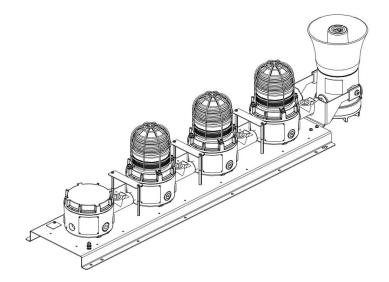
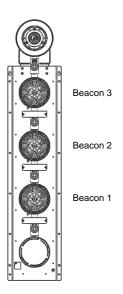
INSTRUCTION MANUAL

D1xC3 Alarm Bar

3 Beacons & Alarm Horn with Junction Box







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	
D1XJ2	Junction Box	D191-00-501-IS	
D1XB2X05	5J Xenon Strobe Beacon		
D1XB2X10	10J Xenon Strobe Beacon	D191-00-201-IS	
D1XB2X15	15J Xenon Strobe Beacon	D191-00-201-15	
D1XB2X21	21J 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

Dart Cada	Identifier Description		
Part Code:	Identifier - Description		
Product Type Junction Box	D1xC3 J2 = Junction Box		
	1Y = D1xB2X05		
Beacon Type (Add Code for each	1Y = D1XB2X05 $2Y = D1XB2X10$		
Beacon in Alarm			
Bar)	3Y = D1xB2X15		
Dai)	4Y = D1xB2X21		
	5Y = D1xB2LD2		
	Where Y = Lens Colour, choose from:		
	A = Amber, B = Blue, C = Clear, G = Green,		
Sounder Type	M = Magenta, R = Red, Y = Yellow S1F = D1xS1 Flare Sounder		
Sounder Type	S1R = D1xS1 Flate Sounder		
	S2F = D1xS1 Radial Sounder		
	S2H = D1xS2 Flare Sounder		
Voltage	DC024 = 24Vdc		
Voltago	AC115 = 115-120Vac 50/60Hz		
	AC230 = 220-230Vac 50/60Hz		
Cable Entries [e]	A = 1 x M20x1.5mm + 1 x M20 (Adaptor)		
Casio Zimioo [o]	$B = 2 \times 1/2$ " NPT (Adaptors)		
	$C = 1 \times 3/4$ " NPT + 1 x 3/4" NPT (Adaptor)		
	D = 2 x M25x1.5mm (Adaptors)		
	$E = 1 \times 1/2$ " NPT (Adaptor) + 1 x M20x1.5mm		
	$F = 1 \times 1/2$ " NPT (Adaptor) + 1 x 3/4" NPT		
	$G = 1 \times M25 \times 1.5 \text{mm} \text{ (Adaptor)} + 1 \times M20$		
	M = 1 x 3/4" NPT + 1 x M20x1.5mm - Default		
	All Junction Boxes have additional 2 x 3/4" NPT Side Entries		
Stopping Plug /	B = Brass		
Adaptor Material [m]	N = Nickel Plated		
	S = Stainless Steel		
Guard / Tag Material	1 = 316 St.Steel Guard & 316 Tag		
[s]	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		
5 1 10 11 11	C = UL/cUL Class Div 1		
Product Option [o]	1 = Standard Wiring (Positive Switching)		
	2 = Independent Wiring (Positive Switching)		
	3 = Alt. Standard Wiring (Negative Switching)		
	4 = Independent Wiring (Negative Switching)		
	5 = Beacons & Sounder Linked w/ Line Monitoring		
	6 = Independent Wiring w/ Line Monitoring 7 = Beacons & Sounder Linked		
	W = Special Wiring		
	X = Custom Configuration		
Assembly Colour [x]	R = Red, G = Grey		
Assembly Coloul [X]	Other colours also possible, contact E2S sales		
L	Carto, colours also possible, contact E20 sales		

European Safety Systems Ltd. Impress House, Mansell Road, Acton, London W3 7QH www.e2s.com Tel: +44 (0)208 743 8880 Document No: D226-00-148-IS_Issue_5 14/08/2023 Sheet 1 of 5

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 twelve Ø7mm fixing holes in the mounting plate. See figure 1.

