EQUIPMENT: **800 SERIES**
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5BEx 5" UNIVERSAL INTRINSICALLY SAFE BASE AND ACCESSORIES FOR USE WITH THE 811Exn SERIES DETECTORS PRODUCT APPLICATION & DESIGN INFORMATION

1. 5BEx 5" UNIVERSAL BASE

The 5BEx 5" Universal Base is compatible with M600Ex, MX 800Ex and the 800Exn ranges of Detectors. This document describes its use with the 800Exn series of detectors. Thus, a ceiling-mounted detector comprises the specific detector type, plus a 5BEx 5" Universal Base. The range is intended for two-wire operation.

The detector base is made of fire resistant FR110 'BAYBLEND'.

The base can be used with the DHM-5B.

The base accepts an address label carrier from the detector when it is fitted to the base. The base also has four electrical contacts which align with the contacts on the detector once the latter is fitted and fully latched into position.

The raised rib is aligned with a raised rib on the detector when the detector is in the fully home position.

Loop cabling is connected to base terminals L (-ve) and L1 (+ve).

A drive is provided for a remote indicator connected between loop positive and terminal R.

Terminal L2 is not used.

When the detector is mounted on the base, the detector LED provides a visual indication of its status through 360 degrees.

The detector may be locked in position by inserting a locking key which is part of the detector moulding. This is broken from the sprue and inserted in the locking key slot.

Special Conditions for Safe Use:.

1) When the detector is removed, the base must be provided with a degree of protection of at least IP54.
2) This apparatus does not meet the resistance to light requirements. It must be installed away from direct sunlight.
3) When installed, adequate precautions must be taken to ensure that cabling is restrained and not subject to any stress.

THE FOLLOWING LEGEND IS PRINTED ON THE RIM OF THE BASE:
5BEx FOR Ex/EXN DETECTORS ONLY ELECTROSTATIC HAZARD : CLEAN ONLY WITH A DAMP CLOTH

Fig. 1 5BEx 5" Universal Base

1.1 TECHNICAL SPECIFICATION

Mechanical Construction

See Fig. 1 and Fig. 2.

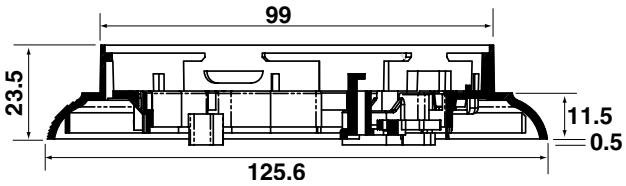

Fig. 2 Overall Base Dimensions

Material

Base:	FR110 'BAYBLEND' Flame Retardant
Base Contacts:	Stainless steel/Nickel plated
Base screws:	Steel/Zinc plated

Weight

Base:	0.064kg

Environmental

Operating Temperature:	-25°C to +70°C (+90°C for short periods)
Storage Temperature:	-40°C to +80°C
Relative Humidity:	95% non-condensing

1.2 ELECTRICAL CHARACTERISTICS

Through supply voltage:	40V dc max with addressable waveform (polarity conscious)

The Base has four terminals:

R	Remote LED connector
L	-ve IN/OUT
L1	+ve IN/OUT
L2	Not connected

1.3 CABLING

Cables are to be selected in accordance with Publication 17A-02-D. Only Two loop connections L and L1 are provided on the base itself, the input and output connection being made at the same terminal. The monitoring system will allow 'teed' or 'spur' junctions which may be used to simplify the installation cabling. However, a maximum of two 1.5mm^2 cables may be connected at any one terminal. End of line devices are not required on addressed circuits, see Fig. 3 and Fig. 4.

It is suggested that the he loop cable should be run in a metal cable tray and the cable secured with metal fastners at approximately half metre intervals.

