

# E2xL15 PA Loudspeakers

**The hazardous area E2xL15 PA loudspeaker is ATEX certified for Zone 2 applications and also UL approved for Class I Div 2 applications.**

The E2xL15 is available with either a 70V or 100V line transformer or as a low impedance loudspeaker.

The E2x range features enclosures manufactured from lightweight, corrosion proof PPS and high impact, fire retardant ABS re-entrant flare horns; both of which are suitable for the harshest of environments.

## Features:

- Very large termination area.
- Ratchet adjustable stainless steel 'U' bracket.
- Transformer type fitted with thermal fuse
- Complies with BS5839 part 8

## Approvals:

- ATEX certificate: DEMKO 06 ATEX 0421554, EN 50021: 1999
- UL File ref: E230764

## Part codes:

**Part Code:**      **Classification:**

### ATEX version:

E2xL15EG\*\*      II 3G EEx nA IIC T4 (Tamb -20°C to +55°C)

### UL version:

E2xL15UL\*\*      Class I, Div 2, Grps A,B,C,D T4 (135°C) at +55°C  
 Class I, Div 2, Grps A,B,C,D T4A (120°C) at +40°C  
 Class II, Div 2, Grps F & G T6 (85°C) at +55°C  
 Class III, Div 1, T6 (85°C) at +40°C

\*\* = Type reference:

Options:	70V	70V Line transformer
	100V	100V Line transformer
	8R	8 Ohm low impedance
	16R	16 Ohm low impedance

e.g: E2xL15UL100V

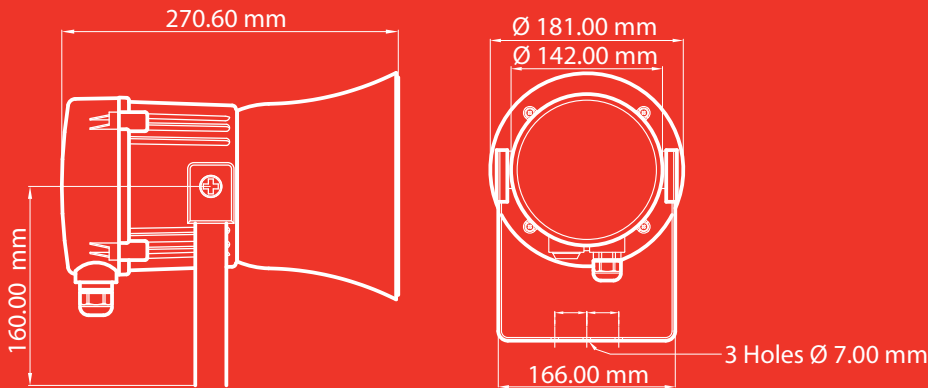


COMSEC PROTECTION SYSTEMS LTD.

UNIT 26, STADIUM BUSINESS PARK, • BALLYCOOLIN ROAD, • DUBLIN 11, • IRELAND

PHONE: +353 (0)1 8853008 • FAX: +353 (0)1 8853007

EMAIL: [info@comsec.ie](mailto:info@comsec.ie) • WEB: <http://www.comsec.ie>

**Specification:**

SPL:	108dB +/-3dB @ 1w @ 1m - Pink noise 118dB +/-3dB @ 15w (Rated Power) @ 1m
Rated power:	15 Watts RMS
70v line tapings:	15w / 7.5w / 3w / 1w (z=336.67 Ohms / 653.33 Ohms / 1.6k Ohms / 4.9k Ohms)
100v line tapings:	15w / 7.5w / 3w / 1w (z=666.87 Ohms / 1.34k Ohms / 3.34k Ohms / 10k Ohms)
Low impedance:	8 Ohm (I/P: 10.95V) or 16 Ohm (I/P: 15.49V)
Dispersion:	120° @ 1kHz & 32° @ 4kHz
Frequency range:	400Hz to 8000 Hz
DC Line monitoring:	2.2µF Capacitor (Transformer version)
Ingress protection:	ATEX: IP66 & IP67 UL: Type 4, 4X & 13
Housing material:	UL94V0 PPS & ABS
ATEX cable entries:	2 x M20 ISO cable gland entries - with 1 blanking plug.
UL cable entries:	1 x 1/2" NPT cable gland entry - with 0.5m flying leads.
Terminals (ATEX):	0.5 to 4.0mm <sup>2</sup> - In & Out
Weight :	Low impedance: 2.5kg Transformer: 3.00kg

\*SPL data +/-3dB(A). Measured at optimum voltage.

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# INSTRUCTION & SERVICE MANUAL

## E2xL15UL LOUDSPEAKERS

### For Use In Hazardous Locations

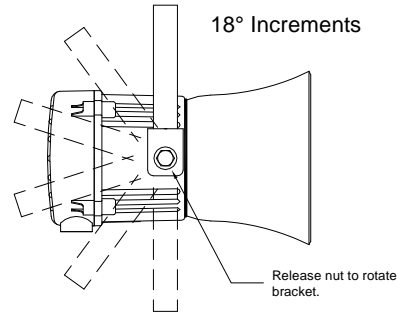
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- 15 Watt Loudspeaker
- 70V or 100V Line Transformer with 15W, 7.5W, 3W and 1W tapings
- 8 ohm or 16 ohm
- Type 4 / 4X / 13
- Operating Temperature Range -20°C to +55°C



**Unit Type No.** E2xL15UL

**Impedance:** 8 ohm or 16 ohm  
70V Line or 100V Line



**WARNING - EXPLOSION HAZARD - SUBSTITUTION OF COMPONENTS MAY IMPAIR SUITABILITY FOR CLASS I, II DIVISION 2.**

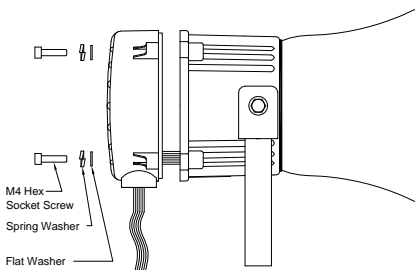
Max. Operating Temperature / Code at +55°C Ambient	
Hazardous Location	Temperature Code
Class I, Division 2, Groups A, B, C, D	T4 (135°C)
Class II, Division 2, Groups F and G	T6 (85°C)
Class III, Divisions 1 and 2	T6 (85°C)

Max. Operating Temperature / Code at +40°C Ambient	
Hazardous Location	Temperature Code
Class I, Division 2, Groups A, B, C, D	T4A (120°C)

The equipment is suitable for use in the hazardous locations listed above or non-hazardous locations only.

**PRE-INSTALLATION**

**WARNING** – The E2xL15UL loudspeakers are supplied with flying leads so it should not be necessary to open the unit before it is installed.



**WIRING INSTALLATION**

The E2xL15UL loudspeaker has one ½ NPT cable entry, the blanking plug adjacent to the cable entry is permanently fixed and must not be removed. The sounder is pre-wired with flying leads which are colour coded and should be connected as shown in the diagram below.

The conduit running from the supply to the sounder must include an equipment grounding conductor that is at earth potential to facilitate ground connection of the device. A number of loudspeakers can be connected in a chain to the same supply using field installed wiring compartments that are appropriate for the hazardous location, provided that the conductor at earth potential can be readily connected to the ground lead on each loudspeaker in the chain.

**WARNING - ALL ELECTRICAL WIRING MUST BE INSTALLED IN ACCORDANCE TO THE NATIONAL ELECTRICAL CODE**

**100V and 70V Loudspeakers**

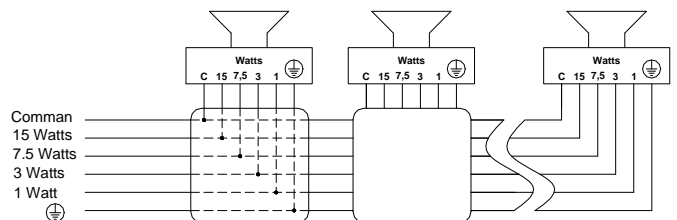
- White Common
- Red 15 Watts
- Orange 7.5 Watts
- Yellow 3 Watts
- Violet 1 Watt
- Green/Yellow Ground

**WARNING – DO NOT OPEN WHEN ENERGISED**

**CAUTION - DO NOT OPEN WHEN AN EXPLOSIVE GAS OR DUST ATMOSPHERE IS PRESENT**

**MOUNTING**

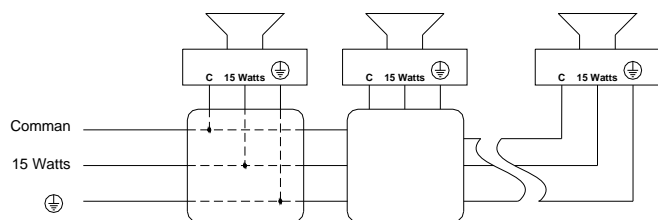
The E2xL15UL loudspeaker must be mounted using the rotating bracket as shown.



NOTE - All wires are not used they must be individually insulated to ensure that cannot make contact to any other wires.

**8 ohm and 16 ohm Loudspeakers**

Black Common  
 Red 15 Watts  
 Green/Yellow Ground



**POWER AMPIIFIER SELECTION**

It is important that the E2xL15UL loudspeakers are connected to power amplifiers that have outputs that are compatible to the type of loudspeaker being used. Loudspeakers with a 70V or 100V line matching transformer fitted must be connected to a power amplifier with a 70V or 100V line output. Low impedance 8 ohm or 16 ohm loudspeakers must be connected to amplifiers with a suitable low impedance output.

Unit Type	Input	Wattage	Max. I/P Volts
E2xL15UL	8 ohm	15 Watt	10.95V
E2xL15UL	16 ohm	15 Watt	15.49V
E2xL15UL	100V Line	15 Watt	100V
E2xL15UL	70V Line	15 Watt	70V

**WARNING – HIGH VOLUME MAY CAUSE HARM TO PERSONNEL IN CLOSE PROXIMITY**

# INSTRUCTION & SERVICE MANUAL

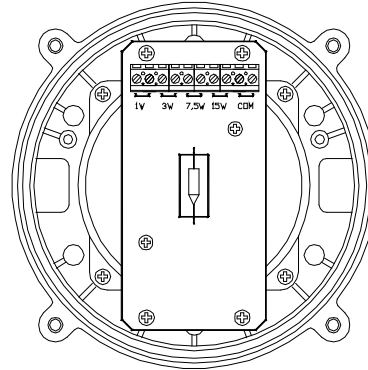
## E2xL15EG LOUDSPEAKERS

### For Use In Hazardous Areas

- 15 Watt Loudspeaker
- 70V or 100V Line Transformer with 15W, 7.5W, 3W and 1W tapings
- 8 ohm or 16 ohm
- Operating Temperature Range -20°C to +55°C


**WARNING – TO AVOID A POSSIBLE ELECTROSTATIC CHARGE ONLY CLEAN THE UNIT WITH A DAMP CLOTH**

E2xL15EG Loudspeaker 70V and 100V PCB Layout



**Unit Type No.** E2xL15EG

**Impedance:** 8 ohm or 16 ohm  
70V Line or 100V Line

 II 3G EEx nA II T4 (Tamb. -20°C to +55°C)

**Certificate No.** DEMKO 06 ATEX 0421554

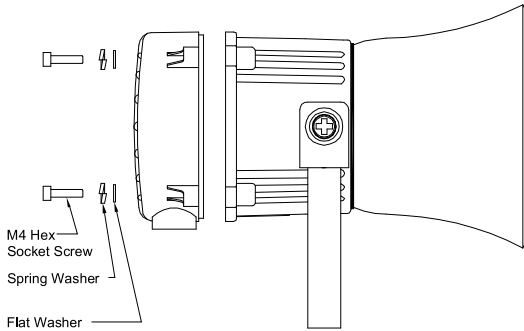
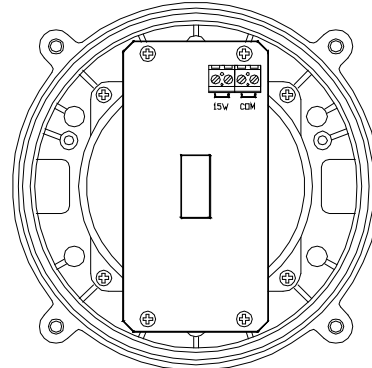
**Group/Category:** II 3G

**Zone:** Zone 2

#### PRE-INSTALLATION

The E2xL15EG loudspeakers must be installed in accordance with the relevant parts of the EN60079 standards or the equivalent IEC standards.

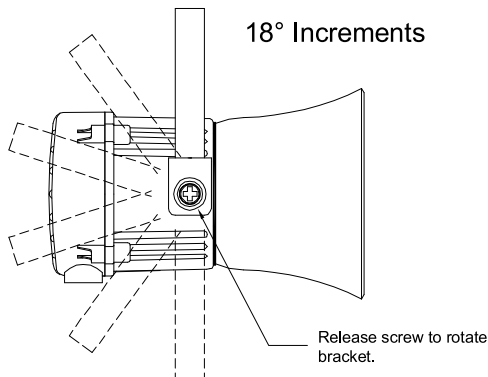
E2xL15EG Loudspeaker 8 ohm and 16 ohm PCB Layout



**WARNING – DO NOT OPEN WHEN ENERGISED**

#### MOUNTING

The E2xL15EG loudspeaker must be mounted using the rotating bracket as shown.



#### WIRING

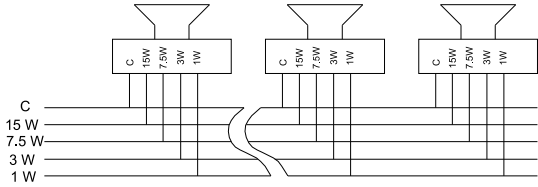
The E2xL15EG loudspeaker has two M20 cable entries one of which is fitted with an M20 blanking plug. This should be removed if two cable entries are required. Cable entry devices shall be used which ensure a minimum ingress protection of IP54.

The cable connections are made to the terminal blocks on the pcb assembly in the enclosure.

**WARNING - ALL ELECTRICAL WIRING MUST BE INSTALLED IN ACCORDANCE WITH THE RELEVANT STANDARDS AND ANY LOCAL CODES THAT MAY APPLY**

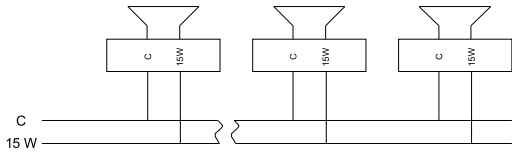
**100V and 70V Loudspeakers**

Common      Com  
 15 Watts      15W  
 7.5 Watts      7.5W  
 3 Watts      3W  
 1 Watt      1W



**8 ohm and 16 ohm Loudspeakers**

Common      Com  
 15 Watts      15W



**POWER AMPIFIER SELECTION**

It is important that the E2xL15EG loudspeakers are connected to power amplifiers that have outputs that are compatible to the type of loudspeaker being used. Loudspeakers with a 70V or 100V line matching transformer fitted must be connected to a power amplifier with a 70V or 100V line output. Low impedance 8 ohm or 16 ohm loudspeakers must be connected to amplifiers with a suitable low impedance output.

Unit Type	Input	Wattage	Max. I/P Volts
E2xL15EG	8 ohm	15 Watt	10.95V
E2xL15EG	16 ohm	15 Watt	15.49V
E2xL15EG	100V Line	15 Watt	100V
E2xL15EG	70V Line	15 Watt	70V

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