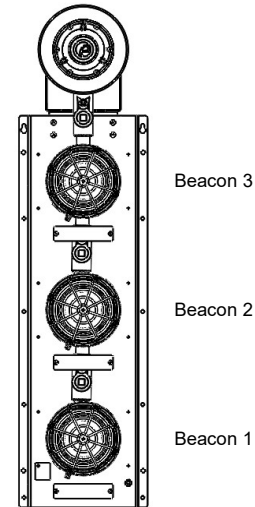
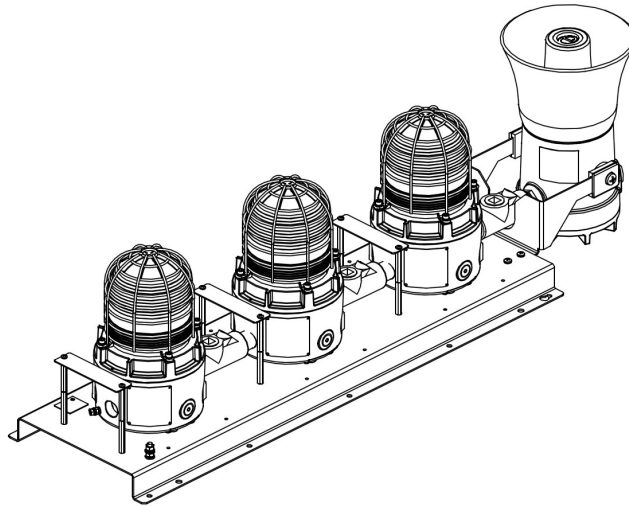


INSTRUCTION MANUAL

D1xC3 Alarm Bar

3 Beacons and Alarm Horn



1) Warnings

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

2) Rating & Marking Information

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

All individual unit ratings must be suitable for the installation.

3) Type Approval Standards

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

4) Installation Requirements

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

5) Special Conditions of Use

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

| Component Part Code Reference | Component Description | Document Number |
|-------------------------------|-------------------------|-----------------|
| D1XB2X05 | 5J Xenon Strobe Beacon | D191-00-201-IS |
| D1XB2X10 | 10J Xenon Strobe Beacon | |
| D1XB2X15 | 15J Xenon Strobe Beacon | |
| D1XB2LD2 | LED Beacon | D191-00-401-IS |
| D1XS1 | Alarm Horn Sounder | D190-00-001-IS |
| D1XS2 | Alarm Horn Sounder | D190-00-101-IS |

Table 1: Product Instruction Manual Reference

6) Part Coding

| Part Code: | Identifier - Description |
|--|---|
| Product Type | D1xC3 |
| Junction Box | N2 = No Junction Box |
| Beacon Type (Add Code for each Beacon in Alarm Bar) | 1Y = D1xB2X05 2Y = D1xB2X10 3Y = D1xB2X15 5Y = D1xB2LD2 Where Y = Lens Colour, choose from: A = Amber, B = Blue, C = Clear, G = Green, M = Magenta, R = Red, Y = Yellow |
| Sounder Type | S1F = D1xS1 Flare Sounder S1R = D1xS1 Radial Sounder S2F = D1xS2 Flare Sounder S2H = D1xS2 Large Flare Sounder |
| Voltage | DC024 = 24Vdc AC115 = 115-120Vac 50/60Hz AC230 = 220-230Vac 50/60Hz |
| Cable Entries [e] | A = 1 x M20x1.5mm + 1 x M20 (Adaptor) B = 2 x 1/2" NPT (Adaptors) C = 1 x 3/4" NPT + 1 x 3/4" NPT (Adaptor) D = 2 x M25x1.5mm (Adaptors) E = 1 x 1/2" NPT (Adaptor) + 1 x M20x1.5mm F = 1 x 1/2" NPT (Adaptor) + 1 x 3/4" NPT G = 1 x M25x1.5mm (Adaptor) + 1 x M20 M = 1 x 3/4" NPT + 1 x M20x1.5mm – Default |
| Stopping Plug / Adaptor Material [m] | B = Brass N = Nickel Plated S = Stainless Steel |
| Guard / Tag Material [s] | 1 = 316 St.Steel Guard & 316 Tag 2 = As (1) with Traffic Light Cowl 3 = 316 St.Steel Guard, 316 Tag & Duty Labels 4 = As (5) with Traffic Light Cowl 5 = 316 St.Steel Guard, 316 Tag & Duty Labels attached by steel wire |
| Product Version [v] | A = IECEx/ATEX/UL/cUL Class I Zone 1 B = IECEx/ATEX C = UL/cUL Class Div 1 |
| Product Option [o] | 1 = Standard Wiring (Positive Switching) 2 = Independent Wiring (Stage 1 Only) 3 = Alt. Standard Wiring (Negative Switching) 5 = Beacons & Sounder Linked w/ Line Monitoring 6 = Independent Wiring w/ Line Monitoring W = Special Wiring X = Special Configuration |
| Assembly Colour [x] | R = Red, G = Grey Other colours also possible, contact E2S sales |

7) Location and Mounting

The location of the Alarm Bar should be made with due regard to the area over which the warning signal must be visible/audible. They should only be fixed to surfaces that can carry the weight of the unit.

The D1XC3 Alarm Bar should be secured to any flat surface using ten Ø7mm fixing holes in the mounting plate. See figure 1.