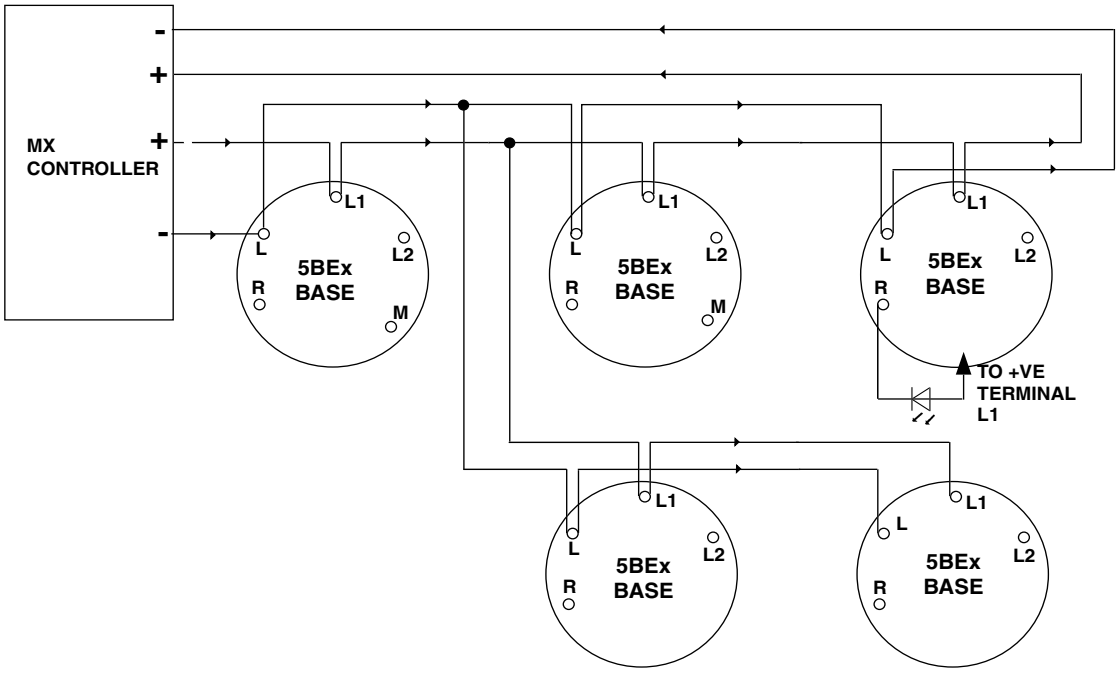

Fig. 3 Simplified Circuit Wiring Diagram

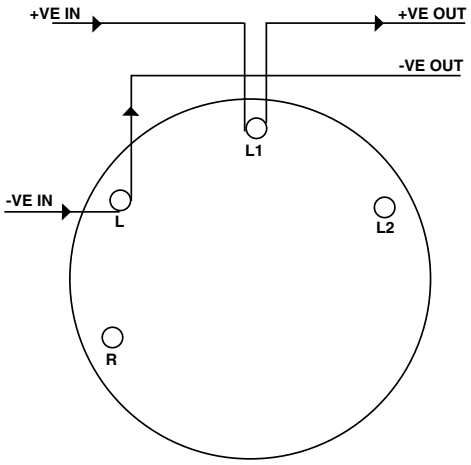

Fig. 4 Terminal Designation

2. ACCESSORIES

The following accessories are for use with the 5BEx 5" Universal Base and MX 800 Series detectors:

- DHM-5B Deckhead Mounting
- Detector Locking Device*
- LED aperture plug*
- Lock Release Tool
- Address Label Carrier
- Shorting Adaptor
- Base Dust Cover
- Detector Dust Cover
- Detector Removal Tool
- 800RIL Remote Indicator
- 800HL Remote Indicator

* These devices are located on the base and must be broken off to be used.

2.1 DHM-5B DECKHEAD MOUNTING

The Deckhead Mounting Kit is designed to be used with the Series 800Exn detectors to ensure that when used with cable glands the loop cable is secure.

The housing is to be secured with two No. 8 x 1 inch countersunk zinc plated and passivated steel screws (or equivalent) at the fixing centres shown in (Fig. 5). The surface chosen for the mounting should be flat over the area of the underside of the housing to ensure a stable fixing and strong enough to take the weight of the mounting, detector base and sensor.