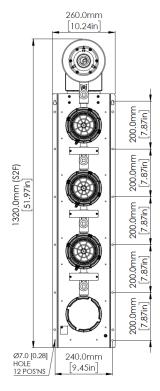


Fig.1: Mounting Detail and Dimensions for D1x Alarm Bar

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

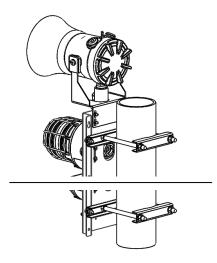


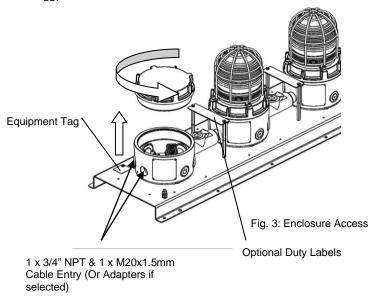
Fig. 2: Pole Mounted Alarm Bar Max. Pole size NPS 4" (OD: Ø114.3mm / 4.5in)

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.



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 J2 2A 2B 2C S1F AC115...:

Unit Type	D1xB2X10	D1xS1	D1xC3 Total
Voltage	110- 120 Vac	110 - 240Vac	110-120Vac
Range	50/60Hz	50/60Hz	50/60Hz
Current	220mA x3	77mA x1	737mA
Max Current	300mA x3	82mA x1	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 DIN terminals in the junction box. See section 8 of this manual for access to the enclosure.

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.

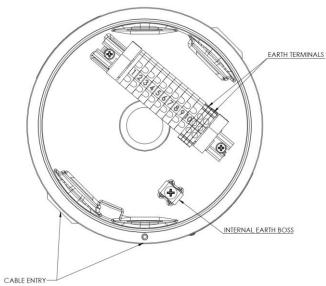


Fig. 4: Junction Box Internal Detail and DIN Terminals

13) Wiring

For wiring diagrams, see schematic document D226-06-148 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.

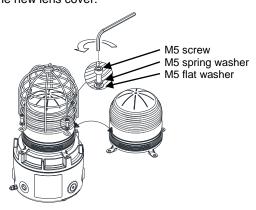


Fig. 5: Replacement of beacon lens cover

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.

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.

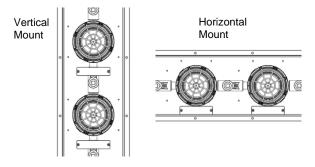


Fig. 6: Duty Label Orientation

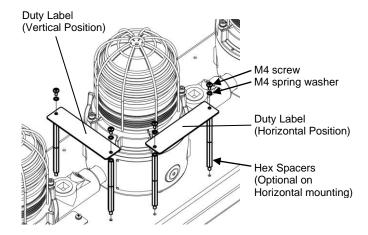
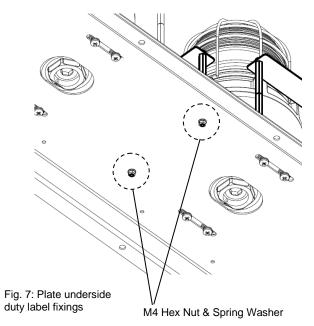


Fig. 6: Duty label assembly and configurations

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.



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 posidrive 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 (fig. 7) 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.

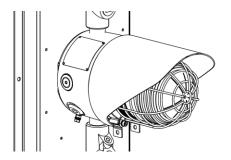


Fig. 8: Traffic Light Cowl

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.

