

850 Series

Generation 6 MX Detection Range



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

Mechanical (less base)

Height

Diameter

Weight

Electrical

Loop Voltage

Quiescent Current (typical)

Alarm Current¹

Alarm Current²

Remote Indicator

Max. Detectors per Loop³

Normal Environmental

Ambient Temperature⁴

Storage Temperature

Relative Humidity⁵

ActivFire Listed

Standards

850PH

Photoelectric/Heat

43mm

109mm

76g

20V to 40VDC addressable loop voltage is provided by the MX CIE

330µA

3mA

10mA

Tyco E500Mk2 typical for all detectors

250/200

-25°C to +70°C

-40°C to +80°C

95%

afp-2930

AS 7240.5-2004⁶

AS 7240.7-2007

850H

Heat only

43mm

109mm

81g

290µA

3mA

10mA

-25°C to +70°C⁷

-40°C to +80°C

95%

afp-2927

AS 7240.5-2004⁶

850P

Photoelectric

43mm

109mm

76g

330µA

3mA

10mA

-25°C to +70°C

-40°C to +80°C

95%

afp-2928

AS 7240.7-2007

Part Numbers

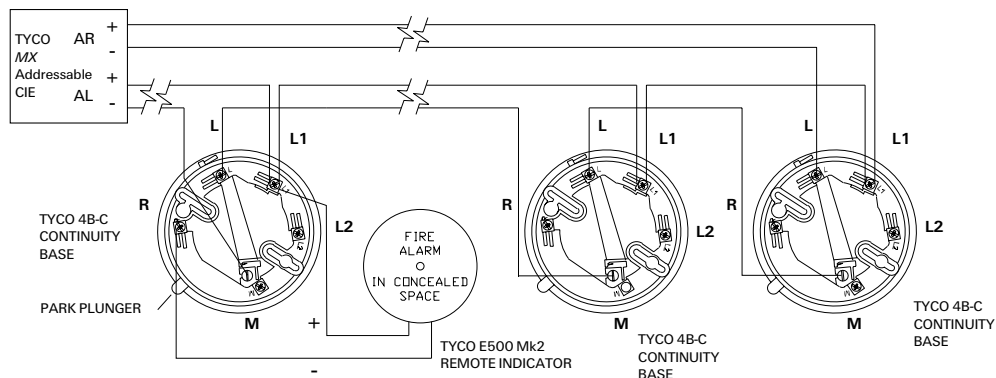
516.850.051.E

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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 1.5mm² cables or one 2.5mm² 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).



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