

VARES 1500/2000

NLM-200 A

RCS®
AUDIO-SYSTEMS



Compatible with:
VARES  1500
VARES  2000

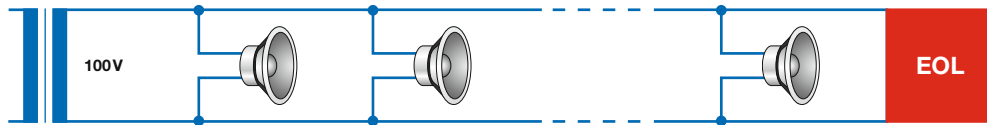
END-OF-LINE MODULE

EN 54-16 / EN 54-4 / VDE 0833-4 / EN50849 / VDE 0828

1. EOL BOARD

EOL boards are not supplied with the VARES-1500/2000 main unit and are optionally available as a separate product.

VARES-1500/2000 voice evacuation systems support surveillance of loudspeaker lines based on 20 kHz impedance measurement.



Loudspeaker line with EOL module



NOTE: The EOL module features a 145°C thermal fuse, minimizing the risk of a line short-circuit under fire conditions. Exposing the EOL board to temperatures exceeding 145°C will damage the EOL circuit and cause an open fault of the loudspeaker line.

The purpose of the NLM-200A is to create reference load at the monitoring frequency of 20 kHz. With the EOL connected, monitoring of load impedance is more accurate and less sensitive to slow and long term impedance drift of the loudspeakers due to aging and weather conditions. It also gives the most reliable fault indication when a large number of loudspeakers is connected to a long line.

The NLM-200A is required for reliable impedance monitoring of a loudspeaker line. Connect the EOL board to the end of the loudspeaker line in parallel, preferably inside the last loudspeaker on the line.

In order to prevent short-circuits caused by accidental contact with sharp edges of the metal housing, the NLM-200A board must be placed in the supplied insulating sleeve for installation.

The NLM-200A is not polarity-sensitive.



EOL board (normal) with thermal fuse

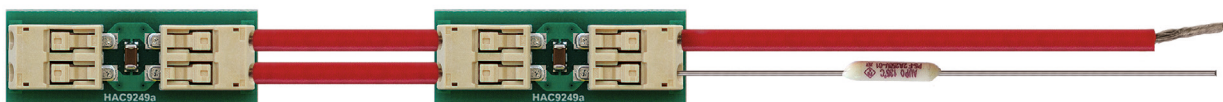


NOTE: Each monitored speaker line requires the use of an EOL module.

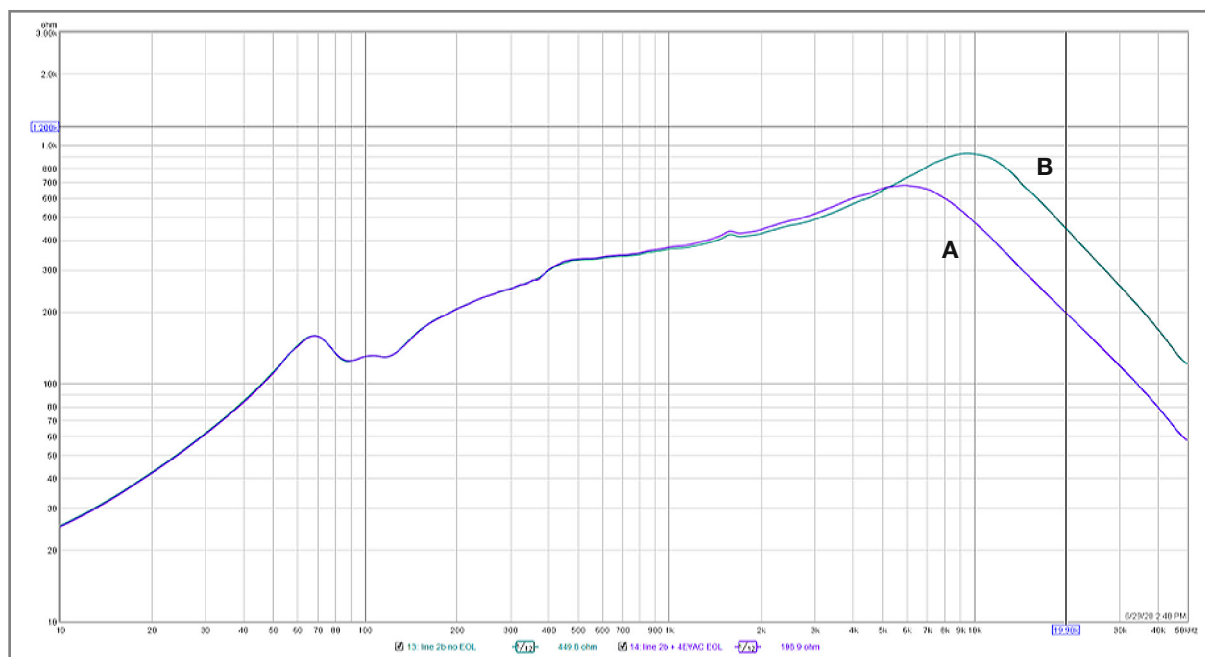
In some cases, in order to optimize the loudspeaker line impedance measurement, adjustment of the EOL impedance may be required. This is done by bridging the NLM-200A boards.

The load setting of boards are described in the table below:

EOL load settings	IMPEDANCE @20 kHz
EOL normal	260 Ω
EOL bridged (using wires or LINK connection)	130 Ω



EOL board (bridged) with thermal fuse



Impedance characteristics of the NLM-200A module. Purple line (A) with EOL, Green line (B) without EOL

2. TECHNICAL SPECIFICATIONS

NLM-200 A		VARES-1500/2000	END-OF-LINE MODULE
Electrical			
Surveillance method	Impedance measurement with EOL		
Centre frequency	20kHz		
Impedance @ centre frequency	270 Ω		
Impedance @ 1kHz	>10 kΩ		
max. DC voltage	200V DC		
max. continuous power	1 W		
max. AC voltage @ centre frequency	17 V(RMS) continuous		
Mechanical			
Dimensions (HxWxD)	30 x 10 x 6 mm		
Weight	6 g		
Mounting	Inside loudspeaker housing, at the end of loudspeaker line		
Operating conditions			
Temperature	-5°C~40°C		
Relative humidity	max. 90% (non condensing)		
Storage temperature	-40~70°C		

Summary

This documentation is the brief instruction of the EOL monitoring module for the RCS voice alarm system VARES-1500/2000 System. These instructions are intended for trained technical personnel such as installers, service technicians and commissioning engineers.

Revision and approval

REV	DATE	TYPE OF CHANGE	APPROVED BY
01	31-08-2020	Original draft (device version V4)	AJH
02	29-09-2020	New layout and various corrections	MS
03	15-12-2020	Text corrections	VK
04	20-05-2021	Text corrections	SB/MS

Hardware and Software specifications subject to change without notice.
 Technische Änderungen in Hardware und Software vorbehalten.