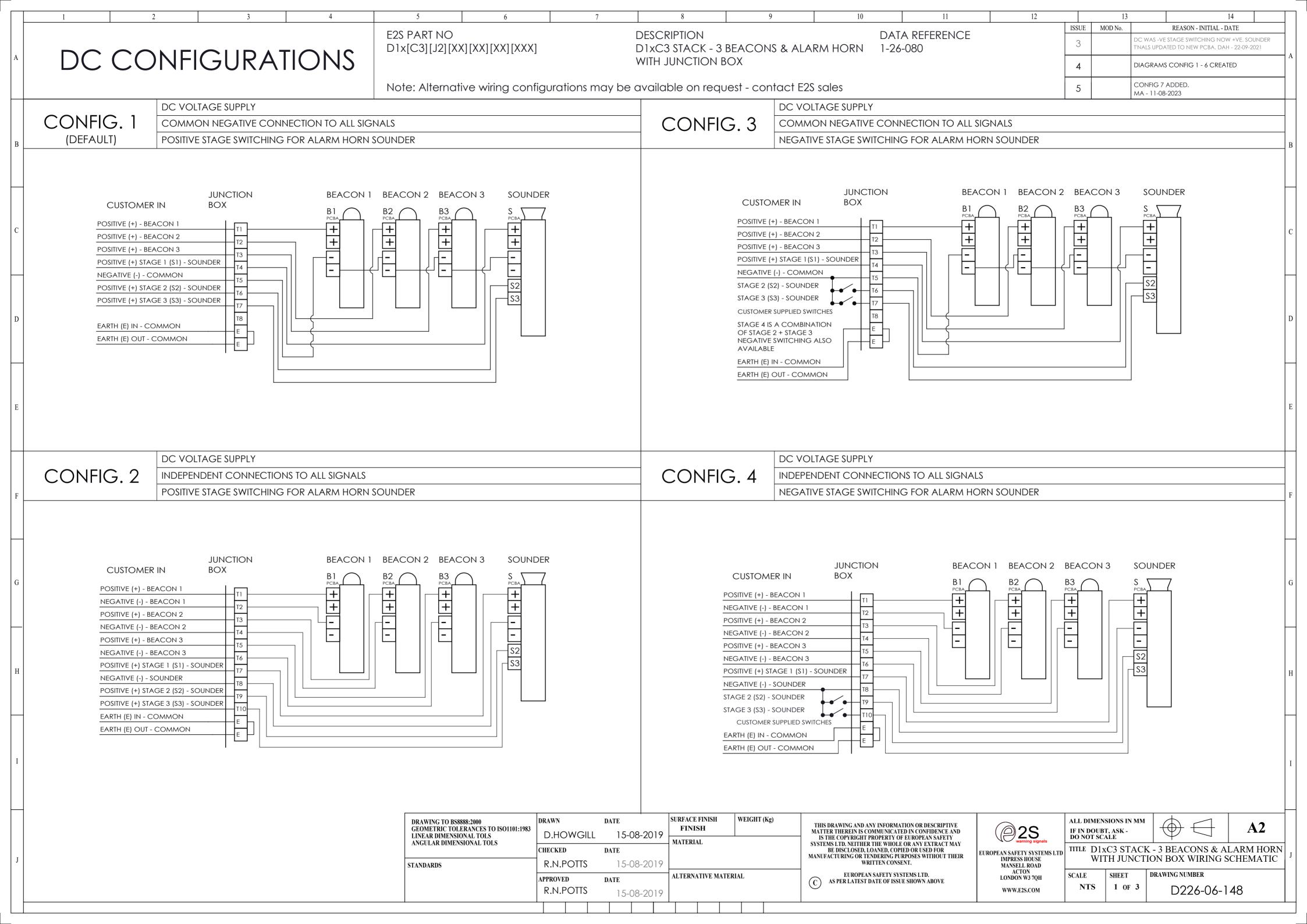
16) SIL Approvals

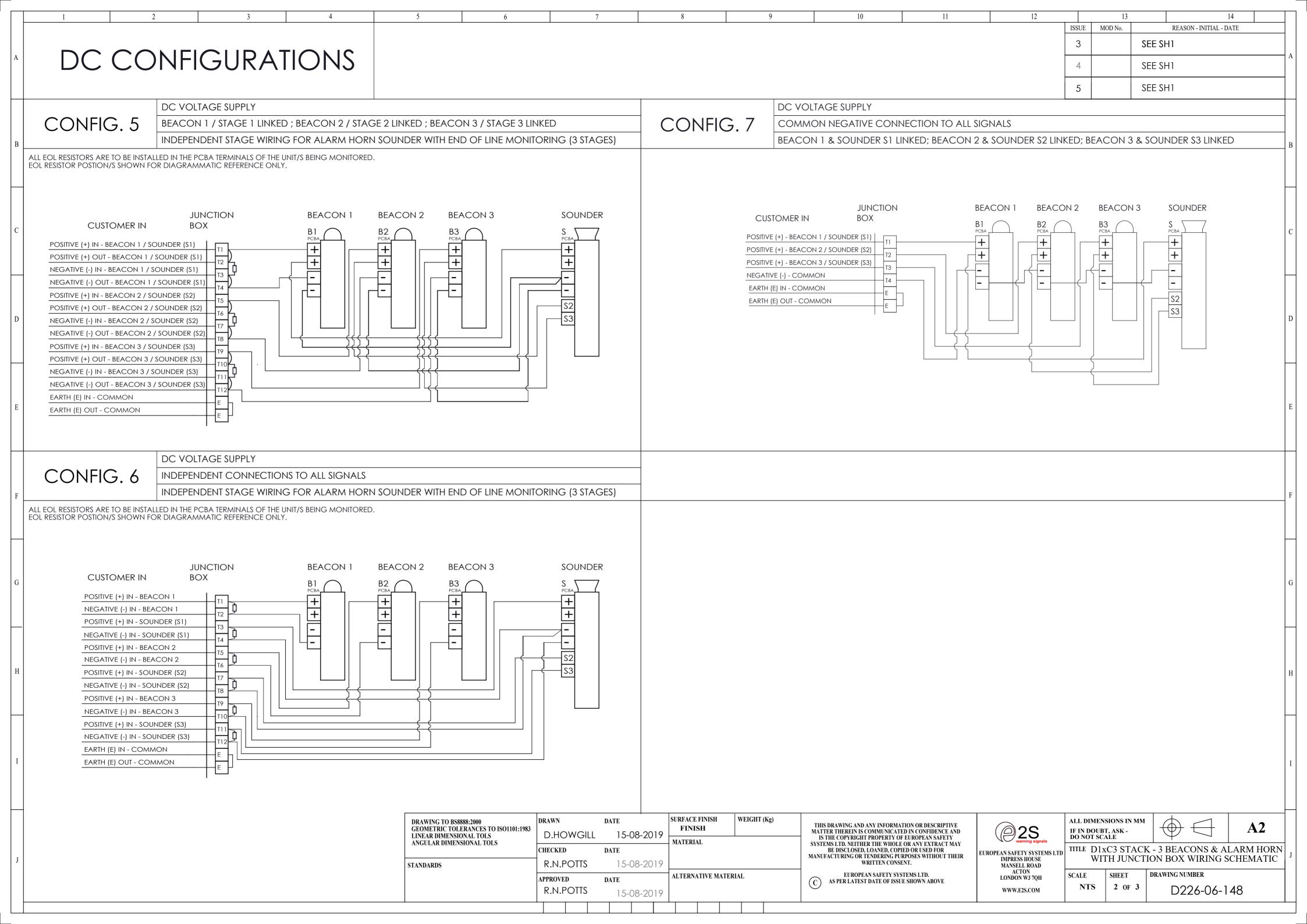
Beacons and Sounders have been assessed for Reliability and Functional safety under IEC/EN61508 and are considered suitable for use in low demand safety functions:

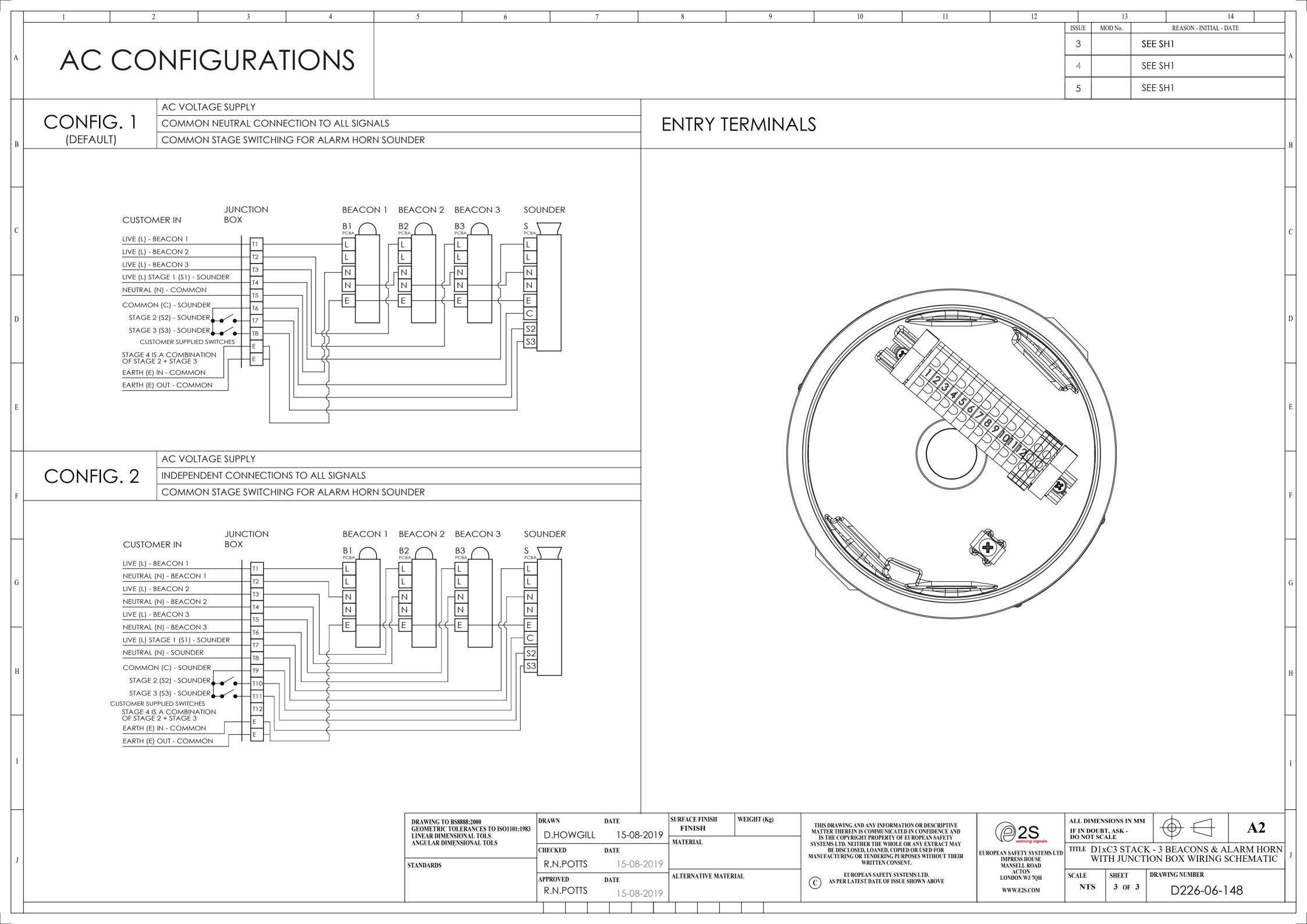
- Random Hardware Failures and Architectural constraints (route 2_H).
- 2. As an unvoted item (i.e. hardware fault tolerance of 0) at SIL 2.

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

	Voltage	Configuration Description	Features	Product Option [o]
1	DC	Standard wiring Positive switching (Default)	Common negative connection to all signals Positive stage switching on alarm horn sounder	1
2	DC	Independent wiring Positive switching	Independent wiring to all signals Positive stage switching on alarm horn sounder	2
3	DC	Alt. Standard wiring Negative switching	Common negative connection all signals Negative stage switching on alarm horn sounder	3
4	DC	Independent wiring Negative switching	Independent wiring to all signals Negative stage switching on alarm horn sounder	4
5	DC	Beacon and sounder stages linked with line monitoring	Beacon 1, 2 and 3 linked to sounder stages 1, 2 and 3 Positive stage switching on alarm horn sounder	5
6	DC	Independent wiring for all signals with line monitoring	Independent wiring to all signals Independent wiring to all alarm horn sounder stages Positive stage switching on alarm horn sounder	6
7	DC	Beacon and sounder stages linked	 Beacon 1, 2 & 3 linked to sounder stages 1, 2 & 3 Common negative connection to all signals 	7
			AC DIAGRAMS	
Config.	Voltage	Configuration Description	Features	Product Option [o]
1	AC	Standard wiring (Default)	Common neutral connection to all signals	1
2	AC	Independent wiring	Independent wiring to all signals	2