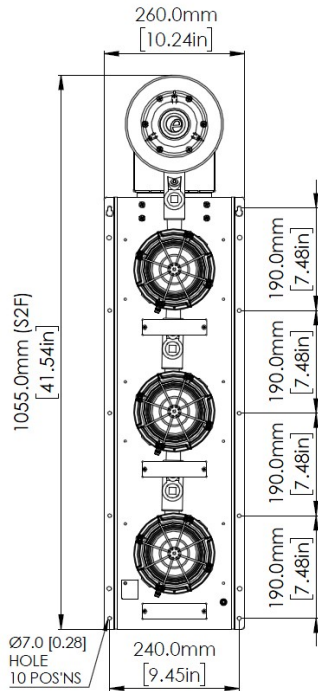


Fig. 1: Mounting Detail and Dimensions for D1x Alarm Bar

Alternatively, the unit can be pole mounted. For pole mounting detailed instructions, see drawing D226-00-010

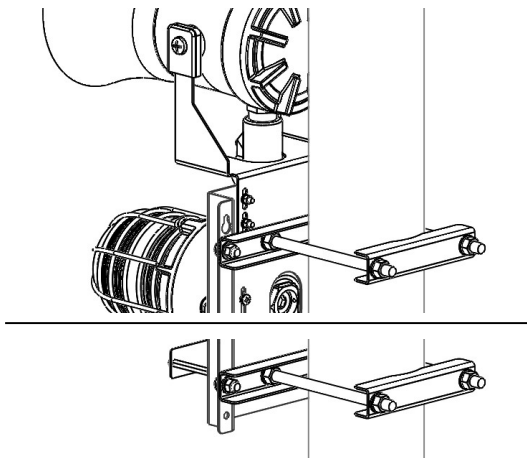


Fig. 2: Pole Mounted Alarm Bar Max. Pole size NPS 4\"/>

8) Access to the Enclosure



Warning – Hot surfaces. External surfaces and internal components may be hot after operation, take care when handling the equipment.

In order to connect the electrical supply cables to the beacon, it is necessary to open the explosion proof enclosure. Loosen the locking grub screw in the cover and then remove the glass dome cover assembly to gain access to the chamber. This can be achieved by unscrewing the glass dome cover, taking extreme care not to damage the threads when doing so.

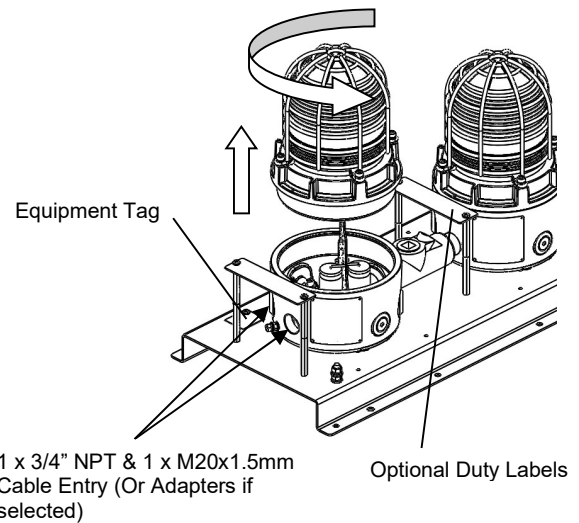


Fig. 3: Enclosure Access

9) Power Supply Selection

For Voltage ranges of complete units, take the highest Minimum value and lowest Maximum value in the ranges of the component units. For Current and Max Current ratings of complete units, add the ratings from the component units.

E.g. D1xC3 N2 2A 2B 2C S1F AC115...:

| Unit Type | D1xB2X10 | D1xS1 | D1xC3 Total |
|---------------|------------------------|-------------------------|--------------------|
| Voltage Range | 110 -120Vac 50/60Hz | 110 - 240Vac 50/60Hz | 110-120Vac 50/60Hz |
| Current | 220mA x3 | 77mA | 737mA |
| Max Current | 300Ma x3 | 82mA | 982mA |

Please see individual product instruction manual for Voltage Range, Current and Max Current values.

10) Selection of Cable, Cable Glands, Blanking Elements & Adapters

Please see individual product instruction manual.

NOTE: Stopping plugs cannot be fitted into adaptors.

11) Earthing

The Alarm Bar is provided with an M6 earth screw on the mounting plate. Earthing connections should be made to the M6 earth screw, using a ring crimp terminal to secure the earth conductor.

Please see individual product instruction manual for details of earthing each beacon

12) Cable Connections

Electrical connections are to be made into the terminal block and PCBA located in the first beacon. See section 8 of this manual for access to the enclosure. See also individual manuals for detail on wiring into PCBA terminals.

Wires having a cross sectional area between 0.5 mm² to 2.5mm² can be connected to each terminal way. Strip wires to 8mm. Wires may also be fitted using ferrules. Terminal screws need to be tightened down with a tightening torque of 0.45 Nm / 5 Lb-in. When connecting wires to the terminals great care should be taken to dress the wires so that when the cover is inserted into the chamber the wires do not exert excess pressure on the terminal blocks. This is particularly important when using cables with large cross-sectional areas such as 2.5mm².

