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SW6 Class A loop wiring application note	Author:	DD
	REV	00

Rev.	Date	Nature of Changes	Approved By
00	26-11-2021	Original document marker	

This document describes how to apply Class A loop wiring on the loudspeaker outputs of SW6.

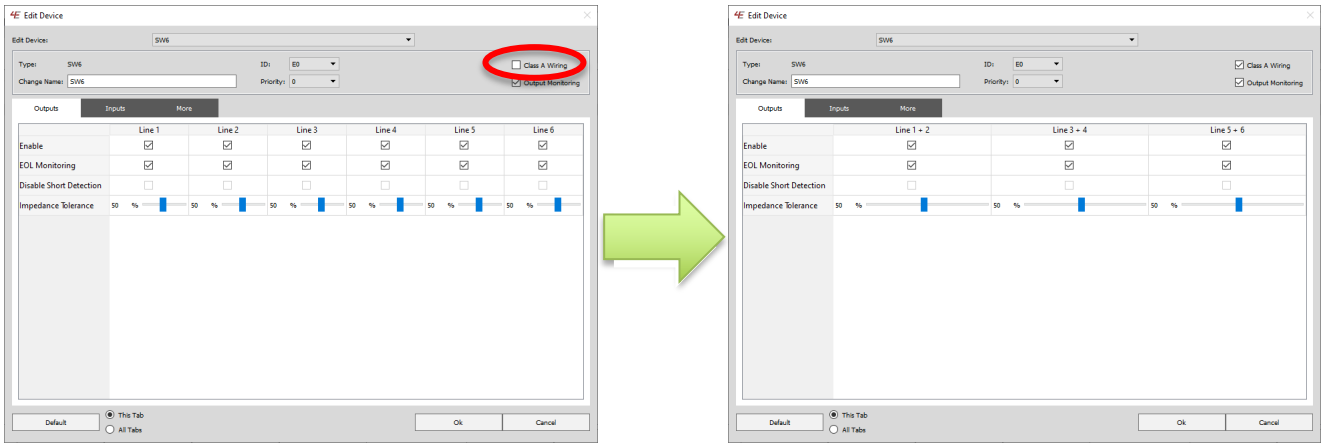
1. Class A wiring

Class A wiring in a fire safety system uses two signal paths to supervised devices in a form of returning loop. If the signal path is interrupted, both primary and secondary (return) wires work as a pathway for the signal.

2. Configuration settings for Class A wiring

In order to enable Class A wiring:

- Open or create system configuration in the 4EVAC Manager software;
- In **Devices** find the SW6 unit where Class A wiring will be applied, select and click **Edit** (or double-click the device name)
- In **Edit Device** window of the SW6, find **Class A wiring** checkbox in the right-top area and enable by checking the box.
- Arrangement of output lines of this SW6 (tab **Outputs**) should change from 6 individual lines (1/2/3/4/5/6) to 3 combined lines (1+2/3+4/5+6).
- Done. The option is enabled.



3. Implementing Class A wiring on the loudspeaker line

- The loudspeaker line must be wired in a form of returning loop.

- Both ends of the loop must be connected to two coupled outputs, according to configuration settings. **NOTE: Keep the polarity consistent!**

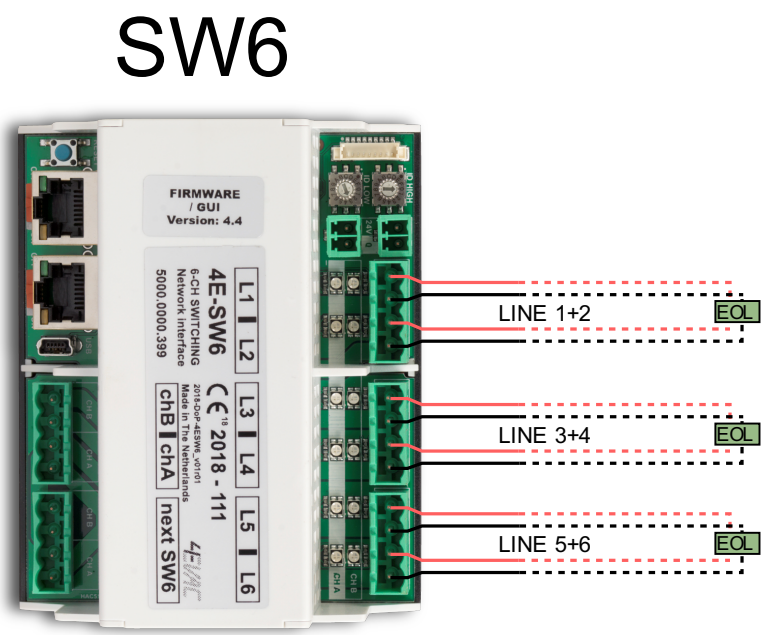
- In order to be able to detect loop interruption, the loop must be equipped with EOL board.

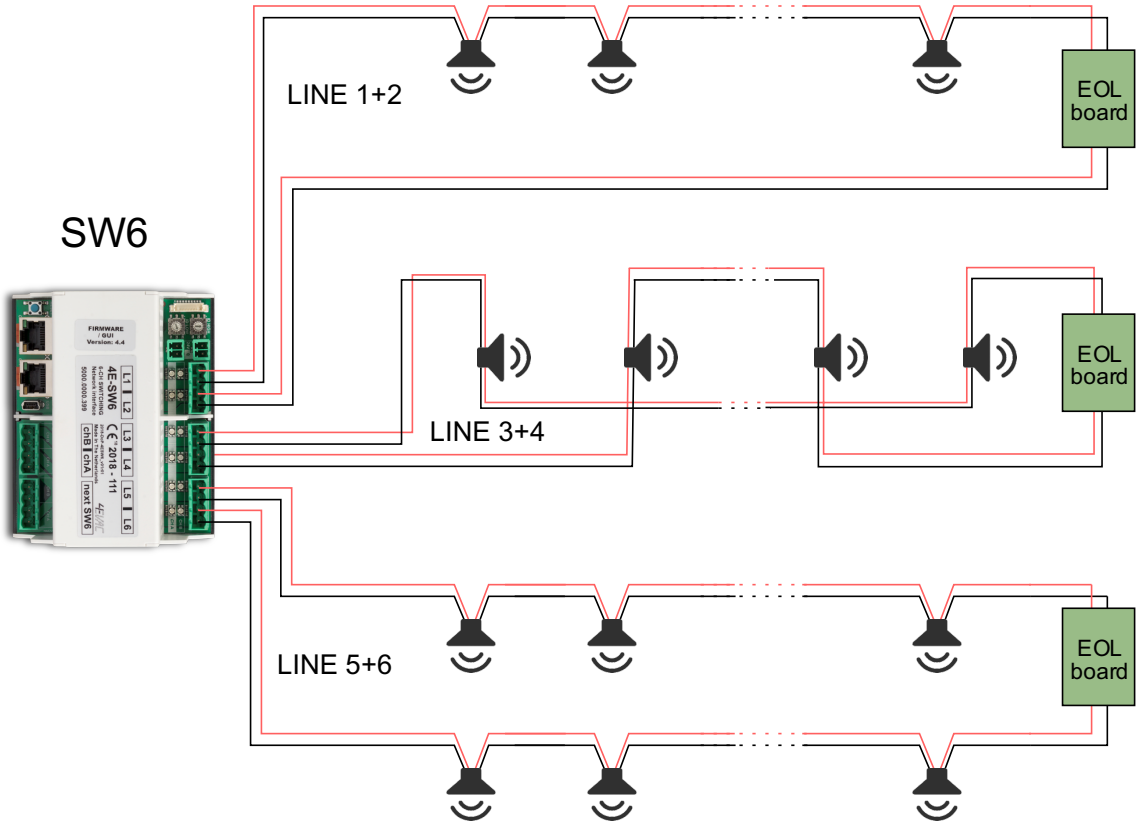
  NOTE: The EOL board should be placed approximately halfway through the length of the loop, for the best performance.

  NOTE: Long cable loops, where significant line capacitance is present, may impact the accuracy of EOL detection. In such case it is allowed to use two EOL boards in parallel.

- Each speaker and EOL board must be connected to the line in **daisy-chain,** so that removal of a loudspeaker or EOL board will cause an interruption in the loop.

- For each loop perform interruption test in order to confirm correct working of the fault detection.
  a) Remove the cable on one side of EOL board. Within 100 seconds fault warning should be indicated.
  b) Restore the loop by connecting the cable back. The fault will be cleared automatically.
  c) Remove the cable on the opposite side of EOL board (other side than in step (a)). Within 100 seconds fault warning should be indicated.
  d) Restore the loop by connecting the cable back. The fault will be cleared automatically.





*Examples of Class A loudspeaker circuits, where **Class A wiring** option is used for SW6.*