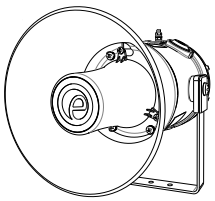
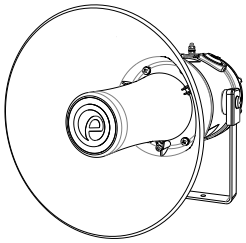
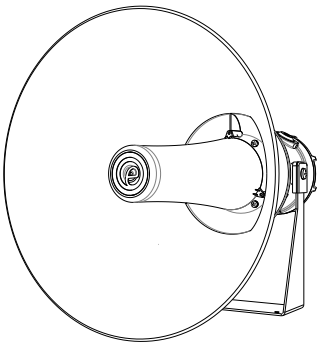
INSTRUCTION MANUAL
D1xL1 & D1xL2
Loudspeaker
Class I, Zone 1, 2, 21 & 22



D1xL1F



D1xL2F



D1xL2H

1) Product Table

Unit Type Code	Input	Power (Watts)	Max I/P Volts	Sound Pressure Level dB(A)	
				Max Rated	Pink Noise @ 1W
D1xL1FV100-A	100V Line	15	100	113	106
D1xL1FV070-A	70V Line	15	70		
D1xL1FR008-A	8 Ohm	15	10.95		
D1xL1FR016-A	16 Ohm	15	15.49		
D1xL2FV100-A	100V Line	25	100	118	108
D1xL2FV070-A	70V Line	25	70		
D1xL2FR008-A	8 Ohm	25	14.14		
D1xL2FR016-A	16 Ohm	25	20		
D1xL2HV100-A	100V Line	25	100	121	111
D1xL2HV070-A	70V Line	25	70		
D1xL2HR008-A	8 Ohm	25	14.14		
D1xL2HR016-A	16 Ohm	25	20		
Frequency Range: 400Hz to 8000Hz					
The table shows the input current taken by the various Loudspeakers. Nominal current at nominal voltage.					
Table 1: Electrical Ratings.					

2) Warnings

CAUTION
TO REDUCE THE RISK OF IGNITION OF HAZARDOUS ATMOSPHERES:
DISCONNECT FROM SUPPLY BEFORE OPENING.
KEEP TIGHTLY CLOSED WHEN IN OPERATION.
WARNING
FIT SEALING FITTING IN CONDUIT RUNS WITHIN 18 INCHES FROM ENCLOSURE.
EQUIPMENT MUST NOT BE INSTALLED WITH THE HORN FACING UPWARDS OF HORIZONTAL
DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
DO NOT OPEN WHEN ENERGISED
POTENTIAL ELECTROSTATIC CHARGING HAZARD - CLEAN ONLY WITH A DAMP CLOTH
ENCLOSURE ENTRIES: TWIN M20 X 1.5 / SINGLE 1/2" NPT
ATEX/IECEx & UKEx INSTALLATIONS: IF TEMPERATURE EXCEEDS 70°C AT ENTRY OR 80°C AT BRANCHING POINT USE SUITABLE RATED CABLE AND GLANDS

ATTENTION
POUR REDUIRE LE RISQUE D'INFLAMMATION DES ATMOSPHÈRES DANGEREUSES :
COUPER L 'ALIMENTATION AVANT OUVERTURE.
CONSERVER FERMÉ PENDANT LE FONCIONNEMENT.
AVERTISSEMENT
CONDUITS DOIVENT ETRE SCELLES EN MOINS DE 18 POUCES.
ÉQUIPEMENT NE DOIT PAS ETRE INSTALLE AVEC LE KLAXON TOURNEE VERS LE HAUT DE HORIZONTAL.
NE PAS OUVRIR UN PRESENCE D'ATMOSPHERE EXPLOSIVE
NE PAS OUVRIR ENERGIE
DANGER POTENTIEL CHARGE ÉLECTROSTATIQUE - NETTOYER UNIQUEMENT AVEC UN CHIFFON HUMIDE
ENTRÉES DE BOÎTIER: 2 x M20 X 1.5 / 1 x 1/2" NPT
ATEX/IECEx & UKEx INSTALLATIONS : SI LA TEMPÉRATURE DÉPASSE 70 °C À L'ENTRÉE OU 80 °C AU POINT DE BRANCHEMENT, UTILISER UN CÂBLE ET DES JOINTS D'ÉTANCHÉITÉ APPROPRIÉS

3) Marking & Rating Information

The D1xL1 & D1xL2 Loudspeakers comply with the following standards for hazardous locations:

3.1 Class/Division Ratings for US & Canada

Standards	
UL1203 & CSA C22.2 No 30 Ed. 4	
Class Division Ratings for US (NEC)	
Model No:	**Rating**
D1xL1-V100-A/ D1xL1-V070-A/ D1xL1-R008-A/ D1xL1-R016-A	Class I Div 1 ABCD T5 Ta -55°C to +85°C Class I Div 1 ABCD T6 Ta -55°C to +65°C
D1xL2-V100-A/ D1xL2-V070-A/ D1xL2-R008-A/ D1xL2-R016-A	Class I Div 1 ABCD T5 Ta -55°C to +85°C Class I Div 1 ABCD T6 Ta -55°C to +60°C
Class Division Ratings for Canada (CEC)	
Model No:	**Rating**
D1xL1-V100-A/ D1xL1-V070-A/ D1xL1-R008-A/ D1xL1-R016-A	Class I Div 1 ABCD T5 Ta -55°C to +75°C Class I Div 1 ABCD T6 Ta -55°C to +65°C
D1xL2-V100-A/ D1xL2-V070-A/ D1xL2-R008-A/ D1xL2-R016-A	Class I Div 1 ABCD T5 Ta -55°C to +75°C Class I Div 1 ABCD T6 Ta -55°C to +60°C
Class Zone Ratings for US (NEC)	
Model No:	**Rating**
D1xL1-V100-A/ D1xL1-V070-A/ D1xL1-R008-A/ D1xL1-R016-A	Class I Zone 1 AEx db IIC T5 Gb Ta -55°C to +75°C Class I Zone 1 AEx db IIC T5 Gb Ta -55°C to +60°C Zone 21 AEx tb IIIC 90°C Db Ta -55°C to +75°
D1xL2-V070-A/ D1xL2-R008-A/ D1xL2-R016-A	Class I Zone 1 AEx db IIC T5 Gb Ta -55°C to +75°C Class I Zone 1 AEx db IIC T6 Gb Ta -55°C to +55°C Zone 21 AEx tb IIIC 90°C Db Ta -55°C to +75°
D1xL2-V100-A	Class I Zone 1 AEx db IIC T4 Gb Ta -55°C to +75°C Class I Zone 1 AEx db IIC T5 Gb Ta -55°C to +70°C Class I Zone 1 AEx db IIC T6 Gb Ta -55°C to +55°C Zone 21 AEx tb IIIC 91°C Db Ta -55°C to +75°
Class Zone Ratings for Canada (CEC)	
Model No:	**Rating**
D1xL1-V100-A/ D1xL1-V070-A/ D1xL1-R008-A/ D1xL1-R016-A	Ex db IIC T5 Gb -55°C to +75°C Ex db IIC T6 Gb -55°C to +60°C Ex tb IIIC T90°C Db -55°C to +75°C
D1xL2-V070-A / D1xL2-R008-A / D1xL2-R016-A	Ex db IIC T5 Gb -55°C to +75°C Ex db IIC T6 Gb -55°C to +55°C Ex tb IIIC T95°C Db -55°C to +75°C
D1xL2-V100-A	Ex db IIC T4 Gb -55°C to +75°C Ex db IIC T5 Gb -55°C to +70°C Ex db IIC T6 Gb -55°C to +55°C Ex tb IIIC T91°C Db -55°C to +75°C
Installation must be carried out in compliance with the National Electric Code / Canadian Electric Code	

3.2 ATEX / IECEx & UKEx Ratings

Standards	
EN60079-0:2018/IEC60079-0:2017 (ed.7): Explosive Atmospheres - Equipment General Requirements. EN60079-1:2014/IEC60079-1:2014 (ed.7): Explosive Atmospheres - Equipment Protection by Flameproof Enclosures “d”. EN60079-31:2014/IEC60079-31:2013 (ed.2): Explosive Atmospheres - Equipment Dust Ignition Protection by enclosure “t”.	
Model No:	**Rating**
D1xL1-V070-A/ D1xL1-R008-A/ D1xL1-R016-A	Ex db IIC T5 Gb Ta -55°C to +75°C Ex db IIC T6 Gb Ta -55°C to +60°C Ex tb IIIC T86°C Db Ta –55°C to +75°C
D1xL1-V100-A	Ex db IIC T5 Gb Ta -55°C to +75°C Ex db IIC T6 Gb Ta -55°C to +60°C Ex tb IIIC T92°C Db Ta –55°C to +75°C
D1xL2-V070-A/ D1xL2-R008-A/ D1xL2-R016-A	Ex db IIC T5 Gb Ta -55°C to +75°C Ex db IIC T6 Gb Ta -55°C to +55°C Ex tb IIIC T91°C Db Ta –55°C to +75°C
D1xL2-V100-A	Ex db IIC T4 Gb Ta -55°C to +75°C Ex db IIC T5 Gb Ta -55°C to +70°C Ex db IIC T6 Gb Ta -55°C to +50°C Ex tb IIIC T98°C Db Ta -55°C to +75°C
See Product table for electrical ratings of each unit model	

Certificate No.	DEMKO 19ATEX2141X IECEx ULD 19.0008X UKEx UL UL21UKEX2132X
Epsilon x Equipment Group and Category:	**II 2G** **II 2D**
CE Marking and Notified Body No.	**2813**
UKCA Marking and Notified Body No.	**0518**

4) Zones, Gas Group, Category and Temperature Classification

The units can be installed in locations with the following conditions:

Area Classification Gas	
Zone 1	Explosive gas air mixture likely to occur in normal operation.
Zone 2	Explosive gas air mixture not likely to occur in normal operation, and if it does, it will only exist for a short time.
Gas Groupings	
Group IIA	Propane
Group IIB	Ethylene
Group IIC	Hydrogen and Acetylene
Temperature Classification for Gas Applications	
T1	450º C
T2	300º C
T3	200º C
T4	135º C
T5	100ºC (D1xL2-V100-A up to 70°C ambient)
T6	85ºC (D1xL1 up to 60°C ambient, D1xL2 up to 55°C ambient)
Area Classification Dust	
Zone 21	Explosive dust air mixture likely to occur in normal operation.
Zone 22	Explosive dust air mixture not likely to occur in normal operation, and if it does, it will only exist for a short time.
Dust Groupings	
Group IIIA	Combustible Dusts
Group IIIB	Non-Conductive Dusts
Group IIIC	Conductive Dusts
Equipment Category	
2G, 2D	
Equipment Protection Level	
Gb, Gc, Db, Dc	
Maximum Surface Temperature for Dust Applications	
86°C (D1xL1-V070-A, D1xL1-R008-A, D1xL1-R016-A) 92°C (D1xL1-V100-A) 91°C (D1xL2-V070-A, D1xL2-R008-A, D1xL2-R016-A) 98°C (D1xL2-V100-A)	
Ambient Temperature Range	
-55°C to +75°C (-67°F to +167°F)	
IP Rating	
IP66 to EN60529 4 / 4X / 3R / 13 to UL50E / NEMA250	
Installation must be carried out in compliance with the latest issue of the following standards: EN60079-14 / IEC60079-14: Explosive atmospheres - Electrical installations design, selection and erection EN60079-10-1 / IEC60079-10-1: Explosive atmospheres - Classification of areas. Explosive gas atmospheres EN60079-10-2 / IEC60079-10-2: Explosive atmospheres - Classification of areas. Explosive dust atmospheres	

5) Specific Conditions of Installation

ATEx/IECEx & UKEx Installations:

The cable entries have two M20 x 1.5 – 6H entry thread and a single ½" NPT thread. If the installation is made using cable glands, only suitably rated ATEx/IECEx or UKEx certified cable glands must be used. They must be suitable for the type of cable being used and also meet the requirements of the current installation standards EN 60079-14 / IEC60079-14.

If the installation is made using conduit, openings must have a sealing fitting connected as close as practical to the wall of the enclosure, but in no case more than the size of the conduit or 50mm, whichever is the lesser.

Any unused cable entries must be closed with suitably rated ATEx/IECEx or UKEx certified blanking plugs.

For high ambient temperatures the cable entry temperature may exceed 70ºC or the cable branching point temperature may exceed 80ºC and therefore suitable heat resisting cables and cable glands must be used, with a rated service temperature at least as stated below:

Max Ambient Temp (°C)	45	50	55	60	65	70	75
D1xL1-V070-A, D1xL1-V100-A, D1xL1-R008-A, D1xL1-R016-A, Min. Rating (°C)	70	75	80	85	90	95	100
D1xL2-V070-A, D1xL2-V100-A, D1xL2-R008-A, D1xL2-R016-A, Min. Rating (°C)		70	75	80	85	90	95

Table 2a: ATEx / IECEx & UKEx Min. Ratings of Cables & Cable Glands.

NEC / CEC Installations:

The cable entries have two M20 x 1.5 – 6H entry thread and a single ½" NPT thread. If the installation is made using cable glands, only suitably rated and certified cable glands must be used. They must be suitable for the type of cable being used and also meet the requirements of the current installation standards for NEC and CEC.

If the installation is made using conduit, openings must have a sealing fitting connected within 18" of enclosure.

Any unused cable entries must be closed with suitably rated and certified blanking plugs.

Class Zone Installation only:

For high ambient temperatures the cable entry temperature may exceed 60ºC or the cable branching point temperature may exceed 60ºC and therefore suitable heat resisting cables and cable glands must be used, with a rated service temperature at least as stated below:

Max Ambient Temp (°C)	35	40	45	50	55	60	65	70	75
D1xL1-V070-A, D1xL1-V100-A, D1xL1-R008-A, D1xL1-R016-A, Min. Rating (°C)		60	65	70	75	80	85	90	95
D1xL2-V070-A, D1xL2-V100-A, D1xL2-R008-A, D1xL2-R016-A, Min. Rating (°C)	60	65	70	75	80	85	90	95	100

Table 2b: Class Zone Min. Ratings of Cables & Cable Glands.

All Installations:

The plastic horn is not anti-static and the metallic enclosure has a non-conductive coating. These may generate an ignition-capable level of electrostatic charges under certain extreme conditions. The user should ensure that the equipment is not installed in a location where it may be subjected to external conditions that might cause a build-up of electrostatic charges on non-conducting surfaces.

Only the explosionproof cover is to be used for access to the enclosure for installation, service and maintenance.

6) Specific Conditions for Safe Use

Flameproof threaded joints and cemented joints are not permitted to be repaired.

7) Product Mounting and Access

7.1 Mounting

The D1x Loudspeaker may be secured to any flat surface using at least two of the three or four 7mm fixing holes. The enclosure provides IP66 protection and is suitable for installation in exterior locations providing it is positioned so that water cannot collect in the horn, and the cable entry is sealed.

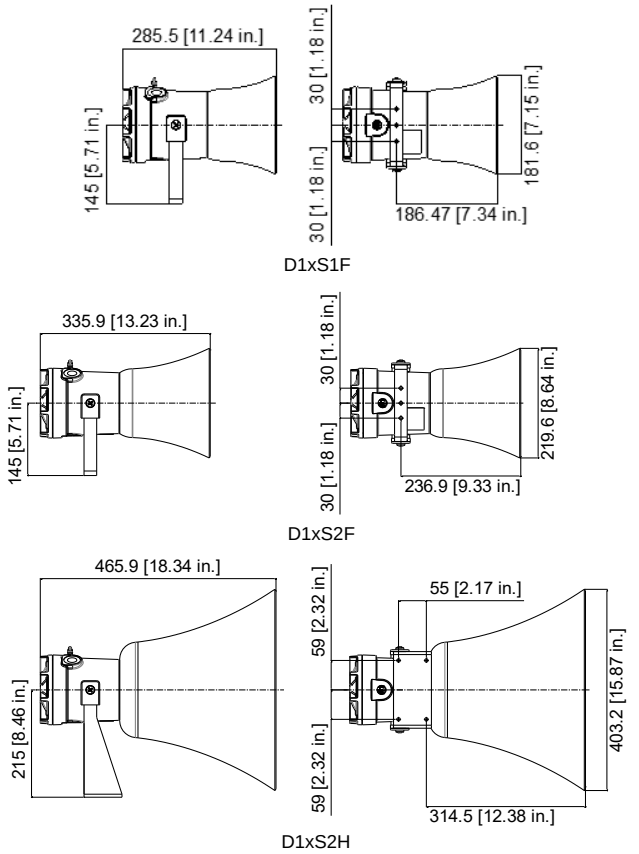
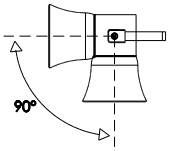


Fig 1: Mounting Locations

The Equipment must not be installed with the horn facing upwards of horizontal.



7.2 Installation procedure

a. Secure the D1x unit to a flat surface via the three 7mm fixing holes in the mounting bracket.
b. Remove the explosionproof cover of the alarm horn by unscrewing it, taking care not to damage the explosionproof threads in the process (Refer to section 7.4).
c. Fit an M20/NPT suitably rated cable gland or conduit entry into the hole in the enclosure and connect the field wiring to the appropriate terminals as shown in D190-06-201. The power supply terminals are duplicated so that units may be connected in parallel. An end of line monitoring resistor may be fitted to units (see section 10). If the second and third M20/NPT entries are not used, suitably rated stopping plugs must always be fitted.
d. Replace the explosionproof cover of the loudspeaker, taking care not to damage the explosionproof threads. Tighten fully.

7.3 Hornless Variants

The D1x Loudspeaker is also available as a variant with no horn fitted in the factory. The Horn threaded nose portion has a fitment thread of 1-3/8" – 18 UNF (to BS1580 or ANSI B1.1). The customer is responsible for sourcing and correctly fitting a suitable horn that meets all of the relevant safety requirements.

7.4 Access to the Explosionproof Enclosure

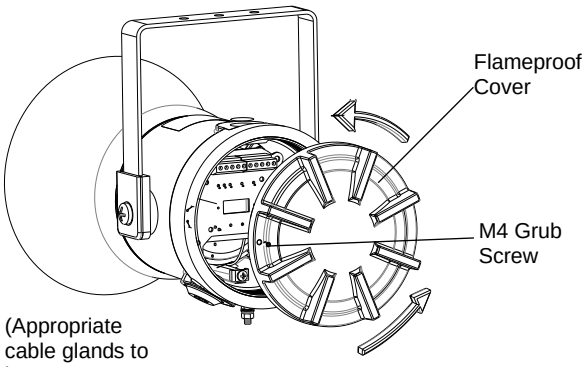


Fig 2: Accessing the enclosure

To access the Ex d chamber, loosen the M4 grub screw on the cover. Open the enclosure by turning the cover counter-clockwise and remove the cover. Take extreme care not to damage the explosionproof threads in the process.

On completion of the installation the flameproof threaded joint should be inspected to ensure that they are clean and that they have not been damaged during installation.

Ensure the O-ring seal is in place and undamaged.

When fitting the flameproof cover ensure the thread is engaged correctly. Fully tighten the cover all the way, ensure no gap is visible between the cover and base of the sounder enclosure.

8) Installation Requirements

8.1 Safe Installation Requirements

Warning – High voltage may be present, risk of electric shock.
DO NOT open when energised, disconnect power before opening.

The sounder must only be installed by suitably qualified personnel in accordance with the latest issues of the relevant standards.

The product must only be installed by suitably qualified personnel in accordance with the latest issues of the relevant standards.

The installation of the units must also be in accordance with the NEC / CEC and any local regulations and should only be carried out by a competent electrical engineer who has the necessary training.

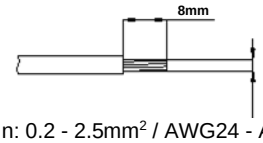
8.2 Cable Selection and Connections

When selecting the cable size, consideration must be given to the input current that each unit draws (see table 1), the number of sounders on the line and the length of the cable runs. The cable size selected must have the necessary capacity to provide the input current to all the sounders connected to the line.

A single wire with a cross sectional area of up to 2.5mm² / AWG14 can be connected to each terminal way or if an input and output wire is required two wires can be connected to each terminal way when crimped with a ferrule. If more than one wire is fitted into a terminal a ferrule should be used to secure the wires. When connecting wires to the terminals great care should be taken to dress the wire so that when the cover is inserted into the chamber the wires do not exert excess pressure on the terminal blocks.

D1xL2 and D1xL1 8 ohm and 16 ohm low impedance loudspeakers have dual input terminals on the PCB assembly for input and output wiring. A cable of up to 4.0mm² can be connected to each terminal.

Wire insulation needs to be stripped 8mm. Wires may be fitted securely with crimped ferrules. Terminal screws need to be tightened down with a tightening torque of 0.45 Nm / 3.5 Lb-in.



Line In: 0.2 - 2.5mm^2 / AWG24 - AWG14
Low Impedance: 0.2 - 4mm^2 / AWG24 - AWG12

Figure 3: Wire Preparation.

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.

8.3 Earthing

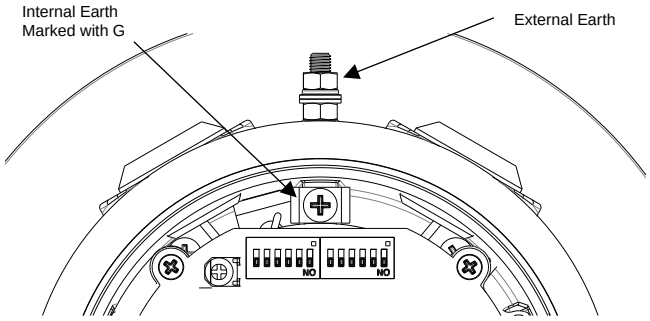


Figure 4: Earth Locations.

The unit has both a primary internal and secondary external earth fixing point.

Internal earth connections should be made to the internal Earth terminal in the base of the housing using a ring crimp terminal to secure the earth conductor under the earth clamp.

External earth connections can be made to the M5 earth stud (see Fig. 4), using a ring crimp terminal to secure the earth conductor to the earth stud. The external earth conductor should be at least 4mm^2 in size.

The external earth crimp ring should be located between the two M5 plain washers provided and securely locked down with the M5 spring washer and M5 nut.

The earth conductor should be at least equal in size and rating to the incoming power conductors but at least a minimum of 0.82mm^2 / 18AWG in size.

8.4 Cable Glands, Blanking Elements & Adapters

Ingress Protection

If a high IP (Ingress Protection) rating is required then a suitable sealing washer must be fitted under the cable glands or blanking plugs. A minimum ingress protection rating of IP6X must be maintained for installations in explosive dust atmospheres.

To maintain the ingress protection rating and mode of protection, the cable entries must be fitted with suitably rated cable entry and/or blanking devices during installation.

If entries are fitted with adaptors they must be suitably rated for the application. Fitting of blanking elements into adaptors is not permitted.

Adapters

The D1x Loudspeaker range can be supplied with the following types of adapters:

M20 to ½" NPT
M20 to ¾" NPT
M20 to M25

It is important to note that stopping plugs cannot be fitted onto adapters, only directly onto the M20 entries.

Any other adapters used must be suitably rated and certified.

9) Wiring

The cable connections are made into the terminal blocks on the PCB assembly located in the explosionproof enclosure. See section 7.4 of this manual for access to the explosionproof enclosure.

Refer to Wiring Schematic D190-06-201 Configs. 1a -2c for Line in Loudspeakers and Config. 3 for Low impedance wiring details.

10) End of Line Monitoring (DC Units)

On D1xL2 and D1xL1 Loudspeakers, DC line monitoring can be used if required. Both the Line In units and the Low Impedance units have blocking capacitors fitted. It should be noted that each loudspeaker has a 1M ohm bleed resistor connected across the blocking capacitor and this should be taken into account when selecting the value of the end of line monitoring resistance.

The end of line monitoring resistor can be connected across the terminals on the end of line unit.

On Line in units the end of line resistor used must have a minimum resistance value of 4k7 ohms and a minimum wattage of 2.5 watts

On low impedance units the end of line resistor used must have a minimum resistance value of 2k ohms and a minimum wattage of 0.5 watts or a minimum resistance value of 500 ohms and a minimum wattage of 2 watts. On the low impedance units care must be taken with the polarity of the monitoring voltage. If an end of line resistor is fitted to a unit the links on the printed circuit boards of all loudspeakers in the line must be cut for the dc blocking capacitors to be in circuit in order to dc monitor the line (see Fig 5).

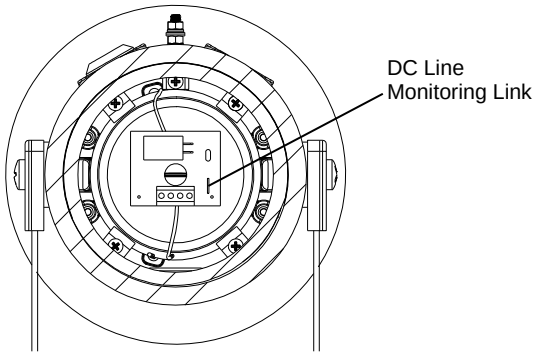


Fig. 5 Low Impedance Line Monitoring Link

11) Maintenance, Overhaul and Repair

Maintenance, repair and overhaul of the equipment should only be carried out by suitably qualified personnel in accordance with the current relevant standards:

For ATEx/IECEx or UKEx:

EN60079-19/IEC60079-19
Explosive atmospheres – Equipment repair, overhaul and reclamation

EN 60079-17/IEC60079-17
Explosive atmospheres – Electrical installations inspection and maintenance

Units must not be opened while an explosive atmosphere is present.

If opening the unit during maintenance operations, a clean environment must be maintained and any dust layer removed prior to opening the unit.

Potential electrostatic charging hazard – Clean only with a damp cloth.

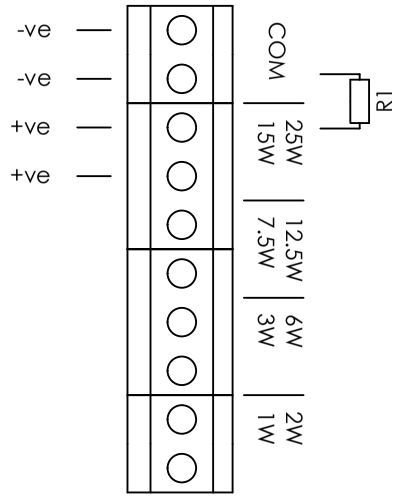
ISSUE	MOD No.	REASON - INITIAL - DATE
A		INTRODUCTION D.H 18/11/20
1		INTRODUCTION RSR 16/03/22

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,
MINIMUM VALUE:
4K7Ω MIN, 2.5W MIN

R1

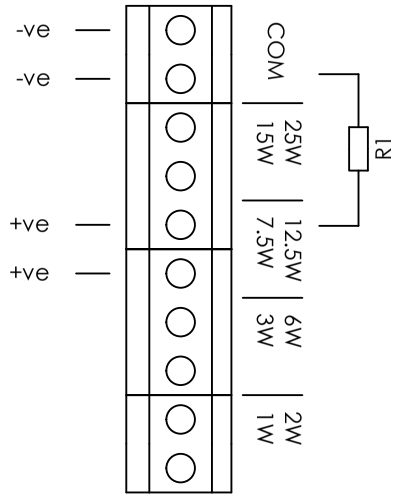
D1xL1V070 & D1xL1V100 Line in Config.: 1a
Optional Line Monitoring

15W: Apply Signal to Common & 15W



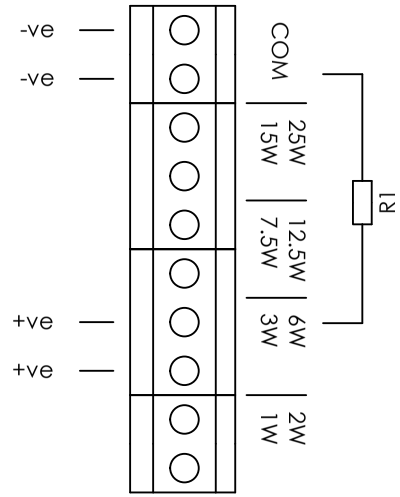
D1xL1V070 & D1xL1V100 Line in Config.: 1b
Optional Line Monitoring

7.5W: Apply Signal to Common & 7.5W



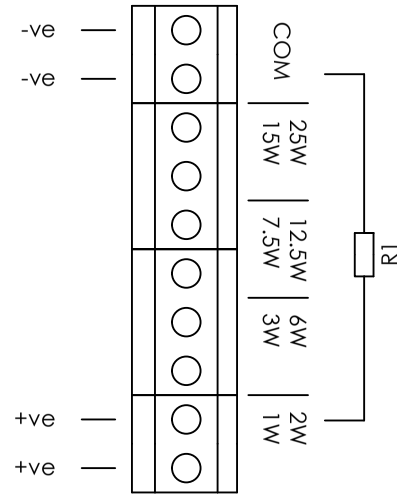
D1xL1V070 & D1xL1V100 Line in Config.: 1c
Optional Line Monitoring

3W: Apply Signal to Common & 3W



D1xL1V070 & D1xL1V100 Line in Config.: 1d
Optional Line Monitoring

1W: Apply Signal to Common & 1W



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

STANDARDS
D1xL1
D1xL2

DRAWN	D.HOWGILL	DATE 18/11/20
CHECKED	R.N.POTTS	DATE 18/11/20
APPROVED	R.N.POTTS	DATE 18/11/20

SURFACE FINISH | WEIGHT (Kg)

MATERIAL

ALTERNATIVE MATERIAL

e2S warning signals
EUROPEAN SAFETY SYSTEMS LTD
IMPRESS HOUSE
MANSELL ROAD
ACTON
LONDON W3 7QH
WWW.E2S.COM

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

A3

TITLE **D1xL1 & D1xL2 LINE IN & LOW IMPEDANCE LOUDSPEAKER WIRING DIAGRAMS**

SCALE	SHEET	DRAWING NUMBER
NTS	1 OF 3	D190-06-201

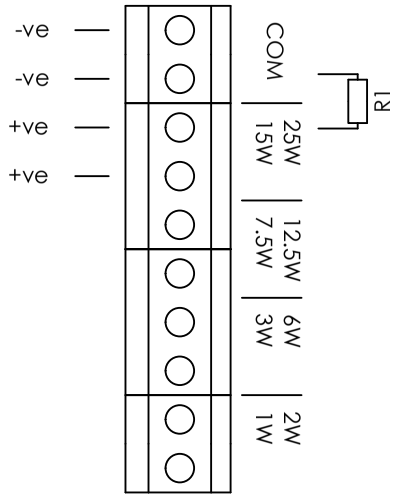
ISSUE	MOD No.	REASON - INITIAL - DATE
A		SEE SHEET 1 D.H 18/11/20
1		SEE SHEET 1 RSR 16/03/22

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,
MINIMUM VALUE:
4K7Ω MIN, 2.5W MIN

R1

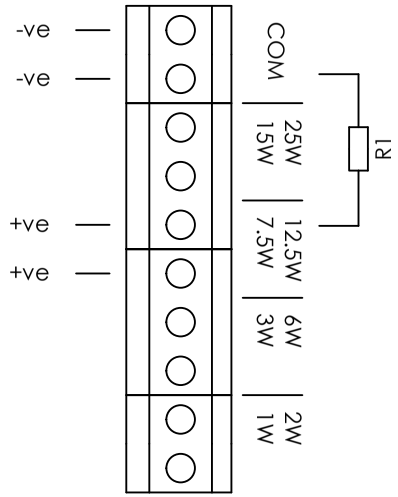
D1xL2V070 & D1xL2V100 Line in Optional Line Monitoring — Config.: 2a

25W: Apply Signal to Common & 25W



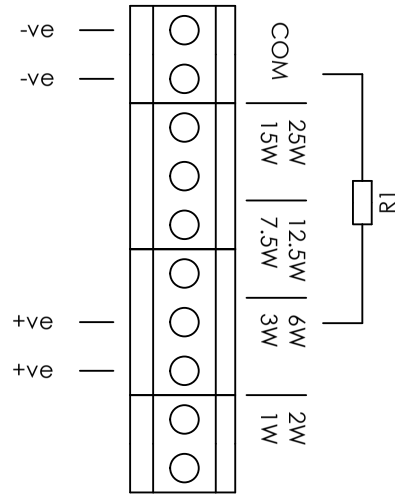
D1xL2V070 & D1xL2V100 Line in Optional Line Monitoring — Config.: 2b

12.5W: Apply Signal to Common & 12.5W



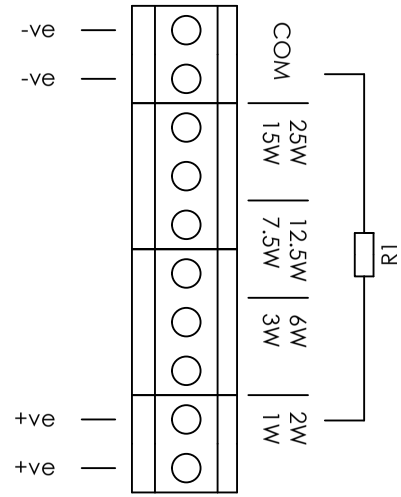
D1xL2V070 & D1xL2V100 Line in Optional Line Monitoring — Config.: 2c

6W: Apply Signal to Common & 6W



D1xL2V070 & D1xL2V100 Line in Optional Line Monitoring — Config.: 2d

2W: Apply Signal to Common & 2W



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

STANDARDS
D1xL1
D1xL2

DRAWN	D.HOWGILL	DATE 18/11/20
CHECKED	R.N.POTTS	DATE 18/11/20
APPROVED	R.N.POTTS	DATE 18/11/20

SURFACE FINISH | WEIGHT (Kg)