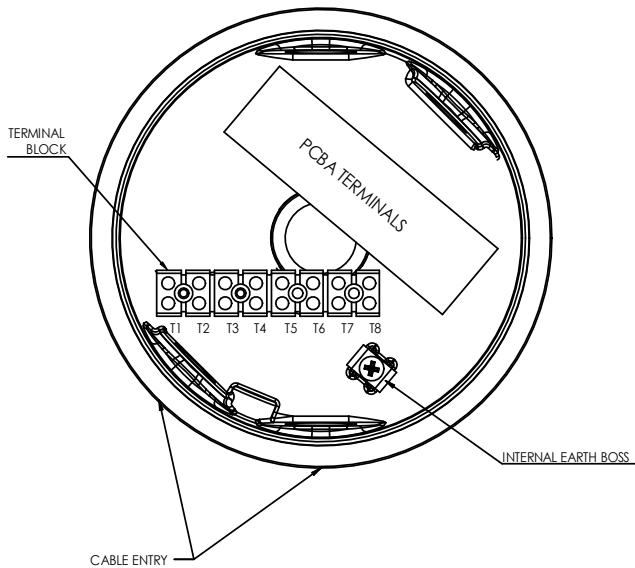


Fig. 4: Entry Unit (Beacon 1) Internal Detail & Terminal Block

13) Wiring

For wiring diagrams, see schematic document D226-06-145 See table 3 at the end of this manual for list of standard configurations.

Note:

For units with product codes where Product Option = X or W, please see special wiring schematic supplied with the unit documentation.

14) Interchangeable & Spare Parts

The Beacon lens cover is interchangeable, contact E2S Ltd for a replacement lens cover available in various colours.

To change the lens cover, unscrew the 4-off M5 socket head screws, spring and flat washers using a 4mm Hex key. Remove the wire guard and replace the old lens cover with the new lens cover.

Fit the wire guard back onto the housing, over the new lens cover aligning the fixing holes of the guard, lens cover and housing. Refit the fixings to hold into place, the fixings MUST be fitted in the order shown above.

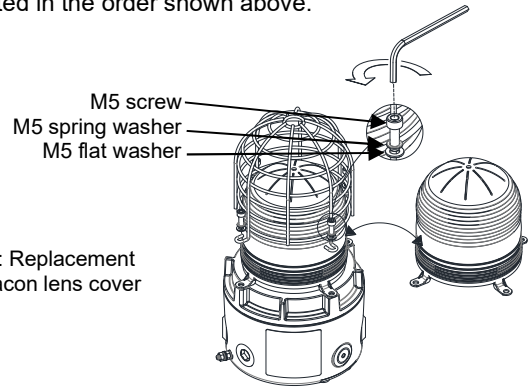


Fig. 5: Replacement of beacon lens cover

Optional Duty Labels can be placed to suit either the vertical mounting position (default) or a horizontal mounting position. See figure 6 for configuration details.

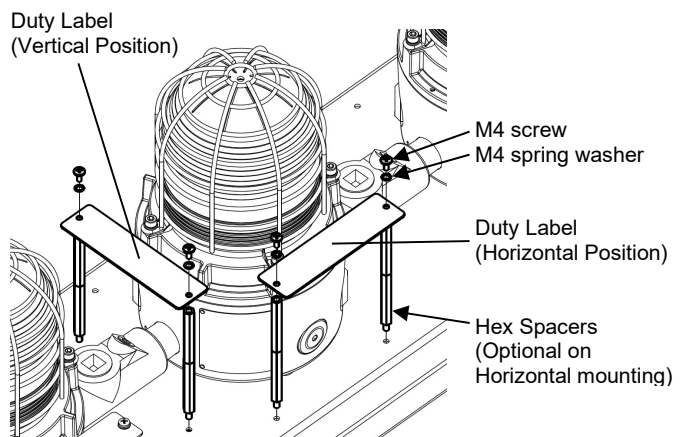
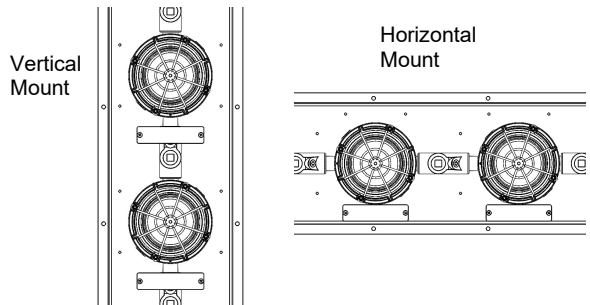


Fig. 6: Duty label assembly and configurations

To move the duty labels, use a spanner or equivalent tool to carefully remove the hex nuts and spring washers from the positions shown on the rear of the plate. Care should be taken not to drop them, especially if working from height.

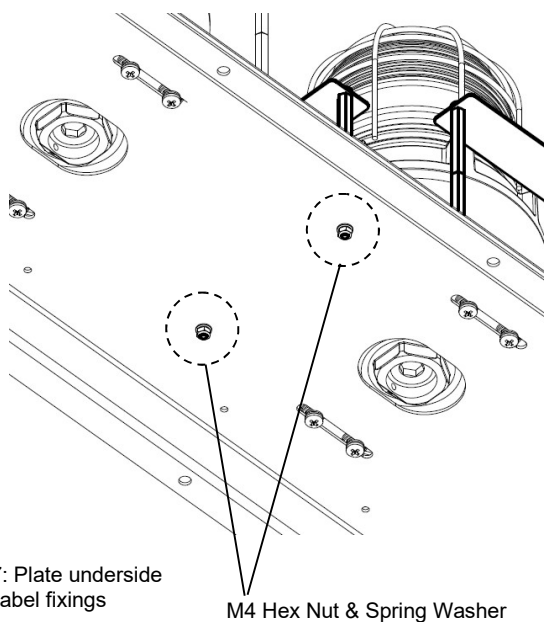


Fig. 7: Plate underside duty label fixings

M4 Hex Nut & Spring Washer

For horizontal mounting, the hex spacers are optional.