The Deckhead Mounting Kit comprises:

a) A housing having 20/25mm breakouts for conduit connection.

b) Two 4.2 x 25mm long, self tapping posidrive pan head screws to secure the detector base.

c) Sealing gasket.

The deckhead mounting also has an option of being welded to metal ceilings via two 6.3 x 25mm (No. 14 x 1") pan head, steel, zinc coated, self tapping screws.

2.1.1 TECHNICAL SPECIFICATION

Dimensions

Height:	40mm
Width:	163mm
Depth:	132mm
Weight:	200g

Material

Body:	20% glass filled P.B.T.
Base Contacts:	Stainless steel/Nickel plated
Base screws:	Steel/Zinc plated

Environmental

Storage Temperature:	-30°C to +75°C
Operating Temperature:	-25°C to +70°C
Relative Humidity:	up to 95% RH (non-condensing)

Vibration: Designed to meet the requirements of GEI11-052 (1977).

Corrosion: The functional base passes the SO_2 corrosion test from GEI11-052 (1977).

IP Rating: IP55 (Interface point between 5” base and DHM-5B)

Flamability: UL 94 V-0 @ 1.5mm

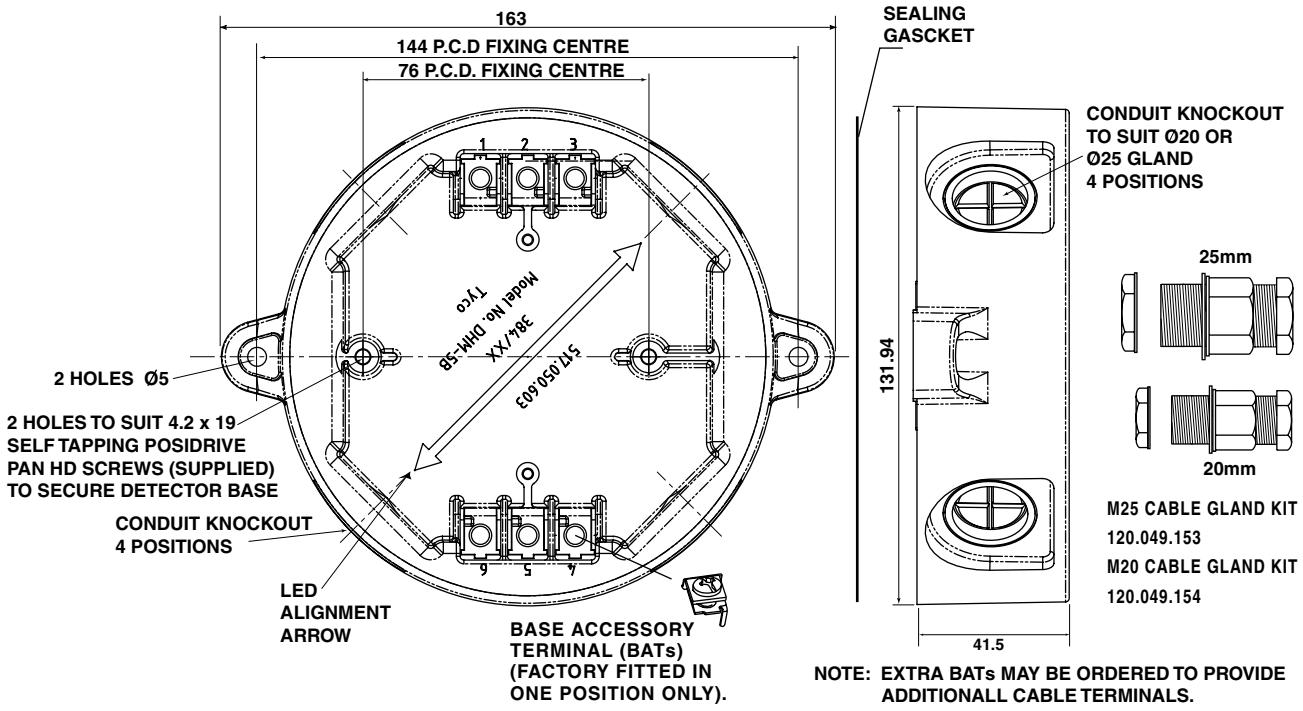

Fig. 5 DHM-5B Deckhead Mounting

2.2 DETECTOR LOCKING DEVICE

The detector locking device is part of the base moulding and must be broken off to be inserted into the locking aperture. The detector may be locked in position by inserting the optional locking device (Fig. 6) in the base before fitting the selected detector. The detector may then only be removed by inserting the unlocking tool into the hole on the detector cover (an example of a simple locally manufactured detector unlocking tool is shown in Fig. 8). This depresses the locking arrangement allowing the detector to be removed.

