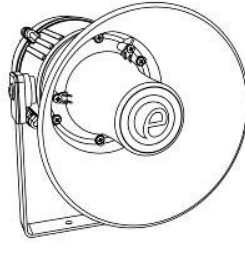
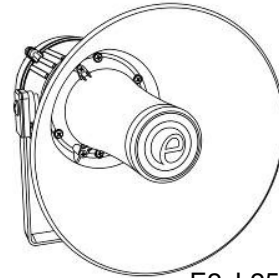


E2xL15R / E2xL25R



E2xL15F



E2xL25R

1) Warnings



- DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT
- DO NOT OPEN WHEN ENERGISED
- POTENTIAL ELECTROSTATIC CHARGING HAZARD - CLEAN ONLY WITH A DAMP CLOTH
- HIGH VOLTAGE SHOCK HAZARD. WAIT 5 MINUTES AFTER REMOVING POWER BEFORE OPENING THE ENCLOSURE

Avertissement:

- NE PAS OUVRIR UN PRESENCE D'ATMOSPHERE EXPLOSIVE
- NE PAS OUVRIR ENERGIE
- DANGER POTENTIEL CHARGE ÉLECTROSTATIQUE - NETTOYER UNIQUEMENT AVEC UN CHIFFON HUMIDE
- HAUT TENSION, RISK DE CHOC. ATTENDEZ 5 MINUTES APRES AVOIR DEBRANCHE L'ALIMENTATION AVANT D'OUVRIR LA BOITIER

CE Marking



Zones, Gas / Dust Groups and Temperature Classification

When connected to an approved system the E2X alarm horn may be installed in:

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.

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.

May be used with gases in groups:

Group IIA	propane
Group IIB	ethylene
Group IIC	hydrogen / acetylene

Having a temperature classification (for Gas applications) of:

T1	450°C
T2	300°C
T3	200°C (E2xL15 only)
T4	135°C (E2xL15 only)

May be used with Dust types:

Group IIIA	combustible flyings
Group IIIB	non-conductive dust
Group IIIC	conductive dust

Maximum Surface Temperature for Dust Applications:

100°C
85°C (E2xL25 only up to 40°C ambient)

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

2) Rating & Marking Information

2.1 ATEX / IECEx certification

The E2xL15 and E2xL25 loudspeakers comply with the following standards:

EN60079-0:2012+A11:2013 / IEC60079-0: ed. 6.0 (2011-06)
EN60079-15:2010 / IEC60079-15: ed. 4.0 (2010-01)
EN60079-31:2014 / IEC60079-31:2013 ed. 2.0 (2013-11)

Certificate No. DEMKO 06ATEX 0421554X
IECEx ULD 14.0012X

The E2xL15 loudspeaker is rated as follows:



II 3G Ex nA IIC T4 Gc Ta -20°C to +55°C
II 3D Ex tc IIIC T85°C Dc Ta -20°C to +55°C

The E2xL25 loudspeaker is rated as follows:



II 3G Ex nA IIC T2 Gc Ta -20°C to +55°C
II 3D Ex tc IIIC 85°C Dc Ta -20°C to +40°C
II 3D Ex tc IIIC 100°C Dc Ta -20°C to +55°C

2.2 NEC Class / Zone ratings US

The E2xL15 and E2xL25 loudspeakers comply with the following standards:

UL 60079-0-2013
UL 60079-15-2013
UL 60079-31-2015

The E2xL15 loudspeaker is rated as follows:

Class I Zone 2 AEx nA IIC T4 Gc Ta -20°C to +55°C
Zone 22 AEx tc IIIC T85°C Dc Ta -20°C to +55°C

The E2xL25 loudspeaker is rated as follows:

Class I Zone 2 AEx nA IIC T2 Gc Ta -20°C to +55°C
Zone 22 AEx tc IIIC 85°C Dc Ta -20°C to +40°C
Zone 22 AEx tc IIIC 100°C Dc Ta -20°C to +55°C

Installation must be carried out in compliance with the National Electric Code.

2.3 CEC Class / Zone ratings Canada

The E2xL15 and E2xL25 loudspeakers comply with the following standards:

CAN/CSA C22.2 No. 60079-0:2015
CAN/CSA C22.2 No. 60079-15:2016
CAN/CSA C22.2 No. 60079-31:2015

The E2xL15 loudspeaker is rated as follows:

Ex nA IIC T4 Gc Ta -20°C to +55°C
Ex tc IIIC T85°C Dc Ta -20°C to +55°C

The E2xL25 loudspeaker is rated as follows:

Ex nA IIC T2 Gc Ta -20°C to +55°C
Ex tc IIIC 85°C Dc Ta -20°C to +40°C
Ex tc IIIC 100°C Dc Ta -20°C to +55°C

Installation must be carried out in compliance with the Canadian Electric Code

2.4 NEC & CEC Class / Division Ratings for US / Canada

The E2xL15 and E2xL25 loudspeakers comply with the following standards:

ANSI/ISA 12.12.01-2015
CSA C22.2 No. 213-16

The E2xL15 loudspeaker is rated as follows:

Class I, Div 2, ABCD T3C Ta -20°C to +55°C
Class I, Div 2, ABCD T4 Ta -20°C to +40°C
Class II, Div 2, FG T6 Ta -20°C to +55°C
Class III T6 Ta -20°C to +55°C

The E2xL25 loudspeaker is rated as follows:

Class I, Div 2, ABCD T2C Ta -20°C to +55°C
Class I, Div 2, ABCD T2D Ta -20°C to +40°C
Class II, Div 2, FG T5 Ta -20°C to +55°C
Class II, Div 2, FG T6 Ta -20°C to +40°C

Class III, Div 1&2 Ta -20°C to +55°C

Installation must be carried out in compliance with the National Electric Code / Canadian Electric Code

2.5 Ingress Protection Ratings

The product is rated for ingress Protection as follows:

IP rating per EN60079-0: IP64
IP rating per EN60529: IP66
Type rating per UL50E / NEMA250: 4 / 4X / 13

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

2.6 Electrical Ratings

Model No.	Input	Wattage	Max. I/P Volts
E2xL15FV070 / E2xL15RV070	70V Line	15	70
E2xL25FV070 / E2xL25RV070	70V Line	25	70
E2xL15FV100 / E2xL15RV100	100V Line	15	100
E2xL25FV100 / E2xL25RV100	100V Line	25	100
E2xL15FR008 / E2xL15RR008 /	8 Ohm	15	10.95
E2xL25FR008 / E2xL25RR008 /	8 Ohm	25	14.14
E2xL15FR016 / E2xL15RR016 /	16 Ohm	15	15.49
E2xL25FR016 / E2xL25RR016 /	16 Ohm	25	20

3) Special Conditions of Use

When used for a Group III application, the surface of the enclosure may store electrostatic charge and become a source of ignition in applications with a low relative humidity <~30% relative humidity where the surface is relatively free of surface contamination such as dirt, dust, or oil.

Guidance on protection against the risk of ignition due to electrostatic discharge can be found in EN TR50404 and IEC TR60079-32.

End user shall adhere to the manufacturer's installation and instruction when performing housekeeping to avoid the potential for hazardous electrostatic charges during cleaning, by using a damp cloth.

To maintain the ingress protection rating and mode of protection, the cable entries must be fitted with suitably rated, certified cable entry and/or blanking devices during installation. If conduit is used for installation, seal conduit within 18 inches from the enclosure.

Equipment with the flare horn shall not be installed with the flare higher than horizontal (to avoid accumulation of dust).

The equipment incorporates metal parts isolated from earth, having capacitance values exceeding the limits permitted in the standards of certification. Mounting bracket – 10.33pF.

4) Location and Mounting

The location of the loudspeaker should be made with due regard to the area over which the warning signal must be audible. They should only be fixed to services that can carry the weight of the unit.

The E2x loudspeaker should be secured to any flat surface using the three 7mm fixing holes on the stainless steel U shaped mounting bracket. See Figure 1. The required angle can be achieved by loosening the two large bracket screws in the side of the unit, which allow adjustment of the loudspeaker in steps of 18°. On completion of the installation the two large bracket adjustment screws on the side of the unit must be fully tightened to ensure that the unit cannot move in service.

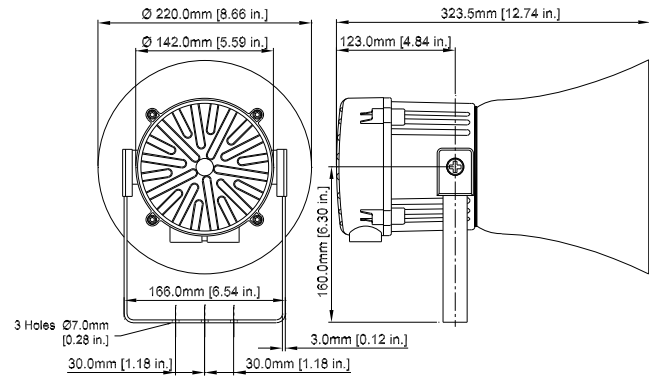


Fig. 1 Fixing Location for Loudspeaker L25 Flare

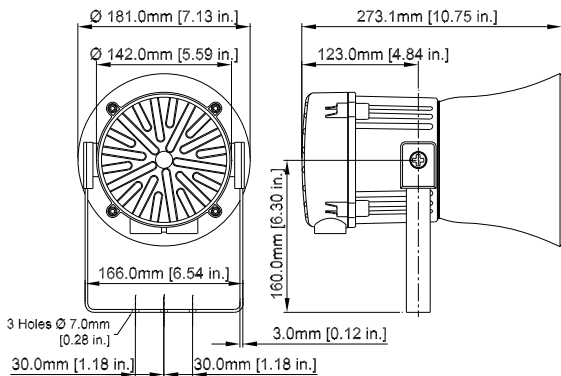


Fig. 1 Fixing Location for Loudspeaker L15 Flare

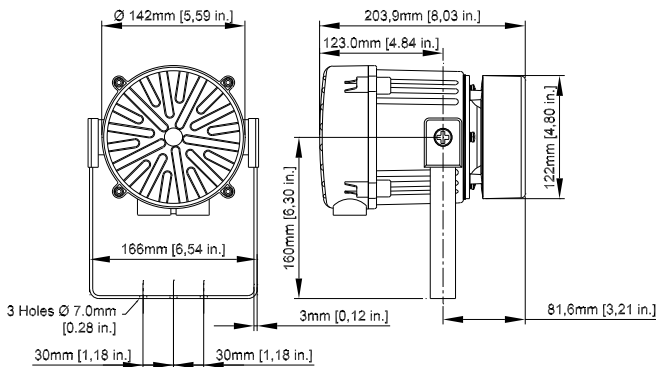


Fig. 1 Fixing Location for Loudspeaker Radial

5) Access to the Enclosure



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



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

To access the enclosure, remove the four M4 posi pan head screws, M4 spring and plain washers and withdraw the cover.

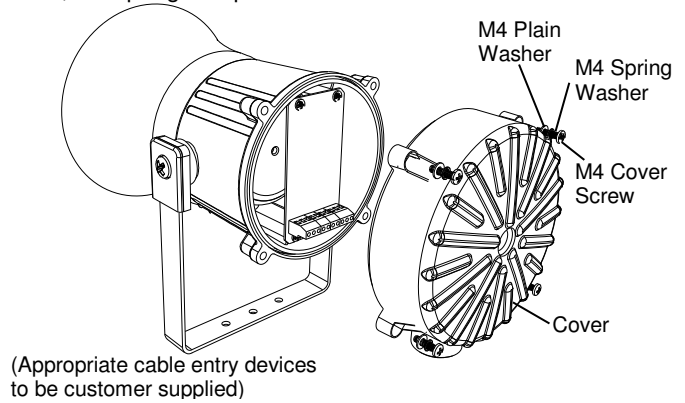


Fig. 2 Accessing the Enclosure.

To replace cover, check that the 'O' ring seal is in place. Carefully push the cover in place. Insert and tighten down M4 screws, spring and plain washers in the order shown above and tighten down.

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

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 of the sounders connected to the line.

The dual entries can be ordered with one of the following options:

- 2-off M20 x 1.5 thread
- 2-off 1/2" NPT thread
- 1-off M20 x 1.5 & 1-off 1/2" NPT thread

To maintain the ingress protection rating and mode of protection, the cable entries must be fitted with suitably rated, certified cable entry and/or blanking devices during installation. If conduit is used for installation, seal conduit within 18 inches from the enclosure.

For ambient temperatures over +40°C the cable entry temperature may exceed +70°C or the cable branching temperature may exceed +80°C. Therefore suitable heat resisting cables and cable glands must be used as per table below

Ambient Temp.	40°C	45°C	50°C	55°C
Min. Rating of cables and cable glands	90°C	95°C	100°C	105°C

If a high IP (Ingress Protection) rating is required then a suitable sealing washer must be fitted under the cable glands or blanking plugs.

For use in explosive dust atmospheres, a minimum ingress protection rating of IP6X must be maintained.

For use in explosive gas atmospheres, a minimum ingress protection rating of IP54 must be maintained.

7) Cable Connections

Electrical connections are to be made into the terminal blocks on the PCBA located in the enclosure. See section 5 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. If an input and output wire is required the 2-off Live/Neutral or +/- terminals can be used. If fitting 2-off wires to one terminal way the sum of the 2-off wires must be a maximum cross sectional area of 2.5mm². 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 / 4 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.

8) Line In Wiring

A 10-way terminal block is provided on the Line in Loudspeakers. There are 2-off Common, 2-off 15W/25W, 2-off 7.5W/12.5W, 2-off 3W/6W, 2-off 1W/2W and 2-off Earth terminals in total.

8.1 L15 Wiring Diagrams

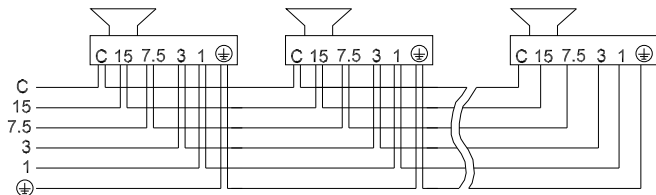


Fig. 3 L15 Line in Diagram

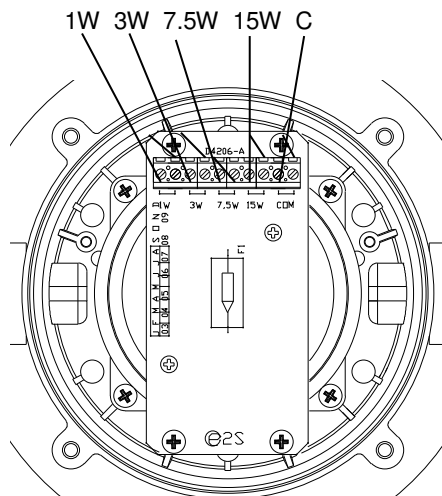


Fig. 4 L15 Line in Terminals

8.2 L25 Wiring Diagrams

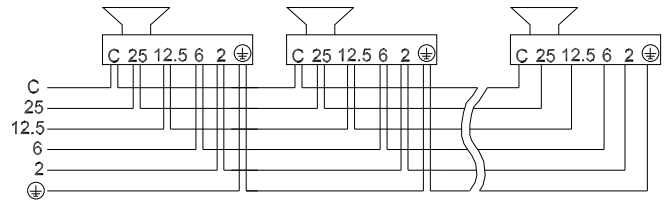


Fig. 5 L25 Line in Diagram

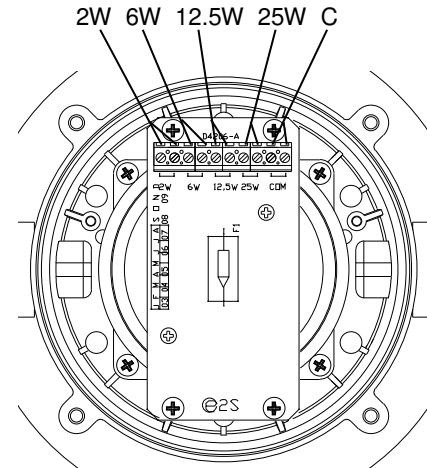


Fig. 6 L25 Line in Terminals

8.3 Line Monitoring (Line in Units Only)

On E2xL15 & E2xL25 loudspeakers, DC line monitoring can be used if required. All Line in Loudspeakers have a blocking diode fitted in their supply input lines. 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. If an end of line resistor is used it must have the following values:

70V Line in Loudspeaker:

Minimum resistance 3K9 Ohms	Minimum Power 0.5W
Minimum resistance 1K Ohms	Minimum Power 2.0W

100V Line in Loudspeaker:

Minimum resistance 15K Ohms	Minimum Power 0.5W
Minimum resistance 3K9 Ohms	Minimum Power 2.0W

The resistor must be connected directly across the terminals. Whilst keeping its leads as short as possible, a spacing of at least 1/16" (1.58mm) must be provided through air and over surfaces between uninsulated live parts.

