850/851 Series Fire Detectors - *Generation 6*

Features:

- Choice of heat, optical and heat multi-sensor or 3*o*Tec triple multi-sensor
- Advanced multi-sensor designs
- Built-in line isolator
- Quick and easy to install
- Extended drift compensation
- Two way infra-red communication to the 850EMT Engineering Management Tool
- Fire, isolate and fault LED indications
- Comprehensive range of bases and base accessories
- SIL2 Certified

The Generation 6 fire detectors are designed to be both adaptable and flexible which means they can be used in most applications to protect against a wide range of potential fire risks. They use sophisticated digital signalling to communicate with the MZX Technology T2000 fire alarm control panel.

Using the 850EMT Engineering Management Tool, which communicates with the detector via a two way infrared link together with a range of bases and accessories, they are quick and easy to install, commission and service.

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851PH Photo Heat Detector

With the ability to detect a wide range of fires from flaming to smouldering types, the combined optical and heat multi-sensor detector is the preferred choice for a range of applications. It operates in a number of approved modes and sensitivities that can be dynamically selected to suit different environmental conditions.

850H Heat Detector

To compliment the range the heat sensor can operate in fixed temperature and rate-of-rise modes with a number of approved sensitivities. Most often used in areas where high levels of dust are present or where the environment precludes the use of smoke detectors.

850PC 3oTec Triple Sensor Detector

For life protection and when the environmental conditions are challenging, the 3oTec detector provides the ultimate in detector performance and false alarm rejection. It is a multi sensor that monitors smoke, heat and CO levels in concert to accurately determine the presence of fire.

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Detector Bases

The detector bases are designed to screw fix direct to the deck head or onto a deck head mount. A park position allows the detector to be mechanically attached to the base without making electrical connection to facilitate the testing of electronic free bases. The following versions are available:-

4B 4" Detector Base

The standard 4" Detector Base is used when short circuit isolation is not required.

4B-C 4" Continuity Base

The 4" Continuity Base is for use with the 850/851 Series detectors that have built in line isolators. The 4B-C base provides continuity when the detector is removed.

4BI 4" Isolator Base

A 4" Isolator Base which will provide local short circuit isolation for the 811 Series Fire Detectors.

5BI 5" Isolator Base

A 5" Isolator Base which will provide local short circuit isolation for the 811 Series Fire Detectors.

Deckhead Mount

The deck head mount provides an IP55 seal between the mount and the detector base to provide superior environmental protection. It is available in a diameter of 4" and 5" for use with the 4" and 5" bases.

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Manual Alarm Break Glass Call Points

An indoor (IP24D) and outdoor (IP67) manual alarm break glass call point with in built isolator.

850 EMT Engineering Management Tool

The 850EMT is a commissioning tool that communicates with Generation 6 fire detectors via a two way infrared link. It is designed to speed up and simplify installation and commissioning, reduce the possibility of engineering error and improve health and safety by removing the need for working at height.

Approvals

DEVICE	APPROVAL/CLASS
851PH, 850H, 850PC, MCP820M, MCP830M	MED and Class Society Approvals have been applied for. Please check the Tyco Fire Protection Products Website for the latest approval status.

Technical Specifications

Item	Dimensions mm	Weight g	Operating Temperature	Relative Humidity
851PH Photo Heat Detector	Dia 108 x 42H	76	-25°C to +70°C	95% Non Condensing
850H Heat Detector	Dia 108 x 42H	81	-25 °C to +70 °C (short- term to +90 °C)	95% Non Condensing
850PC 3oTec Triple Sensor Detector	Dia 108 x 42H	94	-10°C to +55°C	95% Non Condensing
4B-C 4" Continuity Base	Dia 109 x 25H	64	-25°C to +70°C (+90°C for short periods)	95% Non Condensing
4B 4" Detector Base	Dia 109 x 25H	64	-25 °C to +70°C (+90°C for short periods)	95% Non Condensing
4BI 4" Isolator Base	Dia 109 x 25H	64	-25 °C to +70°C (+90°C for short periods)	95% Non Condensing
5BI 5" Isolator Base	Dia 125.6 x 23.5H	63	-25 °C to +70 °C	95% Non Condensing
4B-DHM 4" Deck Head Mount	147.5 x 115 x 41.5H	200	-25°C to +70°C	95% Non Condensing
DHM-5B 5" Deck Head Mount	163 x 132 x 40H	200	-25°C to +70°C	95% Non Condensing
MCP820M Indoor Call Point c/w Isolator	93 x 89 x 27.5H	110	-10°C to +55°C	95% Non Condensing
MCP830M Outdoor Call Point c/w Isolator	93 x 97.5 x 73H	240	-25°C to +70°C	95% Non Condensing

