BSR-7071/A/MAR   Base Isolator

Technical Specifications

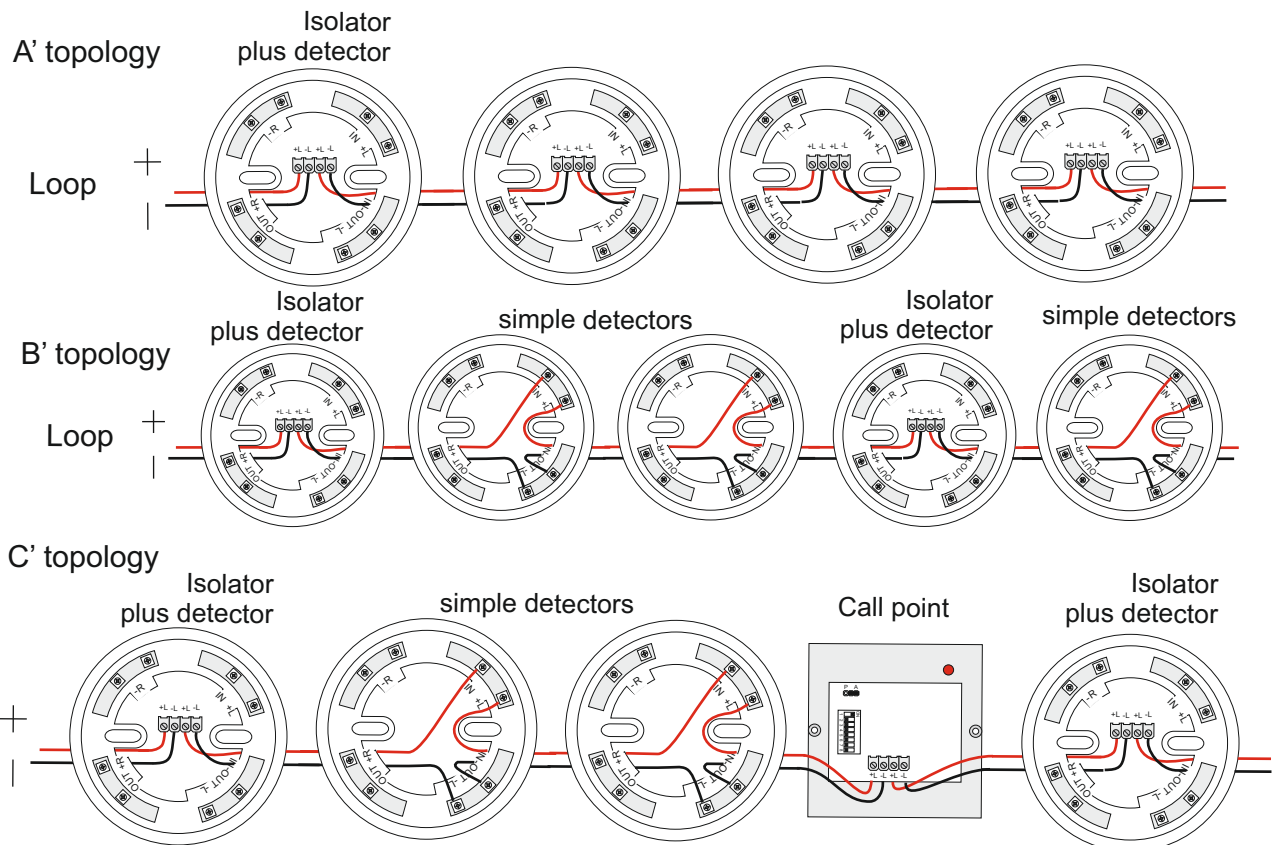|	
Supply Voltage	14 - 30 V
Current Load	0 - 500 mA
Standby Current	200 µA
Activation Current	3 mA
Deegres of cover protection	IP 20
Produced in accordance with	EN 54-17, IEC 60092-504, IEC 60533
Operation temperature	-10 to 60 ^{o}C
Humidity	Up to 95% relative humidity
Dimensions	101 x 40 mm.
Weight	130gr.
Guarantee	2 years