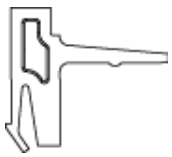

Fig. 6 Locking Device (not to scale)

2.3 LED APERTURE PLUG

An LED aperture plug (Fig. 7) is part of the base moulding and must be broken off to be fitted to the LED aperture.

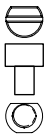

Fig. 7 LED Aperture Plug (not to scale)

2.4 LOCALLY MANUFACTURED LOCK RELEASE TOOL

A lock release tool for the detector can be locally manufactured, Fig. 8 gives the dimensions for the tool. The example shown is an R.S. Components screwdriver part number 544-689.

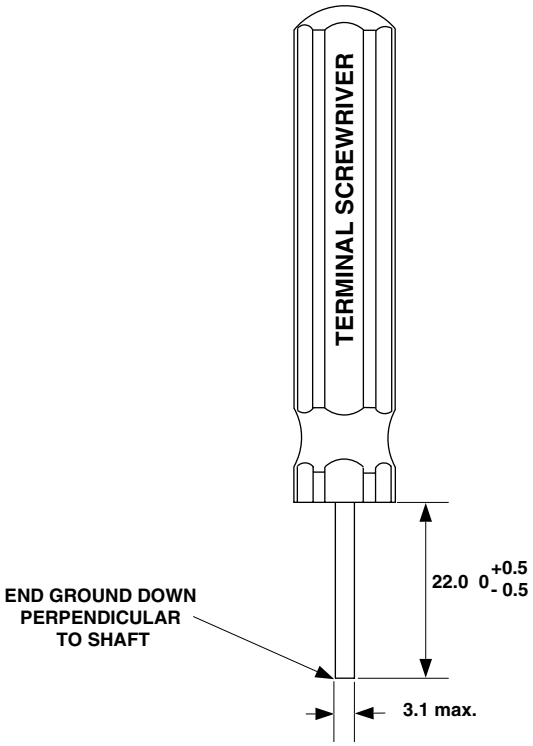

Fig. 8 Locally Manufactured Unlocking Tool

2.5 ADDRESS LABEL CARRIER

The address label carrier (see Fig. 9) 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.

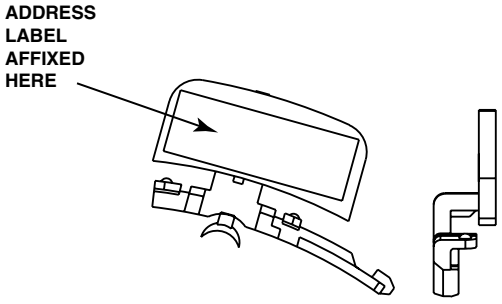

Fig. 9 Address Label Carrier

The address label carrier is made from FR110 'BAYBLEND' Flame Retardant.

2.6 SHORTING ADAPTOR

The shorting adaptor (Fig. 10) is used to short terminals L and L1 to allow cable resistance, capacitance and inductance checks to be carried out.

Fig. 10 Shorting Adaptor

The shorting adaptor is made from FR110 'BAYBLEND' Flame Retardant and is the same size as a detector.

2.7 DETECTOR DUST COVER

The detector dust cover (Fig. 11) forms part of the detector packaging. When the detector is removed from the packaging the top of the packaging is also removed. The dust cover should remain fitted until the detector is commissioned.

