

850 Series

Generation 6 MX Detection Range



Features

- // Compatible with MX Addressable Loop on SIMPLEX 4100ESi, VIGILANT MX1 and VIGILANT MX4428 panels
- // Optical Smoke, Heat, & Multi-Sensor detectors
- // AS 7240.5 Listing (heat detectors)
- // AS 7240.7 Listing (smoke detectors)
- // Built-in short circuit MX loop isolator

Description

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

Depending on the connected CIE, the multi-sensor detectors can be configured to operate in a variety of modes.

The 850 Series MX detectors transmit digital values that represent the level of smoke/heat at the sensors to the Tyco MX Control and Indicating Equipment (CIE), using the MX protocol.

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 multiple sensors the CIE detection algorithms can combine the sensor values in different ways to achieve optimum detection.

The 850 Series detectors will plug into the following bases:

- 4B-C Continuity Base⁸ - use for most MX1 / 4100ESi 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 on MX1 and SIMPLEX 4100ESi CIE. 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
FPANZ Listed	VF/263	VF/218	VF/362
Standards	AS 7240.5-2004 ⁶ AS 7240.7-2004	AS 7240.5-2004 ⁶	AS 7240.7-2004

Part Numbers

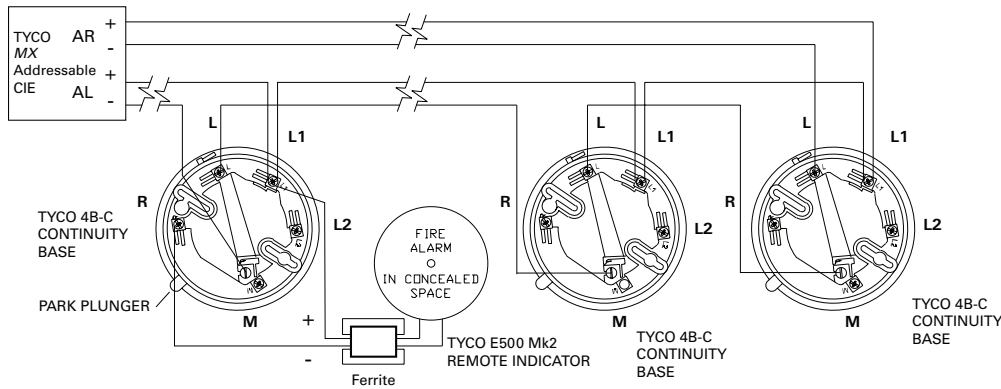
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1. Remote Indicator not fitted 2. With Remote Indicator fitted 3. Depends on the CIE used, i.e., SIMPLEX 4100ESi; VIGILANT MX1 / VIGILANT MX4428. Refer to CIE manuals for design limitations 4. A2S/A2R Heat detection enabled, 45°C max. 5. Maximum, non 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 MX⁸ 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. Note: an SX0005 ferrite is required on 850PC remote indicator wiring. Run one loop of wire through the ferrite, placed within 20cm of the detector base.

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 (MX1 & 4100ESi)	4B-I Loop Cabling
<p>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.</p>	<p>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.</p>	<p>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.</p>

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 NZS 4512. 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 NZS 4512. The Tyco X330 (517.001.255) Smoke Tester, and X461 Heat Tester may be used for testing in-situ. Cannisters of test smoke (X500) are also available.

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.

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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