Thank you for your trust in our products
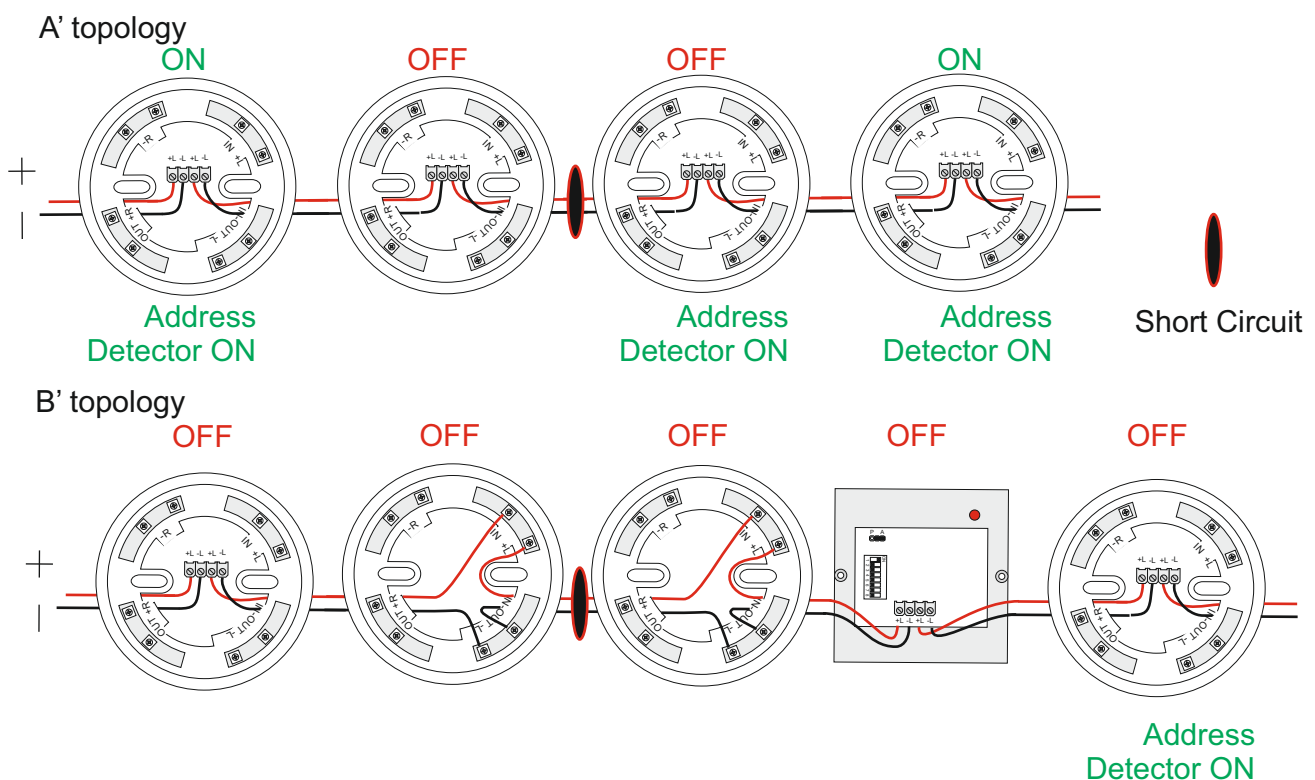**Olympia Electronics - European manufacturer**

GENERAL

The base isolator is used on ships and is a bidirectional non-addressable loop monitoring device for addressable fire detection system's loops. It is installed on the Addressable Loop, powered by the Loop and monitors continuously the voltage levels and the signal's integrity. The main supported function is to isolate a portion of the loop (between the two closer isolators) in the event of a short-circuit. In case of two short circuit events, only the detectors before the first and after the second short circuit are powered. Repair of the short circuit condition brings the loop condition back to normal automatically (closed loop). Location of the short circuit position is achieved by reading the lost address detectors attached on the top of each isolator. We can have up to 3 additional detectors-devices connected and controlled on a single isolator output (A and B topology).

It is advised to apply up to 3 additional devices on the output of each isolator (3 detectors or 3 call points or 2 sirens). The consumption of the isolator must be considered in modification of existing loops, to reduce by one the number of the detectors in full load loops. We can have up to 50 paired units (50 isolators + 50 detectors). For systems with more than 80 paired units, reduce by one the detectors for every three added isolators.

The device is case sensitive between the two (+/-) terminals.
The reasons that an isolator device is isolating are stated below.

A' topology

Isolator plus detector

Loop

B' topology

Isolator plus detector — simple detectors — Isolator plus detector — simple detectors

Loop

C' topology

Isolator plus detector — simple detectors — Call point — Isolator plus detector

Short Circuit on Loop Wiring

A' topology

ON   OFF   OFF   ON

Address Detector ON   Address Detector ON   Address Detector ON   Short Circuit

B' topology

OFF   OFF   OFF   OFF   OFF

Address Detector ON

Electrically, the attached detectors are connected to the output of each isolator. This is why regardless the isolator state it is possible the attached detectors to be operational, like the above two topologies (A and B).

Instructions to the installer.

Reasons that lead to isolation
1. Short Circuit condition
2. Wrong Polarity on Input Output terminals
3. More than 3 devices connected on the isolator output
4. Increased losses on the loop wiring
5. Protocol integrity faults

Installation - Comments
1. Regardless the isolator's condition on the -L wiring there is electrical continuity.

2. By hardware, the attached detector is powered automatically from the output side terminal of the isolator, simply rotating itself on the isolator. It is advised the electrical connection of each isolator on the loop, to comply the input / output markings so that in short circuit condition "only one" detector to be out of order.

3. The non compliance of input/output process during electrical installation, is found in case of short circuit condition with all detectors operational. In this case, detection of the location of the short circuit cannot be achieved from location of the "lost detector's address" but on step by step short circuit wiring check process from the qualified technician- installer.

4. We remind that power loss of a loop leads to isolated condition of all isolators.

5. The loop is Time and Isolator controlled which means it takes at least (0,5sec * number of the installed units) time to change from open loop condition to close loop condition where all devices are available to the main panel for scan and registration.

6. Avoid to connect more than 3 additional units on the output of the isolator (3 detectors or 2 sirens or 3 call points) between two isolators. The device may inhibit the output from power considering increased cable losses.

7. Overcome of problem case (6) due to output overload, is achieved by running Reset command on main panel. With this command we provide the ability of temporary (until next short circuit detection) loop powering, enabling the installer to modify the loop structure easily.

8. Like all loop powered devices, with Reset command the isolator is forced to reset condition.

9. It is possible during the restore of a short circuit condition, the main panel to read more than one addressable devices with the same address. Since the restore condition is a transient condition of loop extension and repair process, it is advised to execute a Reset command with automatic identification of all address devices before any thoroughly inspection check of each address point.

10. In the output of the isolator (on the wiring) we have the following AC measurements :
 a. Below the value of 2V voltage difference in case of short circuit (open loop)
 c. Below the input voltage difference in case of load charging process (open loop)
 c. Equal to input voltage difference for set condition (closed loop)

11. There is no extra action from the installer to connect / disconnect a detector on the isolator, except the simple rotation action like the normal basis. The operation of the isolator is the same regardless the presence or not of the detector.