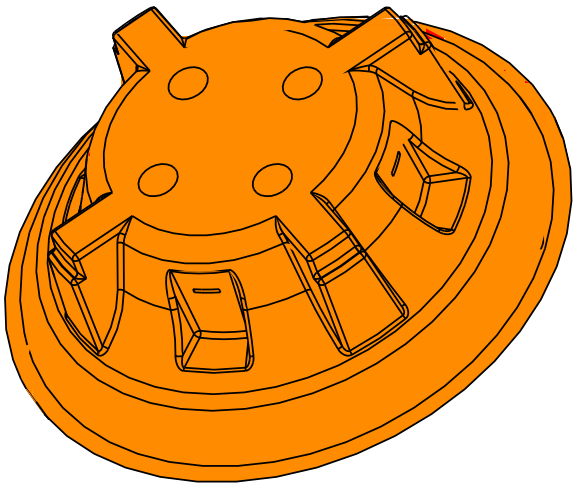

Fig. 11 Dust Cover

The dust cover is made of transparent orange polycarbonate.

2.8 BASE DUST COVER

A base dust cover (Fig. 12) should be fitted to the base after it is installed and remain fitted until a detector is inserted.

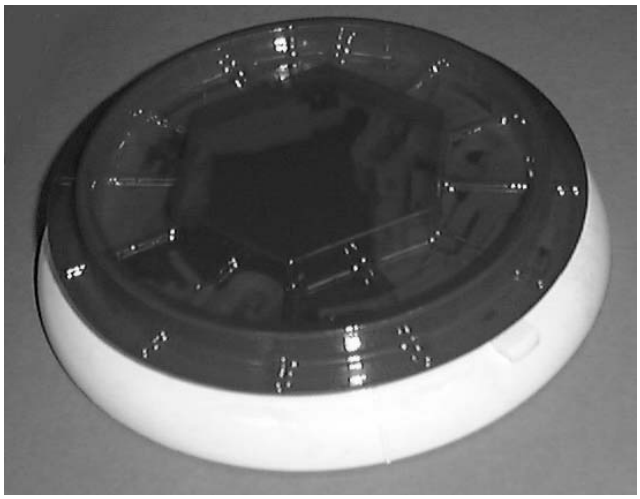

Fig. 12 Base Dust Cover

2.9 DETECTOR CHANGER

The detector Changer (Fig. 13 and Fig. 14) is used to remove/replace detectors from/to a detector base. It is also used to remove the dust cover and engage the temporary park plunger. Extension poles are available which permit the detector to be inserted or removed from high sitings.

The metal slides are retained by wing nuts and are used in two positions, fully up and fully down. In the fully up position, it is used to remove/replace a detector. In the fully down position, it is used to remove the dust cover and to engage the temporary park plunger.

Fig. 13

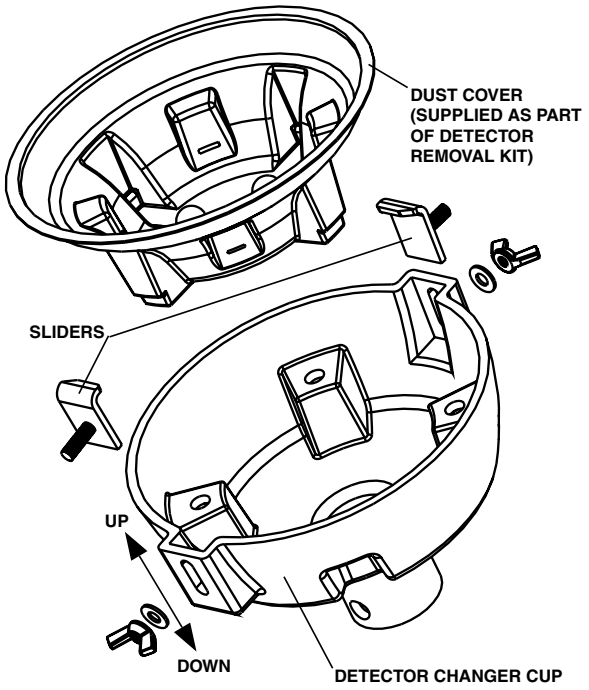

Fig. 14 Detector Changer

2.9.1 TECHNICAL SPECIFICATION

Dimensions

Height:	40.5mm
Width:	145.5mm
Depth:	145.5mm
Weight:	0.062kg

Material

Body:	3mm Polycarbonate
Sliders/Wing Nuts:	Stainless Steel

2.10 801RIL REMOTE INDICATOR

The 801RIL Remote Indicator (Fig. 15) is used where a detector LED is not visible, ie, when the detector is mounted in a roof void, lift shaft etc.