Ordering Information

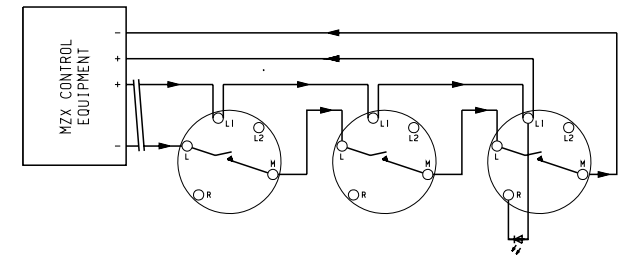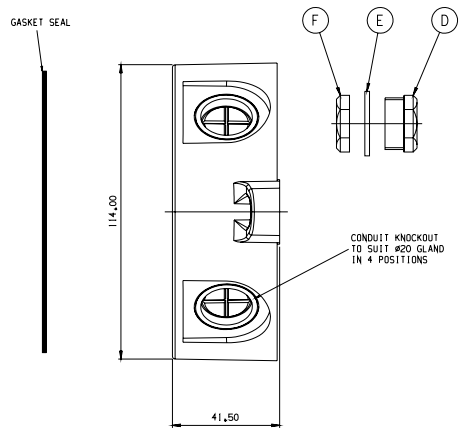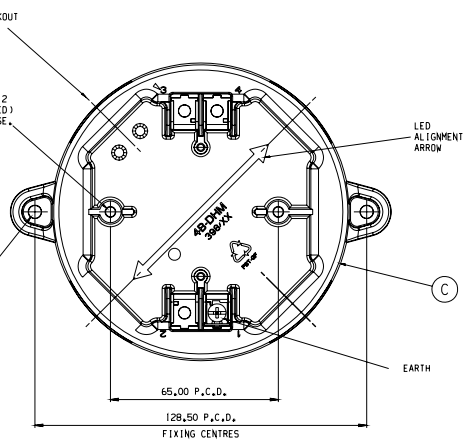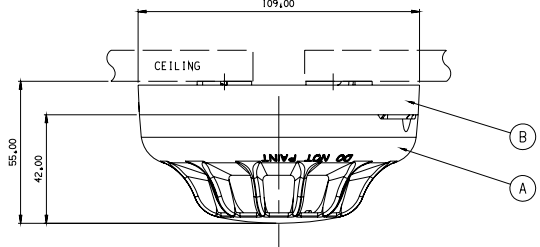|	
516.850.055	851PH Photo Heat Detector
516.850.053	850H Heat Detector
516.850.054	850PC 3oTec Triple Sensor Detector
516.850.900	850EMT Engineering Management Tool
517.050.041	4B 4" Detector Base
517.050.042	4B-C 4" Continuity Base
517.050.043	4BI 4" Isolator Base
517.050.018	5BI 5" Isolator Base
517.050.051	4B-DHM 4" Deck Head Mount
517.050.603	DHM-5B 5" Deck Head Mount
514.800.609	MCP820M Indoor Call Point c/w Isolator
514.800.610	MCP830M Outdoor Call Point c/w Isolator
516.800.915	Standard Address Flag

