short circuit line isolator

// Range of colour options

// Remote programming via Infrared link

// AS 7240.5 Listing (heat detectors)

// AS 7240.7 Listing (smoke detectors)

Description

- 850PH Photoelectric/Heat
- 850H Heat only
- 850P Photoelectric Smoke Only

The multi-sensor detectors can be configured to operate in one of the following modes:

- Heat Enhanced Smoke plus heat detection
- Heat Enhanced Smoke detection only
- Smoke detection only
- Heat detection rate-of-rise & fixed temperature
- Heat detection fixed temperature only

The 850 Series *MX* Multi-Sensor detectors transmit digital values that represent the level of smoke/CO/heat at the sensors to the Tyco *MX* Control and Indicating Equipment (CIE). The CIE software interprets the returned values, responding (e.g. to raise an alarm) according to the detection mode configured in the software. By utilising multiple sensors the CIE detection algorithms can combine the signals in different ways to achieve optimum detection.

The 850 Series detectors will plug into the following bases:

- 4B-C Continuity Base - use for most installations
- 4B-I Isolator Base
- 5BI Isolator base
- 814RB Relay Base
- 802SB Sounder Base
- 4B Universal Base
- 5B Universal Base
- MUB Universal Base

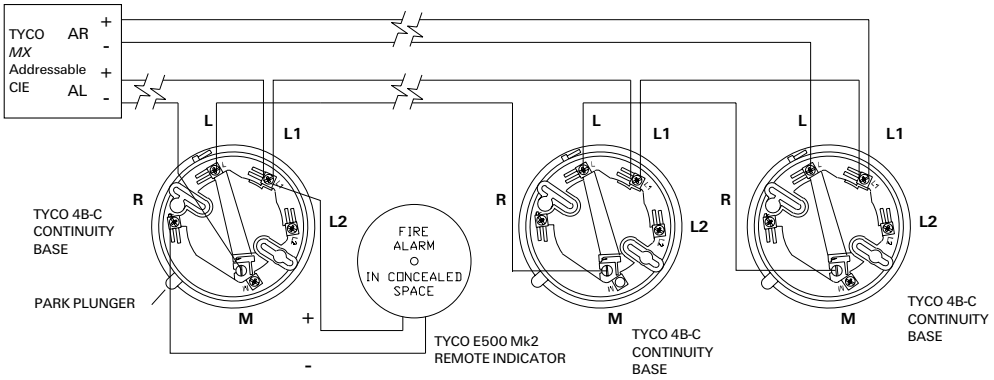
Note that the in-built loop short circuit isolator will function only with the 4B-C base. This base also maintains loop continuity if a detector is removed.

Specifications

	850PH	850H	850P
Mechanical (less base)	Photoelectric/Heat	Heat only	Photoelectric
Height	43mm	43mm	43mm
Diameter	109mm	109mm	109mm
Weight	76g	81g	76g
Electrical			
Loop Voltage	20V to 40VDC addressable loop voltage is provided by the *MX* CIE		
Quiescent Current (typical)	330µA	290µA	330µA
Alarm Current[1]	3mA	3mA	3mA
Alarm Current[2]	10mA	10mA	10mA
Remote Indicator	Tyco E500Mk2 typical for all detectors		
Max. Detectors per Loop[3]	250/200	250/200	250/200
Normal Environmental			
Ambient Temperature[4]	–25°C to +70°C	–25°C to +70°C[7]	–25°C to +70°C
Storage Temperature	–40°C to +80°C	–40°C to +80°C	–40°C to +80°C
Relative Humidity[5]	95%	95%	95%
ActivFire Listed	afp-2930	afp-2927	afp-2928
Standards	AS 7240.5-2004[6] AS 7240.7-2007	AS 7240.5-2004[6]	AS 7240.7-2007
Part Numbers	516.850.051.E	516.850.053.E	516.850.052.E

1. Remote Indicator not fitted 2. With Remote Indicator fitted 3. Depends on the CIE used, i.e., VIGILANT *MX1* / VIGILANT MX4428. Refer to CIE manuals for design limitations 4. A2S/A2R Heat detection enabled, 45°C max. 5. Maximum, non condensing 6. 850H heat sensor is A2S, A2R, CS and CR, 850PH heat sensor is A2S and A2R only. 7. Short term to 90°C 8. Not available with VIGILANT MX4428

Installation - Wiring



Typical Wiring for *MX1* Addressable systems using the 4B-C Continuity base.

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.

Wiring

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 or NZS 4512, as applicable.

4B Loop Cabling	4B-C Loop Cabling	4B-I Loop Cabling
L (-In/Out) **L1** (+In/Out). A remote indicator may be connected between loop positive **L1** (+In/Out) and terminal **R** (-ve). Terminal **L2** must not be used.	**L** (-In) **M** (-Out) **L1** (+In/Out). A remote indicator may be connected between loop positive **L1** (+In/Out) and terminal **R** (-ve). Terminal **L2** must not be used.	**L2** (-In) **M** (-Out) **L1** (+In/Out). A remote indicator may be connected between loop positive **L1** (+In/Out) and terminal **R** (-ve). Terminal **L** must not be used.

Positioning of Detectors

The 850 series of detectors are not suitable for use where they may be exposed to condensing moisture, mist or water spray.
When mounting on a narrow beam or where condensation may enter the rear of the detector, the deckhead mounting base 4B-DHM (part no. 517.050.051) should be used.
Installation of all detectors should be carried out in accordance with AS 1670.1 or NZS4512.
Cable penetrations should be sealed when positive or negative pressures in ceiling spaces may affect the performance of or contaminate the installed detectors.

Maintenance and Service

The Tyco *MX* addressable system should be maintained in accordance with AS 1851 or NZS4512.
The Tyco X300 Smoke Tester, X461 Heat Tester and CO test gas (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 where isolator bases are used). Depressing the plunger at the side of the base allows the detector to be rotated back into its operating position. The CO sensing element has an expected service life of 10 years.

The *MX* CIE can be set to report when the time period has been exceeded and the CO detector requires replacement.

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 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 A2S or Type CS).

Australia
Tyco Fire Protection Products
Level 3, 95 Coventry Street
Southbank VIC 3006
Tel : 1300 725 688
Tel : +61 3 9313 9700
Email : tfppcustservice.au@tycofp.com

New Zealand
Tyco Fire Protection Products
17 Mary Muller Drive
Hillsborough PO Box 19-545
Woolston Christchurch 8241
Tel : +64 9 635 0760
Email : tsp.sales.nz@tycoint.com

850INFTFPP1505

tyco Fire Protection Products

Safer. Smarter. Tyco.™