

**The ML15 & ML25 Loudspeakers are certified by UL as Speaker for Use in Fire Alarm Systems**

### 1) Introduction

The ML15 and ML25 are UL certified loudspeakers which produce a loud warning signal. The loudspeakers are approved for Fire Alarm & Emergency and Professional & Commercial use for the US and Canada.

### 2) Warnings

#### CAUTION

DO NOT CHANGE FACTORY APPLIED FINISHES  
FIRE ALARM DEVICE – DO NOT PAINT

#### ATTENTION

NE PAS CHANGER LE REVETEMENT APPLIQUE EN USINE  
NE PAS PEINTURER – DISPOSITIF D'ALARME

### 3) Ratings and Markings

#### 3.1 Certification

The ML15 & ML25 Loudspeakers comply with the following standards:

UL 1480, Fifth Edition  
CAN/ULC-S541-07  
CSA C22.2 No. 205-12

UL category codes:  
UUMW / UUMW7  
UEAY / UEAY7

#### 3.2 Ambient Temperature Range:

-40°C to +66°C

#### 3.3 Enclosure Ratings

The product enclosure is rated as follows:  
Type rating per UL50E / NEMA250: 4 / 4X / 3R / 13

### 3.4 Electrical Ratings

Model No.	Input	Power	Max I/P
ML15W70V	70V Line	15 W	70.7 Vrms
ML25W70V	70V Line	25 W	70.7 Vrms

### 3.5 Frequency Range

All models: 400Hz to 8000 Hz

### 3.6 Sound Pressure Level

Rated SPL For ML15W70V at 70.7Vrms / 10ft (dB(A)):

Tapping	1W	3W	7.5W	15W
Test in Reverberant Room according to UL1480	92	96	99	102
Test in Anechoic Room according to ULC-S541	95	100	103	105

Rated SPL For ML25W70V at 70.7Vrms / 10ft (dB(A)):

Tapping	2W	6W	12.5W	25W
Test in Reverberant Room according to UL1480	95	99	102	104
Test in Anechoic Room according to ULC-S541	100	104	107	109

### 3.7 Directional Characteristics

For ML15W70V:

Angle	SPL
0° (On Axis)	Rated SPL
±20°	Rated SPL -3dB(A)
±40°	Rated SPL -6dB(A)
±90°	Rated SPL -13.3dB(A)

For ML25W70V:

Angle	SPL
0° (On Axis)	Rated SPL
±15°	Rated SPL -3dB(A)
±30°	Rated SPL -6dB(A)
±90°	Rated SPL -15dB(A)

### 4) Installation

#### 4.1 Safe Installation Requirements

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 be in accordance with the National Electric Code NFPA 70, National Fire Alarm and Signaling Code NFPA 72, CSA C22.1 Canadian Electrical Code, Part I, Safety Standard for Electrical Installations and CAN/ULC-S524, Installation of Fire Alarm Systems (as applicable), as well as any local regulations, and should only be carried out by a competent electrical engineer who has the necessary training.

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

To maintain the enclosure rating, the cable entries must be fitted with suitably rated cable entry and/or blanking devices or suitably sized conduit during installation. If entries are fitted with adaptors they must be suitable for the application.

If a high IP (Ingress Protection) rating is required then a suitable sealing washer or O-ring must be fitted under any cable gland or blanking device with metric threads.

Connections are to be made into the terminal blocks using solid or stranded wire, sizes 0.5-2.5mm<sup>2</sup> / AWG 20-14. 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 / 4 Lb-in.

Check that the 'O' ring seal is in place before replacing the cover.

#### 4.2 Mounting

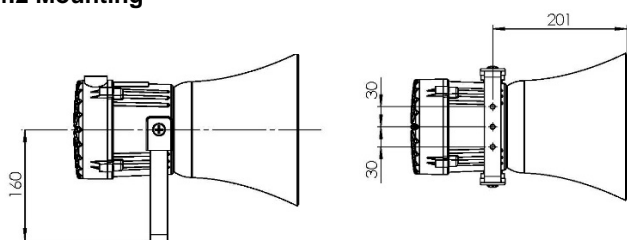


Fig. 1 Fixing locations

ML15 & ML 25 Loudspeakers should only be installed by trained competent personnel.

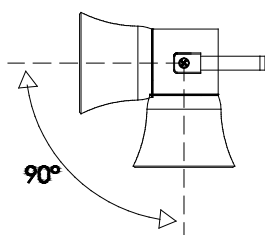


Fig. 2 Speaker orientation

The ML15 & ML25 Loudspeakers may be secured to any flat surface using the three 7mm fixing holes. The enclosure is suitable for indoor and outdoor use providing it is positioned so that water cannot collect in the horn, and the cable entry is sealed (See Fig. 2).

#### 4.3 Installation procedure

- a. Secure the ML15 / ML25 Loudspeaker to a flat surface via the three 7mm fixing holes in the mounting bracket.
- b. Remove the cover of the loudspeaker by removing the four cover screws.
- c. Fit an M20x1.5 suitable cable gland or ½" NPT conduit into the corresponding entry in the enclosure and connect the field wiring to the appropriate loudspeaker terminals as shown in section 5 / Fig 3 of this manual. An end of line monitoring resistor may be fitted to the unit. Additional entries which are not used must always be fitted with suitable blanking elements
- d. Replace the cover of the loudspeaker, checking that the O-ring seal is in place. Tighten the cover screws fully.

### 5) 70V Line In Wiring

The cable connections are made into the terminal blocks on the PCB assembly located in the enclosure. The 70V Line

loudspeakers are fitted with a five way terminal block. Terminal A is common and one of the other terminals B, C, D or E should be selected depending on what output level is required (see Fig. 3 and table below).

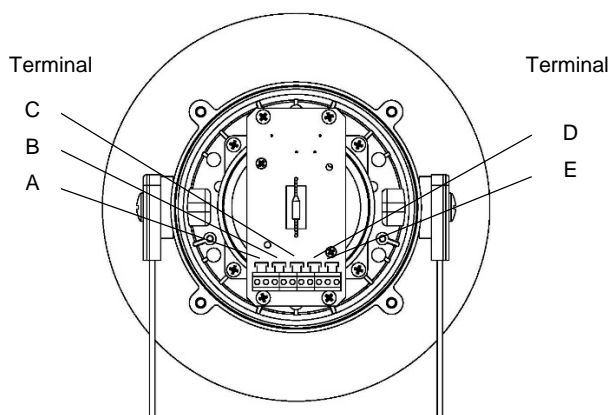


Fig. 3 Line in Terminals

Terminals	ML25W70V	ML15W70V
A - B	25W	15W
A - C	12.5W	7.5W
A - D	6W	3W
A - E	2W	1W

A single wire with a cross sectional area of up to 2.5mm<sup>2</sup> / AWG14 can be connected to each terminal way. 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.

#### 6) End of Line DC Monitoring

On ML15 / ML25 Loudspeakers, DC line monitoring can be used if required. The 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 70V line units the end of line resistor used must have a minimum resistance value of 4k7 ohms and a minimum wattage of 2.5 watts.