The 800RIL is mounted to a single-gang electrical box and is supplied with 2 x M3.5 screws.

Fig. 15 801RIL Remote Indicator

Electrical Characteristics:

Current consumption at 37.5V dc:

Standby	Alarm
0.0mA	3.0mA

2.11 801HL REMOTE LED INDICATOR

The 800HL Remote Indicator (Fig. 16) is used where a detector LED is not visible ie, when the detector is mounted in a roof void, lift shaft etc.

The 800HL provides a larger indicator for use in place of the 801RIL when longer distances are involved or in VdS influenced markets.

The 800HL can be mounted to any suitable flat surface and has fixing centres at 60 and 80mm.

Features include:

- High Intensity red LEDs
- Monitors up to four detectors

Dimensions (HWD):

Assembly: 85 x 85 x 38mm

Electrical Characteristics:

Current consumption:

Standby: 0

Alarm: 5mA

Fig. 16 800HL Remote Indicator

3. ORDERING INFORMATION

5BEx 5" Universal Base:	517.050.023
Address Flag Labels Loop A (white):	516.800.931
Address Flag Labels Loop B (yellow):	516.800.932
Address Flag Labels Loop C (purple):	516.800.933
Address Flag Labels Loop D (green):	516.800.934
Address Flag Labels - Loop E (Grey)	516.800.935
Address Flag Labels - Loop F (Blue)	516.800.936
Address Flag Labels - Loop G (Orange)	516.800.937
Address Flag Labels - Loop H (Red)	516.800.938
Detector Removal Tool:	516.800.917
Shorting Adaptor:	517.050.002.A
801RIL Remote Indicator:	516.800.908
800HL Remote Indicator:	516.800.909
DHM-5B Deckhead Mounting:	517.050.603
Base Accessory Terminal (pack of 10):	517.050.612
M20 Cable Gland Kit:	120.049.154
M25 Cable Gland Kit:	120.049.153

JM/ds

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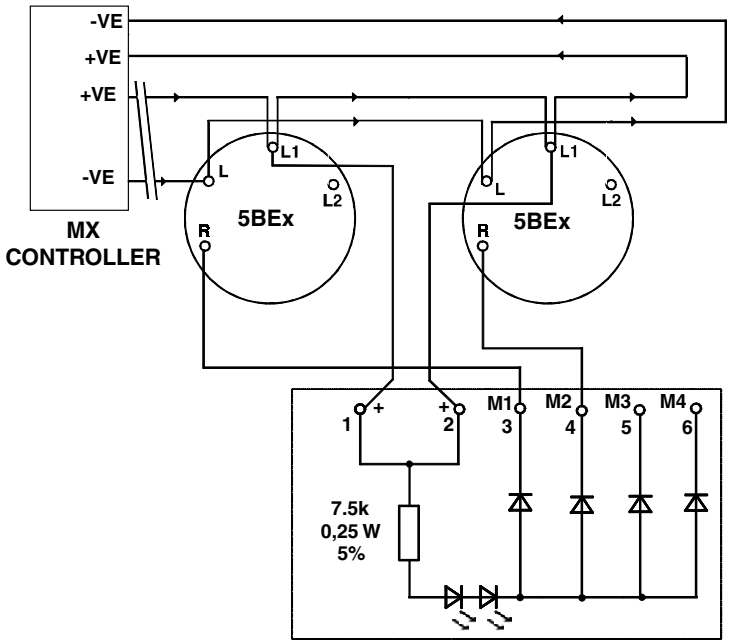

Fig. 17 800HL Simplified Wiring