9) Low Impedance Wiring

9.1 L15 Wiring Diagrams

A 4-way terminal block is provided on the Low Impedance Loudspeakers. There are 2-off Common and 2-off 15W/25W terminals in total.

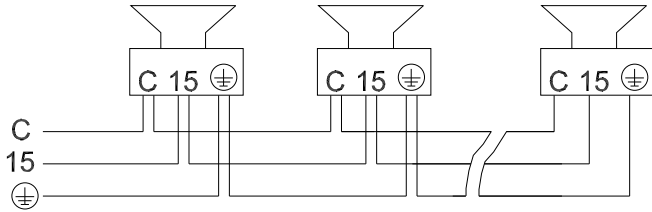


Fig. 7 L15 Low impedance Diagram

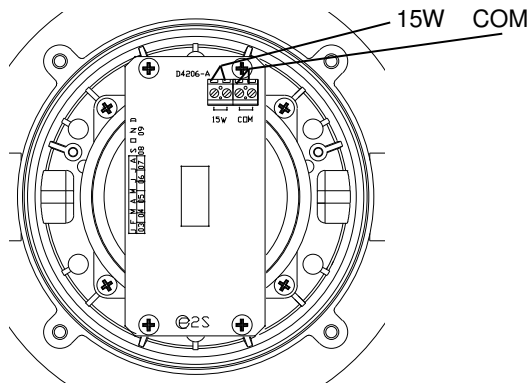


Fig. 8 L15 Low Impedance Terminals

9.2 L25 Wiring Diagrams

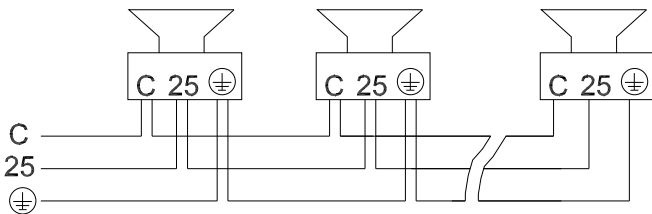


Fig. 9 L25 low Impedance Diagram

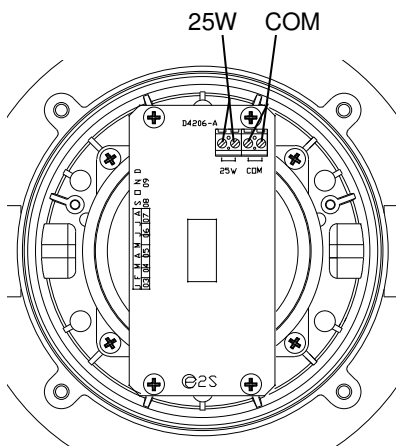


Fig. 10 L25 Low Impedance Terminals

10) Maintenance, Overhaul & Repair

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

EN60079-19	Explosive atmospheres - Equipment repair, overhaul and reclamation
IEC60079-19	
EN 60079-17	Explosive atmospheres - Electrical installations inspection and maintenance
IEC60079-17	

To avoid a possible ELECTROSTATIC CHARGE the unit must only be cleaned with a damp cloth.

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.

EU Declaration of Conformity



Manufacturer: European Safety Systems Ltd.
Impress House, Mansell Road, Acton
London, W3 7QH, United Kingdom

Equipment Type: E2xS1, E2xS2
E2xB05, E2xB10, E2xBL2
E2xC1X05, E2xC1LD2,
E2xL15, E2xL25

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 06 ATEX 0421554X
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):	SIRA 05 ATEX M342
Provisions fulfilled by the equipment:	II 3G Ex na IIC T4/T3/T2 Gc II 3D Ex tc IIIC 85°C...120°C Dc IP6X Dust Protection to EN60079-0 / EN60079-31
Standards applied:	EN60079-0:2012 + A11:2013 EN60079-15:2010 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
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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.

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/IP67

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-062_Issue_D
Date and Place of Issue: London, 23/06/2017