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IR PORTS

ALARM LED

109.00

CEILING

DO NOT PAINT

55.00

42.00

B

A

L1

L2

L

M

R

60.00

CONNECTION DIAGRAM

MZX CONTROL EQUIPMENT

CONDUIT KNOCKOUT 4 POSITIONS

2 HOLES TO SUIT M4 X 12 PAN HD SCREWS (SUPPLIED) TO SECURE DETECTOR BASE.

LED ALIGNMENT ARROW

4B-DHM 516850055

2 HOLES ø 0.5

EARTH

65.00 P.C.D.

128.50 P.C.D.
FIXING CENTRES

GASKET SEAL

F E D

CONDUIT KNOCKOUT TO SUIT ø20 GLAND IN 4 POSITIONS

114.00

41.50
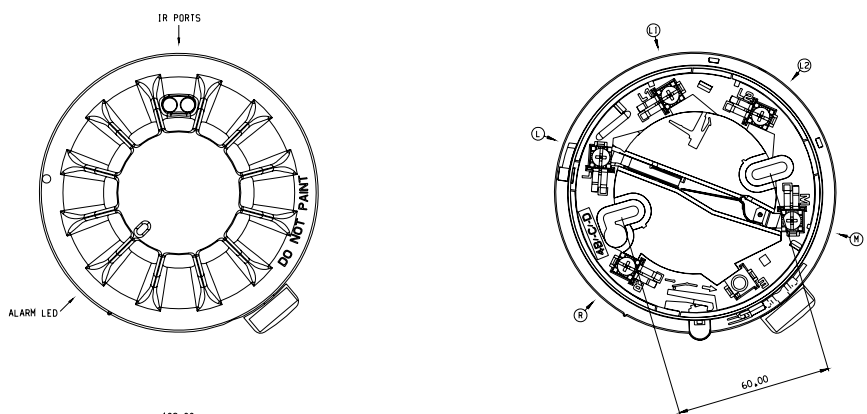
ELECTRICAL DATA

OPERATING VOLTAGE	20 MIN — 40 MAX (Vdc)
QUIESCENT CURRENT	400µA MAX
ALARM CURRENT	4.1mA MAX

TECHNICAL DATA

DETECTOR AND BASE
 MATERIAL: PC/ABS FR UL94-V0 AT 1.5MM
 COLOUR: WHITE
 WEIGHT: 140g

DECK HEAD MOUNTING
 MATERIAL: PBT-GF 30M FR
 COLOUR: WHITE (RAL 9010)
 WEIGHT: 200g

ENVIRONMENTAL

ENCLOSURE TO: IP55 (PROVISIONAL)

EMC: EN 50130-4
      EN61000-6-3
      AND MARINE REQUIREMENTS
OPERATING TEMPERATURE: -25°C TO +70°C
HUMIDITY: 95% NON-CONDENSING
SHOCK, VIBRATION,
IMPACT & CORROSION: EN54 Pt.10 AND MARINE REQUIREMENTS

REF	ITEM	DESCRIPTION	STOCK CODE No
A	851PH	OPTICAL & HEAT DETECTOR	516.850.055
B	4B-C	4" CONTINUITY BASE	517.050.042
C	4B-DHM	4" DECKHEAD MOUNTING	517.050.051
D		20mm CABLE GLAND WHITE	400.001.022A
E		20mm SEALING WASHER WHITE (PK of 100)	400.001.022W
F		20mm LOCKNUT WHITE	400.001.022

APP'D	A.NAISH

ISSUE	1	ECN2I7	20-03-12

THORN SECURITY

A3

16

DO NOT SCALE - REMOVE ALL BURRS AND SHARP EDGES - ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.TO BE READ IN CONJUNCTION WITH BS 308.

TITLE
851PH OPTICAL & HEAT DETECTOR
CONNECTION AND OUTLINE DRAWING WITH 4B-C CONTINUITY BASE AND 4B-DHM DECKHEAD MOUNTING

DRAWN	L.MARRS	23-02-12	ENG'R	A.NAISH	23-02-12

DEV.No.

DRAWING No.
MS 516.850.055

SHEET 1 OF 1

MATERIAL

FINISH

SCALE 1:2

THIRD ANGLE PROJECTION

TOLERANCES (UNLESS STATED)
GENERAL   ±0.2mm
HOLE CENTRES   ±0.12mm
HOLE DIAMETERS +0.1mm -0
ANGULAR   ±30'

RELEVANT DRAWINGS

USED ON