



The AEL02 Active End of Line Device enables ASL amplifier systems to monitor either single or dual loudspeaker circuits without the need for DC blocking capacitors in the loudspeakers. This makes it ideal for retrofitting into existing installations where it is not possible to modify the installed loudspeakers.

The loudspeaker monitoring using the AEL02 is fully compliant with BSEN 5839 Pt 8. The AEL02 operates by utilising 30 Hz and 20 kHz surveillance tones that are output by the iPAM400 Intelligent Public Address Amplifier Mainframe, or by LSDDC or LSIDC amplifier interfaces in other types of ASL amplifier systems\*,\*\*. The AEL02 derives power from the 20 kHz surveillance tone, and monitors the line integrity by

detecting the 30 Hz surveillance tone. On detection of the 30 Hz surveillance tone, the unit introduces a periodic signal current which the standard circuit within the ASL amplifier systems unit can detect. If the 30 Hz tone is lost due to open or short circuit, then this periodic signal disappears and a line fault is reported. The earth monitoring circuit within the ASL amplifier system can still detect 'real' earth faults.

The AEL02 is fitted at the end on the loudspeaker circuit across the 100 V line, and with an additional connection to earth. This earth is ideally via the loudspeaker drain wire provided that continuity is maintained back to the rack (Figure 1), or can be a local earth\*\*\* (Figure 2).

Two AEL02 units may coexist on an amplifier which enables dual A&B loudspeaker circuit monitoring. In this application each AEL02 is set to act for either the A or B circuit by an internal link in order to separately signal to a single LSDDC interface card.

The diagrams in Figure 1 and Figure 2 show the AEL02 in general context in relation to other system components. They also illustrate the possible connections to earth.

Field connections are provided by an internal 3-way ceramic block terminal which together with a thermal fuse prevents any short circuits on the loudspeaker line in the event of extreme temperatures. The unit is housed in an IP65 rated diecast aluminium enclosure.

For further details, and for information on other products, please visit [www.asl-control.co.uk](http://www.asl-control.co.uk).

\* LSDDC Dual DC Line Surveillance Interface card enables single and dual A/B loudspeaker circuit monitoring.

LSIDC Line Sensing Direct Current Interface card enables single loudspeaker circuit monitoring.

\*\* AEL02 is only supported by recent versions of Router software. Please refer to ASL for details.

\*\*\* Differential voltages between earth locations may affect performance. ASL recommends that a site survey be carried out prior to installation using the local earth method.

# SPECIFICATION

## General

Number of AEL02 Units per Amplifier	
Single A Circuit (no spurs)	1
Dual A&B Circuit (no spurs)	2 (one per circuit)
Detection Frequency	30 Hz
Minimum Surveillance Tone Voltage	1.5 V RMS
Earth Leakage Resistance	50 kΩ
Supply Voltage	via loudspeaker line from 20 kHz (nominal 8 V RMS) surveillance tone F100mA fuse
Power Consumption	<1 W
Field Connection	3-way ceramic screw-in terminal block (2.5 mm)
Enclosure	die-cast aluminium
Finish	Grey NCS S1002-B 20% GLOSS LSOH Low Smoke and Fume, Zero Halogen

## Environmental

Temperature Range (storage and operating)	-5 °C to +50 °C
Humidity Range	0% to 93% non-condensing
Ingress Protection	IP55

## Dimensions and Weight

Dimensions (H x W x D)	160 mm x 100 mm x 81 mm
Gland/Conduit Hole	25 mm
Weight	1 kg

Figure 1

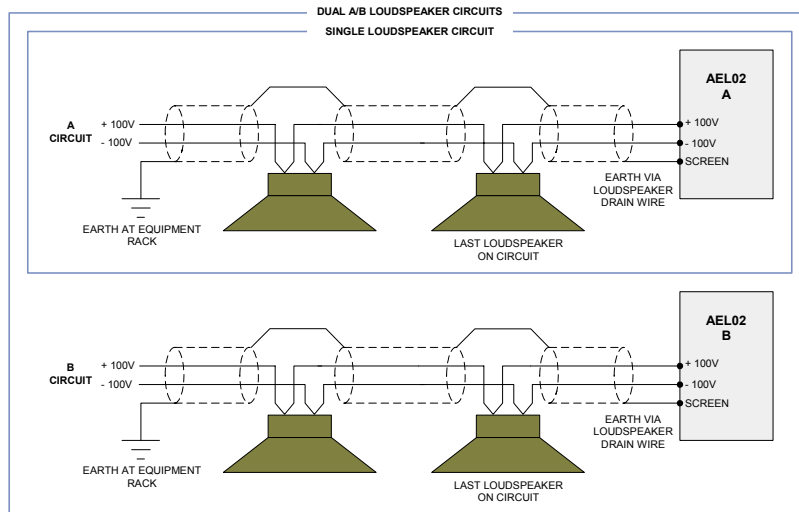
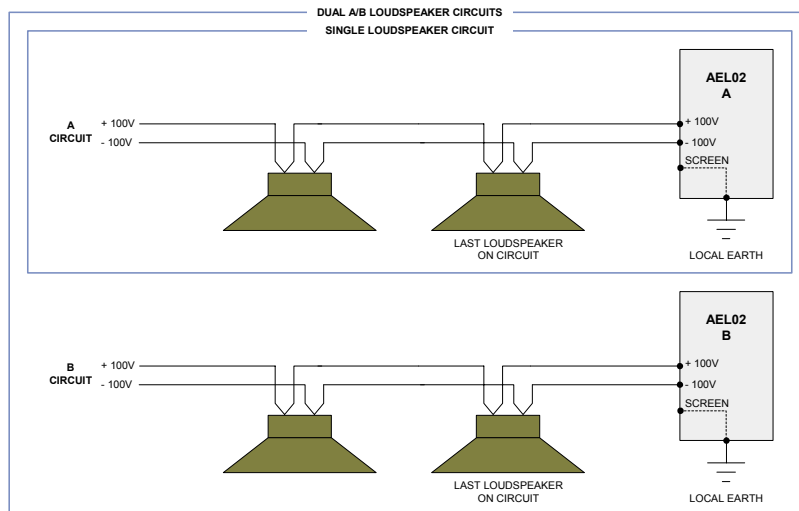


Figure 2



This equipment is designed and manufactured to conform to the following EC standards:  
 EMC: EN55103-1:1997, EN55103-2:1997, EN50121-4:2006, ENV50204:1996  
 Safety: EN 60065:2002

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