EU Declaration of Conformity



Manufacturer: European Safety Systems Ltd.

Impress House, Mansell Road, Acton

London, W3 7QH United Kingdom

Authorised Representative: E2S Warnsignaltechnik UG

Charlottenstrasse 45-51

72764 Reutlingen

Germany

Equipment Type: D1xP2

D1xC3

For Beacon options (D1xB2X05/D1xB2X10/D1xB2X15/D1xB2X21/D1xB2LD2) and Junction Box option (D1xJ2) used in D1xP2 & D1xC3:

Directive 2014/34/EU: Equipment and Protective Systems for use in Potentially Explosive Atmospheres (ATEX)

Notified Body for EU type Examination (Module B):

UL International Demko A/S

Notified Body No.: 0539

Borupvang 5A, 2750 Ballerup, Denmark

EU-type Examination Certificate (Module B): DEMKO 19 ATEX 2009X Rev. 1

Notified Body for Quality Assurance Notification / Conformity to EU-type

based on

Sira Certification Service Notified Body No.: 2813

quality assurance of the production process (Module D):

CSA Group Netherlands B.V, Utrechtseweg 310, 6812 AR, Arnhem, Netherlands

Quality Assurance Notification (Module D): SIRA 05 ATEX M342

Provisions fulfilled by the equipment: II 2G Ex d IIC T6...T3 Gb

II 2D Ex tb IIIC T95°C...T169°C Db

Standards applied: EN 60079-0:2018

EN 60079-1:2014 EN 60079-31:2014

IP6X Dust Protection to EN60079-0 / EN60079-31

Regulation EU No. 305/2011: Construction Products Regulation (CPR) -part codes listed below only - 1Hz Flash Mode only

Notified Product Certification Body for Certificate of Constancy of BRE Global Assurance (Ireland) Limited

Performance or EC Type Examination Certificate and continuous

Notified Body No.: 2831

surveillance, assessment and evaluation of factory production control:

DCL Alpha Old Fingles

DCU Alpha, Old Finglas Road, Glasnevin, Dublin, D11 KXN4

Certificate of Constancy of Performance or EC Type Examination 2831-CPR-F4859 (D1xB2X05DC024***A1R/C, D1xB2X05DC024***A1R/C,

Certificate: D1xB2X05DC024***A1G/C & D1xB2X05DC024***ATG/C only)

2831-CPR-F4899 (D1xB2X05DC024***A1R/R, D1xB2X05DC024***ATR/R,

D1xB2X05DC024***A1G/R & D1xB2X05DC024***ATG/R only)

Standards applied: EN 54-23:2010

EU Declaration of Conformity



For Sounder options (D1xS1/D1xS2) used in D1xC3:

Directive 2014/34/EU: Equipment and Protective Systems for use in Potentially Explosive Atmospheres (ATEX)

Notified Body for EU type Examination (Module B): UL International Demko A/S

Borupvang 5A 2750 Ballerup Denmark

Sira Certification Service Notified Body No.: 2813

EU-type Examination Certificate (Module B): DEMKO 19 ATEX 2141X

Notified Body for Quality Assurance Notification / Conformity to EU-type

hased on

quality assurance of the production process (Module D): Unit 6, Hawarden Industrial Park, Hawarden, Deeside, CH5 3US, UK