MATERIAL

ALTERNATIVE MATERIAL

e2S warning signals
EUROPEAN SAFETY SYSTEMS LTD
IMPRESS HOUSE
MANSELL ROAD
ACTON
LONDON W3 7QH
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ALL DIMENSIONS IN MM
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A3

TITLE **D1xL1 & D1xL2 LINE IN & LOW IMPEDANCE LOUDSPEAKER WIRING DIAGRAMS**

SCALE	SHEET	DRAWING NUMBER
NTS	2 OF 3	D190-06-201

OPTIONAL LINE MONITORING RESISTOR, CUSTOMER SUPPLIED,
MINIMUM VALUES:
R1 500Ω MIN, 2W MIN OR 2KΩ MIN, 0.5W MIN

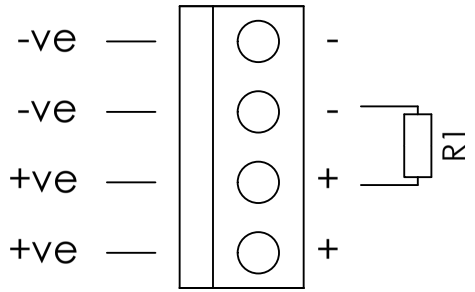
ISSUE	MOD No.	REASON - INITIAL - DATE
A		SEE SHEET 1 D.H 18/11/20
1		SEE SHEET 1 RSR 16/03/22

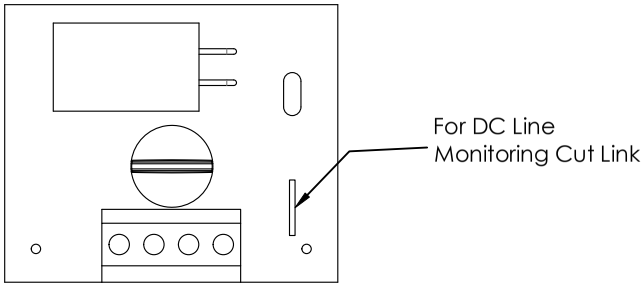
D1xL1R008, D1xL1R016, D1xL2R008, D1xL2R016
Low Impedance

Config.: 3

Optional Line Monitoring

Apply Signal to +ve & -ve





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

STANDARDS
D1xL1
D1xL2

DRAWN	D.HOWGILL	DATE 18/11/20
CHECKED	R.N.POTTS	DATE 18/11/20
APPROVED	R.N.POTTS	DATE 18/11/20

SURFACE FINISH | WEIGHT (Kg)

MATERIAL

ALTERNATIVE MATERIAL

e2S warning signals
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LONDON W3 7QH
WWW.E2S.COM

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

A3

TITLE **D1xL1 & D1xL2 LINE IN & LOW IMPEDANCE LOUDSPEAKER WIRING DIAGRAMS**

SCALE	SHEET	DRAWING NUMBER
NTS	3 OF 3	D190-06-201

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:	D1xS1, D1xS2 D1xL1, D1xL2 D1xC1X05, D1xC1X10, D1xC2X05, D1xC2X10 D1xB2XH1, D1xB2XH2

Directive 2014/34/EU: Equipment and Protective Systems for use in Potentially Explosive Atmospheres (ATEX) - D1xS1, D1xS2, D1xL1, D1xL2, D1xC1X05, D1xC1X10, D1xC2X05 and D1xC2X10 only

Notified Body for EU type Examination (Module B):	UL International Demko A/S Borupvang 5A 2750 Ballerup Denmark
EU-type Examination Certificate (Module B):	DEMKO 19 ATEX 2141X
Notified Body for Quality Assurance Notification / Conformity to EU-type based on quality assurance of the production process (Module D):	Sira Certification Service Notified Body No.: 2813 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

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

Standards applied:	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2007 / A1:2011 / AC: 2012 EN 61000-6-4:2007 / A1: 2011

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 60529:1992+A2:2013 - Degrees of protection provided by enclosures (IP code) – enclosure rated IP66

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-067_Issue_H
Date and Place of Issue: London, 10/02/2022

UKCA Declaration of Conformity

Manufacturer:	European Safety Systems Ltd. Impress House, Mansell Road, Acton London, W3 7QH United Kingdom
Equipment Type:	D1xS1, D1xS2 D1xL1, D1xL2 D1xC1X05, D1xC1X10, D1xC2X05, D1xC2X10

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)

Notified Body for UK type Examination (Module B):	UL International (UK) Ltd Notified Body No.: 0843 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 quality assurance of the production process (Module D):	Sira Certification Service Notified Body No.: 0518 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

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

Standards applied:	EN 61000-6-1:2007 EN 61000-6-2:2005 EN 61000-6-3:2007 / A1:2011 / AC: 2012 EN 61000-6-4:2007 / A1: 2011

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 60529:1992+A2:2013 - Degrees of protection provided by enclosures (IP code) – enclosure rated IP66

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

Document No.: DC-097_Issue_A
Date and Place of Issue: London, 24/02/2022

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