How to install and use TFL2

How End of Line devices TFL2 are installed and work

Description

This handbook has information about how the End Of Line device TFL2 works.

1 Introduction

Line supervision is a necessary action in security equipment. It consists of knowing whether all elements present on the communication line are working correctly, and if they are working in the way they are expected to work. In the case of public address systems, the operation of loudspeaker lines may be affected due to the following causes:

- Earth leakings at one or more of the points of the speaker line.
- The line is cut at some points of the line (open circuits).
- Short circuit of some elements in the line.

These problems can be detected by end of line devices, which justifies their use in this type of project.

2 Installation in speaker lines

The installation of the end of line devices is made by connecting these devices directly to the loudspeaker lines, after connecting those loudspeakers whose integrity needs to be checked. The system, using the end of line device, will perform a calibration of the initial impedance, and, when deviating by a percentage from the initially detected calibration, will detect that change and display it. So, the end-of-line terminal shall be connected to the equipment according to the following scheme:

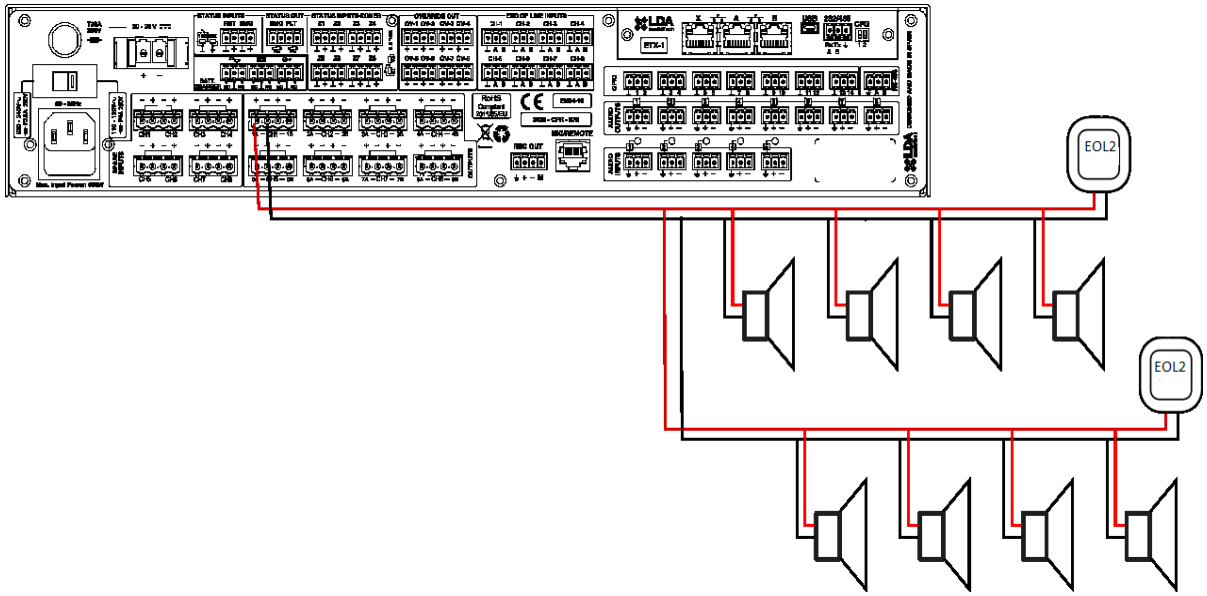

Figure 1: Connection between TFL2 devices and NEO8060

Thus, the connection will be made at the end of the speaker line, but with no need to return the device to the connected system (NEO or ONE).

3 Line specifications

In order the TFL2 to work correctly, the speaker line shall meet the following requirements:

- Be connected to a NEO or ONE device.
- If the line impedance (not including the end of line device) doesn't excede 500 Ohm, using the device is mandatory, and it becomes necessary to avoid possible failures in impedance measures, and false failures may take place in the speaker line.
- When the line has speaker branches, the measure can be made correctly, but it is possible that, in order to make a correct instalation, the installer may need to use a end of line device for each branch in the line, taking into account that the maximum number of devices is 4 (for NEO lines of speakers) or 6 (for each ONE device).

4 Use of TFL2

To use the TFL2 device, initially, the lines where the TFL2 is connected must be calibrated.

In order to do this, both in NEO and in ONE, the device will measure the impedance of the line with a tone, what will made the impedance is fixed as the impedance of the line with no failures. A percentage of allowed variation must also be set. For TFL2 terminals, it is recommended to be around 12-15%.

When the device detects a change, if it is bigger than the expected, it will show a line failure.It will be displayed on the front side of the device, on the NEO or ONE screen. It is important to note that the unit has two modes, a 200R mode and a 400R mode. These modes will be selected according to the impedance of the speaker line where the loudspeaker is connected:

- It is recommended to use the 400R load in general, because in this position (400 R), line intrussion will be lower than using the 200R load. This is why the position of the TFL2 device will be 400R by default.. It is important to take into account the differences between NEO and ONE:
  - NEO: For NEO, in general, the position used should be 400R, except in cases where the load is over 200 W or higher than 500 Ohm. In these cases, the 200R position should be used.
  - ONE: For ONE, in general the recommended position is 400R. Only in cases where 1 or 2 lines are used it is recommended to use the 200R positions.
- In general, the 400R position will be used in the speaker lines, in order to avoid problems.

It is recommended, so, to use TFL2 in lines with loads lower than 500 Ohm, and in the cases where the precission needed is higher than using the line impedance measure of LDA, not returning to the main device.