Quality Assurance Notification (Module D): SIRA 05 ATEX M342

Provisions fulfilled by the equipment: II 2G Ex db IIC T6...T3 GB

II 2D Ex tb IIIC T82°C...145°C Db

Standards applied: EN 60079-0:2018

EN 60079-1:2014 EN60079-31:2014

Regulation EU No. 305/2011: Construction Products Regulation (CPR) - D1xS1FDC024***A1R & D1xS1FDC024***A1G only - tones 1, 2, 5, 8, 40, 44, 53 only

Notified Product Certification Body for Certificate of Constancy of Performance or EC Type Examination Certificate and continuous

surveillance, assessment and evaluation of factory production control:

BRE Global Assurance (Ireland) Limited

Notified Body No.: 2831

DCU Alpha, Old Finglas Road, Glasnevin, Dublin, D11 KXN4

Certificate of Constancy of Performance or EC Type Examination

Certificate:

2831-CPR-F4858

Standards applied: EN 54-3:2001 + A1:2002 + A2:2006

For all option ranges used in D1xP2 & D1xC3 listed above:

Directive 2014/30/EU: Electromagnetic Compatibility Directive (EMC)

Standards applied: EN IEC 61000-6-1:2019 & IEC 61000-6-1:2016

EN IEC 61000-6-2:2019 & IEC 61000-6-2:2016 EN IEC 61000-6-3:2021 & IEC 61000-6-3:2020 EN IEC 61000-6-4:2019 & IEC 61000-6-4:2018

Directive 2014/35/EU: Low Voltage Directive (LVD)

Standards applied: EN 60947-1:2007 + A2:2014

Directive 2011/65/EU: Restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

The product and all the components contained within it are in accordance with the restriction of the use of hazardous substances in electrical and electronic equipment, including amendment by Directive 2015/863/EU.

Regulation (EC) 1907/2006: Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

The product and all the components contained within it are free from substances of very high concern.

Other Standards and Regulations

EN 60529:1991 + A1:2000 + A2:2013. - Degrees of protection provided by enclosures (IP code) - enclosure rated IP66/67

EU Declaration of Conformity



On behalf of European Safety Systems Ltd., I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives, regulations and standards.

This Declaration is issued under the sole responsibility of the manufacturer.

Martin Streetz Quality Assurance Manager

Document No.: DC-110_Issue_A
Date and Place of Issue: London, 05/01/2024



UKCA Declaration of Conformity



Manufacturer: European Safety Systems Ltd.

Impress House, Mansell Road, Acton

London, W3 7QH United Kingdom

Equipment Type: D1xP2

D1xC3

For Beacon options (D1xB2X05/D1xB2X10/D1xB2X15/D1xB2X21/D1xB2LD2) and Junction Box option (D1xJ2) used in D1xP2 & D1xC3:

<u>Directive UKSI 2016:1107 (as amended by UKSI 2019:696) – Schedule 3A, Part 1: Product or Protective System Intended for use in Potentially Explosive Atmospheres (UKCA)</u>

Notified Body for UK type Examination (Module B): UL International (UK) Ltd

Notified Body No.: 0843

Sira Certification Service

Unit 1-3 Horizon Kingsland Business Park, Wade Road,

Basingstoke, Hampshire RG24 8AH UK

UK-type Examination Certificate (Module B): UL21UKEX2130X

Notified Body for Quality Assurance Notification / Conformity to EU-type

ce Notification , comorning to 20 ty

Notified Body No.: 0518

quality assurance of the production process (Module D):

Rake Lane, Eccleston, Chester CH4 9JN, UK

Quality Assurance Notification (Module D): CSAE 22UKQAN0046

Provisions fulfilled by the equipment: II 2G Ex d IIC T6...T3 Gb

II 2D Ex tb IIIC T95°C...T169°C Db

Standards applied: EN 60079-0:2018

EN 60079-1:2014 EN 60079-31:2014

IP6X Dust Protection to EN60079-0 / EN60079-31

Regulation EU No. 305/2011: Construction Products Regulation (CPR) –part codes listed below only – 1Hz Flash Mode only

Notified Product Certification Body for Certificate of Constancy of Performance or EC Type Examination Certificate and continuous