If using the hex spacers:

Position the duty label assembly in the desired position (fig. 6). Place spring washers over the spacer threads on the underside of the plate and tighten M4 hex nuts fully.

If not using hex spacers:

Carefully remove the duty labels from spacers using a posi-drive screwdriver to loosen the M4 screws. Place duty label flush to plate with screws inserted into holes (fig. 6). Place spring washers over the spacer threads on the underside of the plate and tighten M4 hex nuts fully.

Beacons can be configured with a traffic light cowl to enhance visibility. Figure 8 shows the optional Traffic Light Cowl pre-assembled to the Beacon by E2S.

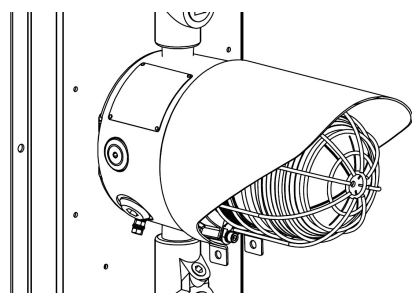


Fig. 8: Traffic Light Cowl

To disassemble the cowl, loosen the M6 Nut using a spanner or wrench and carefully remove from the beacon lid casting.

To re-assemble, manoeuvre the cowl back into position and tighten the M6 Screw and Nut until the cowl is fixed securely.

15) Maintenance, Overhaul and Repair

Please see individual product instruction manual. See Table 1 for Instruction Manual Document Number.

16) SIL Approvals

Beacons and Sounders have been assessed for Reliability and Functional safety under IEC/EN61508 and are considered suitable for use in low demand safety functions:

1. Random Hardware Failures and Architectural constraints (route 2_H).
2. As an unvoted item (i.e. hardware fault tolerance of 0) at SIL 2.

Please see individual product instruction manual in Table 1 for information on reliability data.

| DC DIAGRAMS | | | | |
|--|---------|--|---|--------------------|
| Config. | Voltage | Configuration Description | Features | Product Option [o] |
| 1 | DC | Standard wiring Positive switching (Default) | <ul style="list-style-type: none"> Common negative connection to all signals Positive stage switching on alarm horn sounder | 1 |
| 2 | DC | Independent wiring | <ul style="list-style-type: none"> Independent wiring to all signals Stage 1 only on alarm horn sounder | 2 |
| 3 | DC | Alt. Standard wiring Negative switching | <ul style="list-style-type: none"> Common negative connection all signals Negative stage switching on alarm horn sounder | 3 |
| 5 | DC | Beacon and sounder stages linked with line monitoring | <ul style="list-style-type: none"> Beacon 1, 2 & 3 linked to sounder stages 1, 2 & 3 Positive stage switching on alarm horn sounder | 5 |
| 6 | DC | Independent wiring for all signals with line monitoring | <ul style="list-style-type: none"> Independent wiring to all signals Stage 1 only on alarm horn sounder | 6 |
| AC DIAGRAMS | | | | |
| Config. | Voltage | Configuration Description | Features | Product Option [o] |
| 1 | AC | Standard wiring (Default) | <ul style="list-style-type: none"> Common neutral connection to all signals | 1 |
| 2 | AC | Independent wiring | <ul style="list-style-type: none"> Independent wiring to all signals Stage 1 only on alarm horn sounder | 2 |
| Table 3 – Summary of Wiring Options | | | | |
| NOTE: Please see schematic document D226-06-145 for line monitoring details. | | | | |

DC CONFIGURATIONS

E2S PART NO
D1x[C3][N2][XX][XX][XX][XXX]
 Note: Alternative wiring configurations may be available on request - contact E2S sales

DESCRIPTION
D1xC3 STACK
3 BEACONS & ALARM HORN

DATA REFERENCE
1-26-080

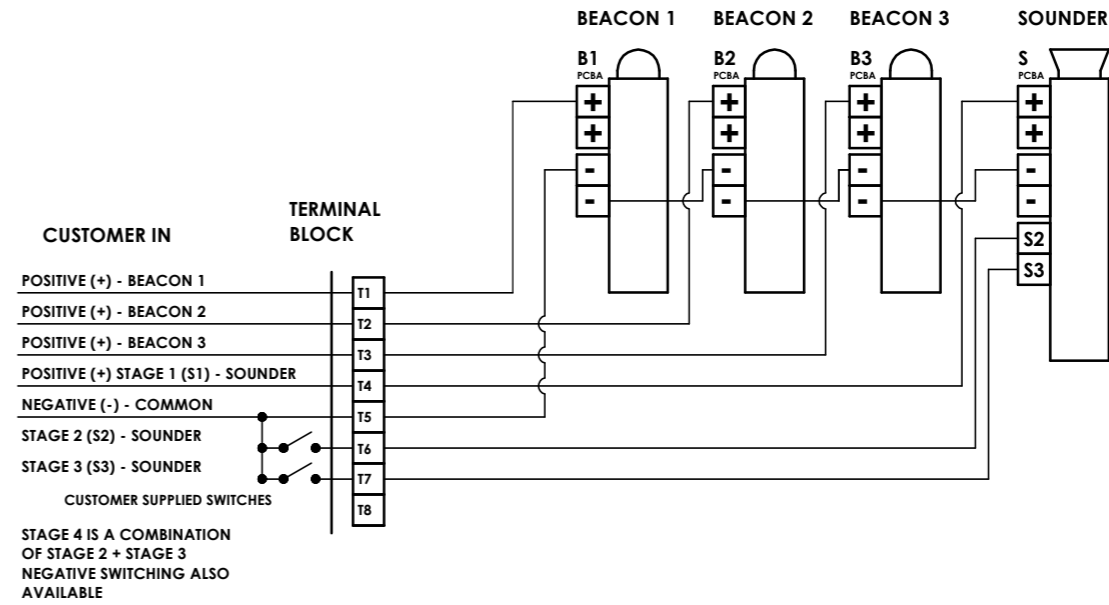
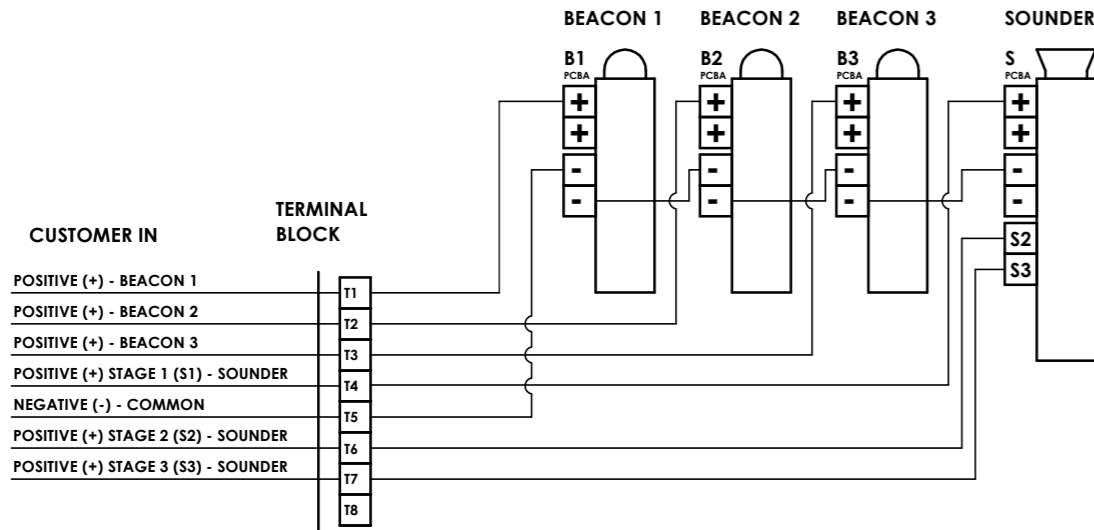
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| 2 | | TB 8 TERMINALS WAS 6 ; BEACON 1 CONNECTED TO TB. DAH - 24-02-2020 |
| 3 | | DC STAGE SWITCHING WAS -VE NOW +VE. SOUNDER TERMINALS UPDATED TO NEW PCBA. DAH - 22-09-2021 |
| 4 | | CONFIG 1-5 ADDED ; SH 2 ADDED DAH - 20-04-2023 |

CONFIG. 1 (DEFAULT)

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 COMMON NEGATIVE CONNECTION TO ALL SIGNALS
 POSITIVE STAGE SWITCHING FOR ALARM HORN SOUNDER

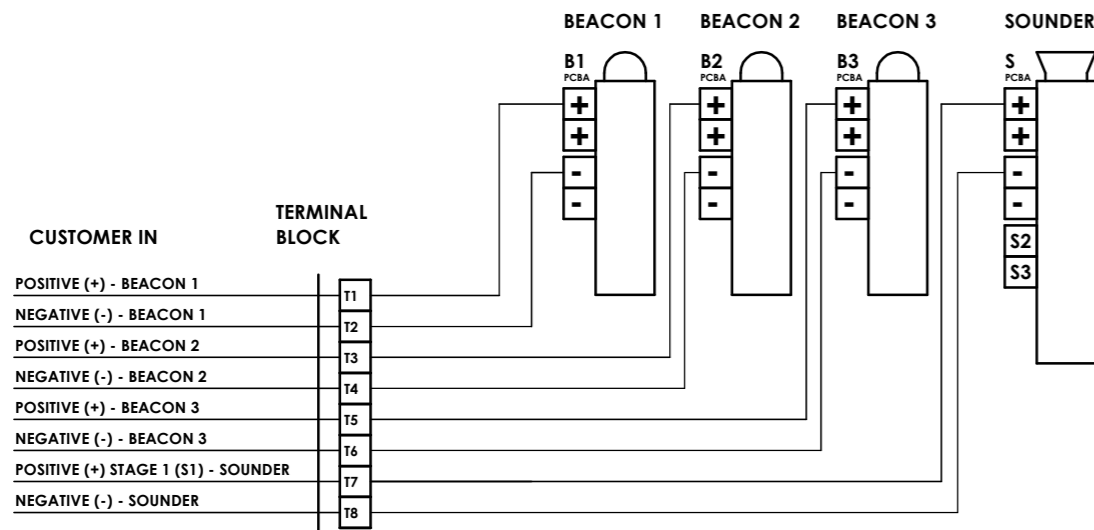
CONFIG. 3

DC VOLTAGE SUPPLY
 COMMON NEGATIVE CONNECTION TO ALL SIGNALS
 NEGATIVE STAGE SWITCHING FOR ALARM HORN SOUNDER



CONFIG. 2

DC VOLTAGE SUPPLY
 INDEPENDENT CONNECTIONS TO ALL SIGNALS
 POSITIVE STAGE SWITCHING FOR ALARM HORN SOUNDER



DRAWING TO BS8888:2000
 GEOMETRIC TOLERANCES TO ISO1101:1983
 LINEAR DIMENSIONAL TOLS
 ANGULAR DIMENSIONAL TOLS

| | |
|-----------|------------|
| DRAWN | DATE |
| D.HOWGILL | 15-08-2019 |
| CHECKED | DATE |
| R.N.POTTS | 15-08-2019 |
| APPROVED | DATE |
| R.N.POTTS | 15-08-2019 |

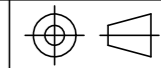
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| FINISH | |
| MATERIAL | |
| ALTERNATIVE MATERIAL | |

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ALL DIMENSIONS IN MM
 IF IN DOUBT, ASK -
 DO NOT SCALE



A2

TITLE **D1xC3 STACK - 3 BEACONS & ALARM HORN WIRING SCHEMATIC**

| | | |
|-------|--------|----------------|
| SCALE | SHEET | DRAWING NUMBER |
| NTS | 1 OF 2 | D226-06-145 |

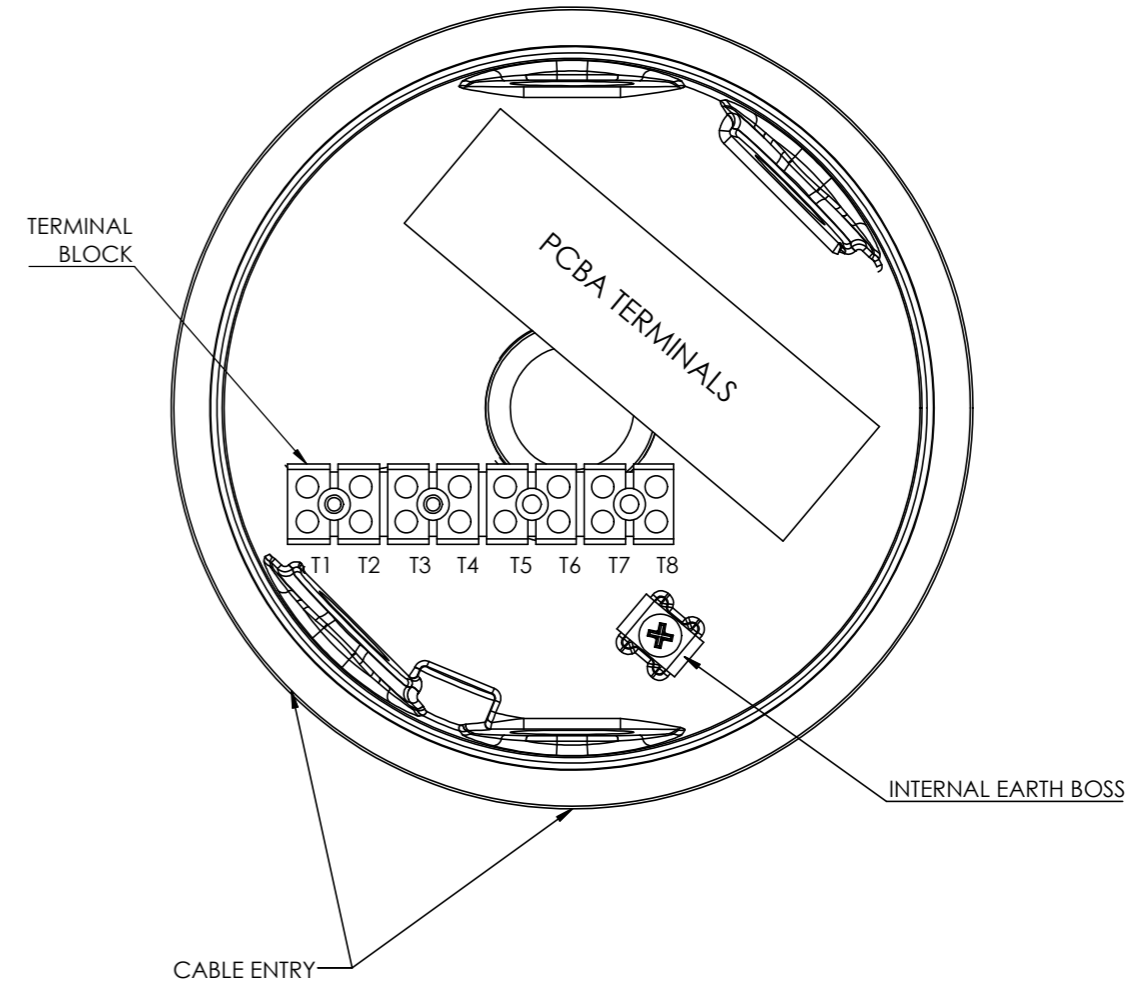
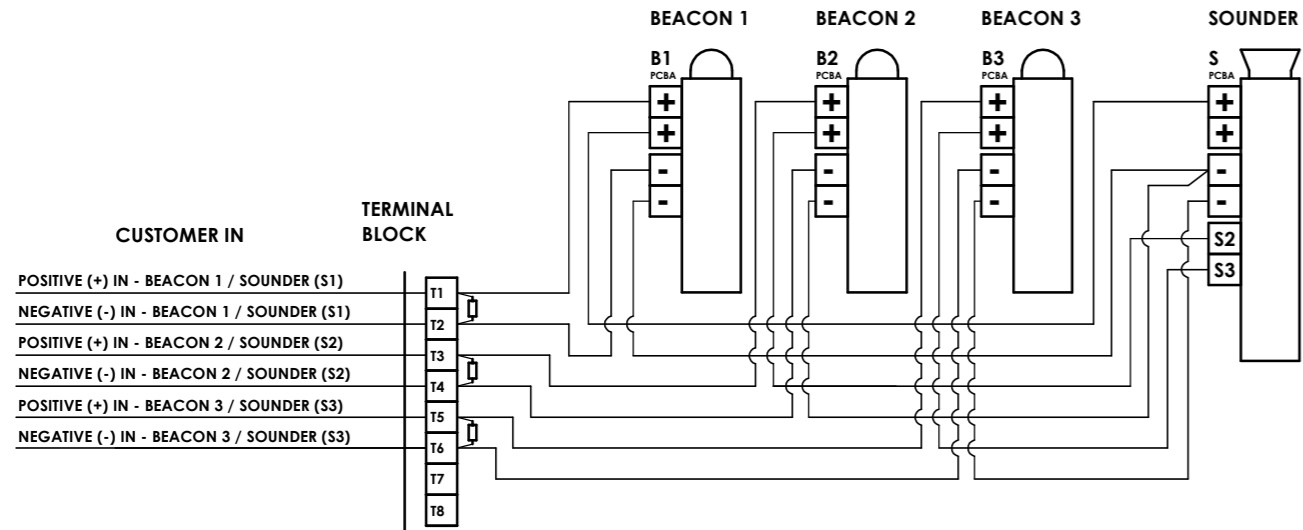
DC CONFIGURATIONS

| ISSUE | MOD No. | REASON - INITIAL - DATE |
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| 2 | | SEE SH1 |
| 3 | | SEE SH1 |
| 4 | | SEE SH1 |

CONFIG. 5

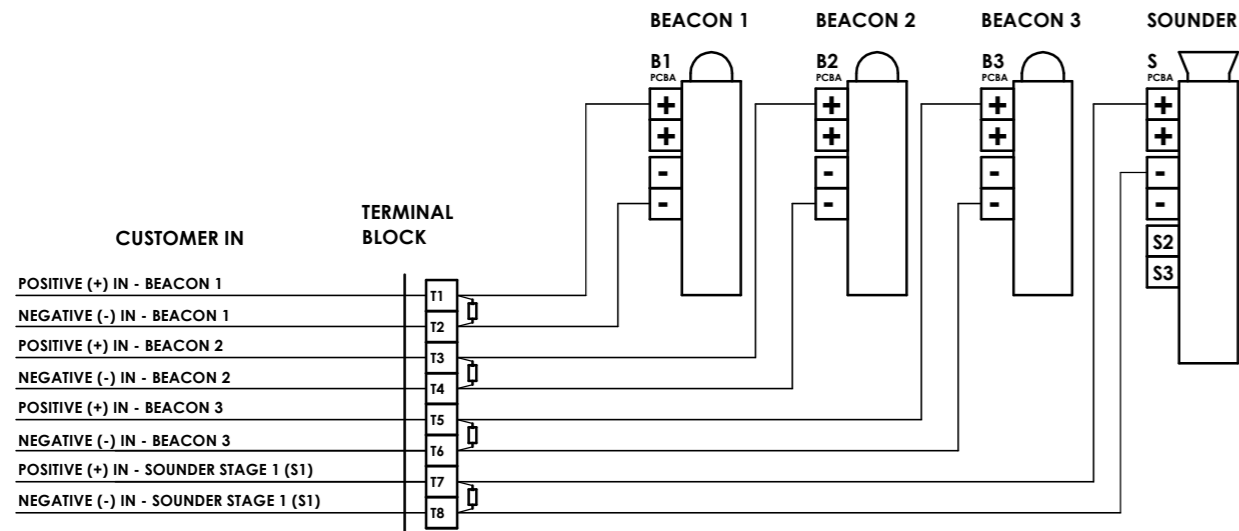
DC VOLTAGE SUPPLY
 BEACON 1 / STAGE 1 LINKED ; BEACON 2 / STAGE 2 LINKED ; BEACON 3 / STAGE 3 LINKED
 POSITIVE STAGE SWITCHING FOR ALARM HORN SOUNDER WITH END OF LINE MONITORING (3 STAGES)

ENTRY TERMINALS



CONFIG. 6

DC VOLTAGE SUPPLY
 INDEPENDENT CONNECTIONS TO ALL SIGNALS
 END OF LINE MONITORING ON ALL SIGNALS



| | | | |
|---|---|--------------------------|-------------|
| DRAWING TO BS8888:2000 GEOMETRIC TOLERANCES TO ISO1101:1983 LINEAR DIMENSIONAL TOLS ANGULAR DIMENSIONAL TOLS | DRAWN D.HOWGILL DATE 15-08-2019 | SURFACE FINISH FINISH | WEIGHT (kg) |
| STANDARDS | CHECKED R.N.POTTS DATE 15-08-2019 | MATERIAL | |
| | APPROVED R.N.POTTS DATE 15-08-2019 | ALTERNATIVE MATERIAL | |

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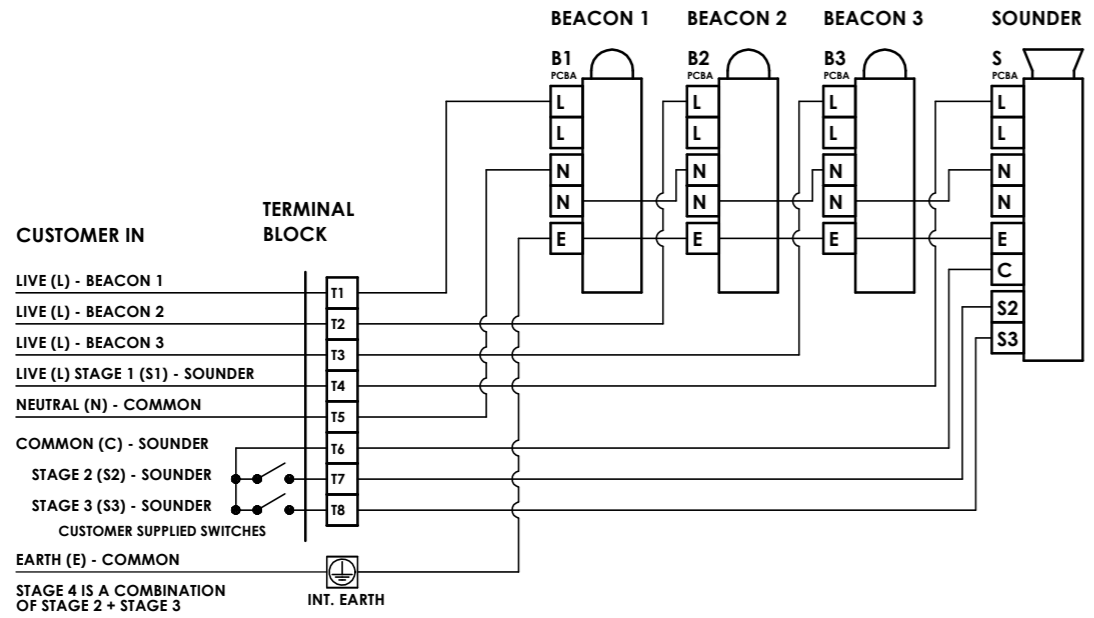
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| TITLE D1xC3 STACK - 3 BEACONS & ALARM HORN WIRING SCHEMATIC | SCALE NTS | SHEET 2 OF 3 |
| DRAWING NUMBER D226-06-145 | | |

AC CONFIGURATIONS

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| 3 | | SEE SH1 |
| 4 | | SEE SH1 |

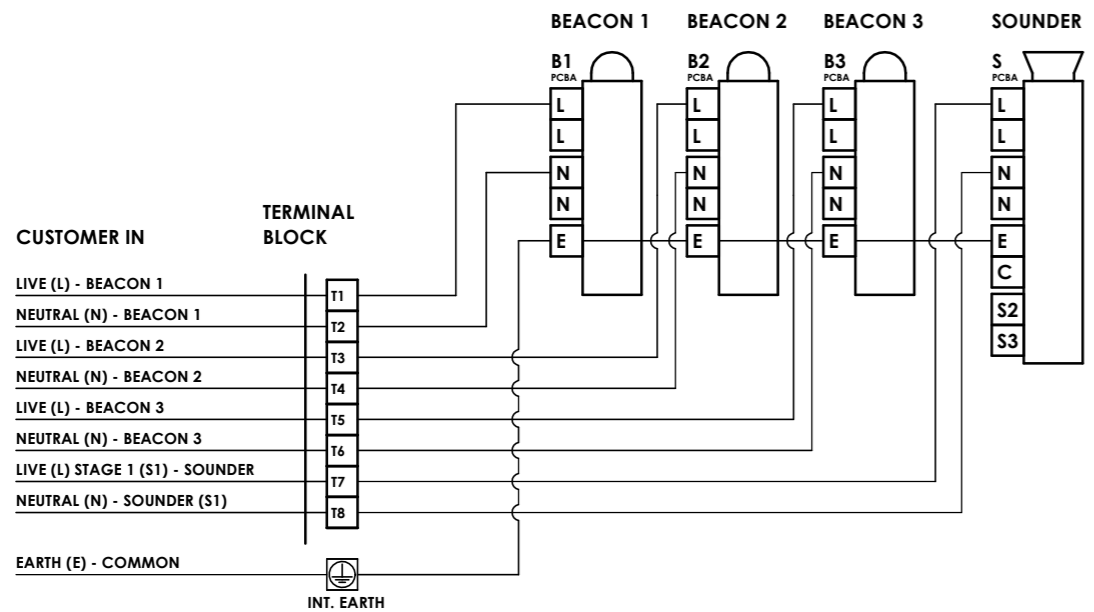
CONFIG. 1 (DEFAULT)

- AC VOLTAGE SUPPLY
- COMMON NEUTRAL CONNECTION TO ALL SIGNALS
- COMMON STAGE SWITCHING FOR ALARM HORN SOUNDER



CONFIG. 2

- AC VOLTAGE SUPPLY
- INDEPENDENT CONNECTIONS TO ALL SIGNALS



DRAWING TO BS8888:2000
 GEOMETRIC TOLERANCES TO ISO1101:1983
 LINEAR DIMENSIONAL TOLS
 ANGULAR DIMENSIONAL TOLS

| DRAWN | DATE |
|-----------|------------|
| D.HOWGILL | 15-08-2019 |
| CHECKED | DATE |
| R.N.POTTS | 15-08-2019 |
| APPROVED | DATE |
| R.N.POTTS | 15-08-2019 |

| SURFACE FINISH | WEIGHT (kg) |
|----------------------|-------------|
| FINISH | |
| MATERIAL | |
| | |
| ALTERNATIVE MATERIAL | |
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| ALL DIMENSIONS IN MM IF IN DOUBT, ASK - DO NOT SCALE | | | A2 |
| TITLE D1xC3 STACK - 3 BEACONS & ALARM HORN WIRING SCHEMATIC | | | |
| SCALE NTS | SHEET 3 OF 3 | DRAWING NUMBER D226-06-145 | |