univox
BY EDIN

Univox MLS-1

Modular Loop System

Installation Guide

Part No 204000

Content

Safety

1. Please read this Installation guide carefully before installing and operating the product.
2. Keep the Installation Guide available on-site.
3. Do not install the unit near any heat sources such as radiators, heat registers, vents or other apparatus that produce heat.
4. ⚠ Never expose the unit to dripping or splashing, nor to liquid or moisture of any kind.
5. Do not make any modifications, extensions, or adaptations to the unit.
6. All installation, service and maintenance work must be performed by qualified personnel only. No user serviceable parts.

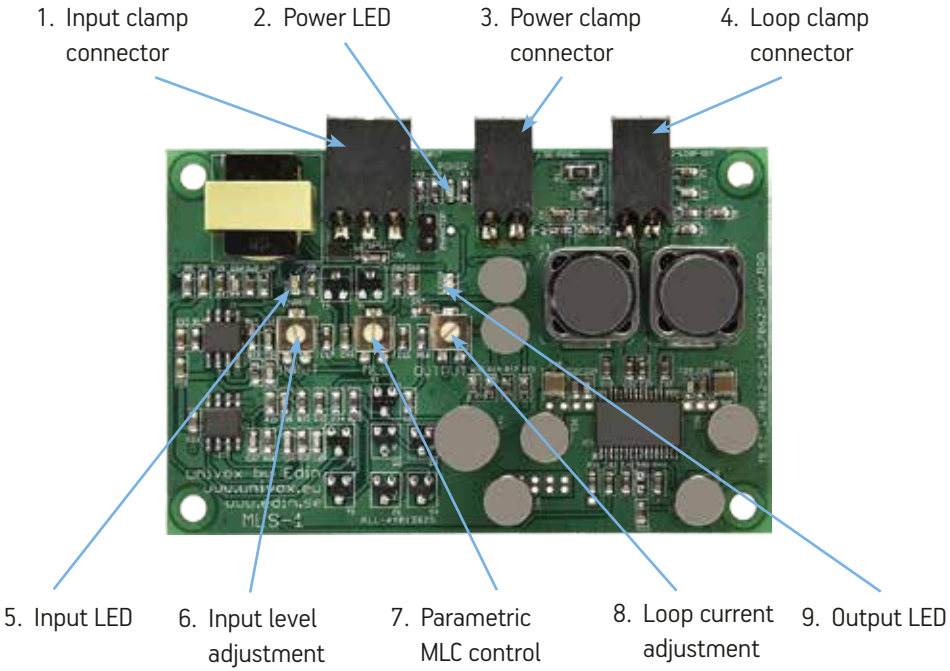
Introduction

Univox MLS-1 is a compact yet powerful hearing loop amplifier module designed for a wide range of OEM applications, where a hearing loop solution is required. Developed on the efficient class-D technology platform, Univox MLS-1 is ideal for integration in systems requiring high energy efficiency and low heat generation.

MLS-1 can be easily integrated into small area communication systems, such as intercoms, emergency phones, information- and help points, kiosks etc. Equipped with a Univox' dual action AGC function, MLS-1 allows for simple connection to different input signal levels.

Univox MLS-1 features Metal Loss Compensation (MLC) which enables fine tuning and compensation for metal loss and attenuation effects. A fully integrated, correctly installed MLS-1 system, complies with all the requirements of the IEC 60118-4 standard.

Product overview



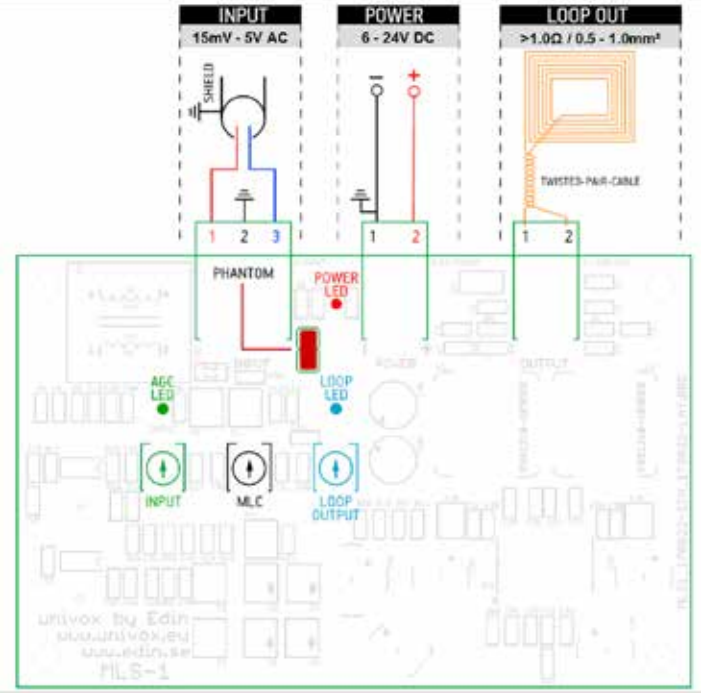
Installation setup

MLS-1 should be mounted on a flat and stable surface, (4xM3 screws or insulated adhesive pads can be used).

1. Set all level controls (6, 7, 8) to minimum setting (counterclockwise).
2. Connect a loop wire (R>1.0Ω) to the Loop clamp connector (4), (see connection diagram). If wiring between the loop figuration and the driver is used, the wire should not exceed 10 meters and should be paired or twisted.
3. Connect a suitable input signal source to the Input clamp connector (1), (see connection diagram).
4. Connect DC power supply to the Power clamp connector (3), (see connection diagram). Observe the power polarity! Verify the power LED indication (2).
5. Adjust the input signal (6) until the input LED (5) flickers occasionally, indicating program peaks.

6. Adjust the loop current output level (8) to achieve a filed strength compliant with IEC60118-4 requirements. The output LED (9) indicates that the amplifier is transmitting correctly. Use a Field Strength Meter to verify the field strength level within defined distance, at the reference position and direction appropriate for the application.

Note: In smaller systems the listening level will vary as a function of distance (as for a loudspeaker). Check the sound quality (clear sound with no distortion) with the loop receiver, Univox® Listener.



MLS-1 connection diagram

MLC

The metal loss control function enables system frequency response correction in installations where the signal strength is strongly influenced by the surrounding metal. The frequency response can be fine-tuned by adjusting the MLC potentiometer (7), compensating for the effects of different metal types and configurations.

Loop specification

Recommended loop resistance for the highest system efficiency is approximately 1-1.5Ω.

Calculate the required loop wire length (l) by using the formula: l=(A*R)/0.0172, (0,0172 is copper resistivity in Ωmm2/m; l is wire length (m); A is wire cross-sectional area (mm2) and R is wire resistance [Ω]).

Install the wire around the coverage area, by adjusting the number of loop turns, (depending on application, area size and the wire type) and ensuring that the loop resistance is maintained within 1-1.5Ω.

Typical elevator application

Recommended installation for an elevator size 2 x 1.3m, single round copper wire loop placed in the ceiling or on the top of the elevator.

Wire [mm^2]	Loop Length [m]	R [0hm]	Nº turns	Tot wire length [m]
0.5	6.6	1.5	7	44
1	6.6	1.5	13	87

Note: Since the field strength is directly proportional to the number of turns, 7-turn loop generates approximately half the field strength, i.e. –6dB, versus 13-turn loop.

Warranty

The installer is responsible for installing the product in a way that may not cause risk of fire, electrical malfunctions or danger.

Misuse of the product in any way, including but not limited to:

- Incorrect installation
- Force majeure e.g. lightning strike
- Ingress of liquid
- Mechanical impact

will invalidate the warranty.

Bo Edin AB shall not be held responsible or liable for interference to radio or TV equipment, and/or to any direct, incidental or consequential damages or losses to any person or entity, if the equipment has been installed by unqualified personnel and/or if installation instructions stated in the product Installation Guide have not been strictly followed.

Technical Data

Power supply	External Power supply 6-24V DC. System voltage 12V	
	Power consumption	Idle current 36mA@12V
Input	Galvanically isolated balanced input	
	Mic/Line sensitivity	5mV-1.5Vrms, -45dBu - +5.7dBu
	Max input level	1.5Vrms, +5.7dBu
	Phantom power	12 VDC
	Source impedance	0-2kΩ
Output	Max voltage	48Vpp
	Max current	5.3Arms 0.5-1Ω impedance at 1kHz
	Distortion	<1%
Dual action AGC	Dynamic Range	> 50-70dB (+1.5dB)
	Attack time	2-500ms, Release time: 0.5-20dB/s
LED indication	On/Off	
	Input level	
	Output current	
Dimensions	Width	50mm
	Length	78mm
	Height	16mm
Weight		35g
Environment	IP00 (PCB for integration) <90% relative humidity, temp range -30 to 75C, loop load and case ventilation dependent	

Environment

Please follow existing disposal regulations in your country. If you respect these instructions you ensure human health and environmental protection.

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