BRE Global Limited
Notified Body No.: 0832

surveillance, assessment and evaluation of factory production control:

Rucknalls Lane Garston N

Bucknalls Lane, Garston, Watord, Hertfordshire, UK, WD25 9XX

Certificate of Constancy of Performance or EC Type Examination

Certificate:

0832-UKCA-CPR-F41783 (D1xB2X05DC024***A1R/C, D1xB2X05DC024***ATR/C,

D1xB2X05DC024***A1G/C & D1xB2X05DC024***ATG/C only)

0832-UKCA-CPR-F1854 (D1xB2X05DC024***A1R/R, D1xB2X05DC024***ATR/R,

D1xB2X05DC024***A1G/R & D1xB2X05DC024***ATG/R only)

Standards applied: EN 54-23:2010



UKCA Declaration of Conformity



For Sounder options (D1xS1/D1xS2) used in D1xC3:

<u>Directive UKSI 2016:1107</u> (as amended by UKSI 2019:696) – Schedule 3A, Part 1: Product or Protective System Intended for use in Potentially Explosive Atmospheres (UKCA)

Notified Body for UK type Examination (Module B): UL International (UK) Ltd

Notified Body No.: 0843

Sira Certification Service

Unit 1-3 Horizon Kingsland Business Park, Wade Road,

Basingstoke, Hampshire RG24 8AH UK

UK-type Examination Certificate (Module B): UL21UKEX2132X

Notified Body for Quality Assurance Notification / Conformity to EU-type

based on

Notified Body No.: 0518

quality assurance of the production process (Module D): Rake Lane, Eccleston, Chester CH4 9JN, UK

Quality Assurance Notification (Module D): CSAE 22UKQAN0046

Provisions fulfilled by the equipment: II 2G Ex db IIC T6...T3 GB

II 2D Ex tb IIIC T82°C...145°C Db

Standards applied: EN 60079-0:2018

EN 60079-1:2014 EN60079-31:2014

Regulation EU No. 305/2011: Construction Products Regulation (CPR) - D1xS1FDC024***A1R & D1xS1FDC024***A1G only - tones 1, 2, 5, 8, 40, 44, 53 only

Notified Product Certification Body for Certificate of Constancy of Performance or EC Type Examination Certificate and continuous

BRE Global Limited Notified Body No.: 0832

surveillance, assessment and evaluation of factory production control:

Bucknalls Lane, Garston, Watord, Hertfordshire, UK, WD25 9XX

Certificate of Constancy of Performance or EC Type Examination

Certificate:

0832-UKCA-CPR-F1782

Standards applied: EN 54-3:2001 + A1:2002 + A2:2006

For all option ranges used in D1xP2 & D1xC3 listed above:

Directive 2014/30/EU: Electromagnetic Compatibility Directive (EMC)

Standards applied: EN IEC 61000-6-1:2019 & IEC 61000-6-1:2016

EN IEC 61000-6-2:2019 & IEC 61000-6-2:2016 EN IEC 61000-6-3:2021 & IEC 61000-6-3:2020 EN IEC 61000-6-4:2019 & IEC 61000-6-4:2018

Directive 2014/35/EU: Low Voltage Directive (LVD)

Standards applied: EN 60947-1:2007 + A2:2014

Directive 2011/65/EU: Restriction of the use of certain hazardous substances in electrical and electronic equipment (ROHS)

The product and all the components contained within it are in accordance with the restriction of the use of hazardous substances in electrical and electronic equipment, including amendment by Directive 2015/863/EU.

Regulation (EC) 1907/2006: Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

The product and all the components contained within it are free from substances of very high concern.

Other Standards and Regulations

EN 60529:1991 + A1:2000 + A2:2013. - Degrees of protection provided by enclosures (IP code) - enclosure rated IP66/67



UKCA Declaration of Conformity



On behalf of European Safety Systems Ltd., I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives, regulations and standards.

This Declaration is issued under the sole responsibility of the manufacturer.

Martin Streetz **Quality Assurance Manager**

DC-111_Issue_A Document No.: London, 05/01/2024 Date and Place of Issue: