

**BSR-7071/A**

**Line Isolator**



### TECHNICAL SPECIFICATIONS

SUPPLY VOLTAGE $V_{min} - V_{max}$	21-30V DC
CURRENT LOAD	0-500 mA
STANDBY CURRENT	200 $\mu$ A
MAX. LEAKAGE CURRENT ( $I_L$ max) WITH THE SWITCH OPEN	3mA
MAX. RATED CONTINUOUS CURRENT WITH THA SWITCH CLOSED ( $I_C$ max)	0.5 A
MAX. RATED SWITCHING CURRENT ( $I_S$ max)	2 A
MAX. SERIES IMPEDANCE WITH THE SWITCH CLOSED ( $Z_C$ max)	0.050 Ohm
DEGREES OF COVER PROTECTION	IP 20
PRODUCED IN ACCORDANCE WITH	EN 54-17
OPERATION TEMPERATURE	-10 to 60 °C
RELATIVE HUMIDITY	Up to 95%
DIMENSIONS	Ø106mm x 41mm
WEIGHT	130gr
GUARANTEE	2 years

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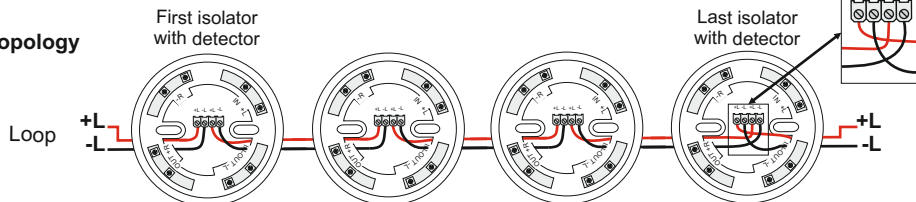
#### **GENERAL**

The line isolator 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 4 additional detectors-devices connected and controlled on a single isolator output (A and B topology).

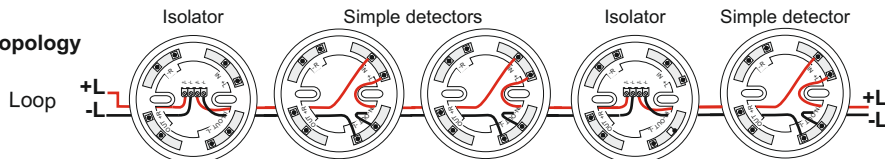
It is advised to apply up to 3 additional devices on the output of each isolator (4 detectors or 4 call points or 2 sirens). Maximum resistance between isolators in each loop, should not exceed the 1,50hm. The consumption of the isolator must be considered in modification of existing loops, to reduce 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 50 paired units, reduce by one the detectors for every three added isolators.

The reasons that an isolator device is isolating are stated below.

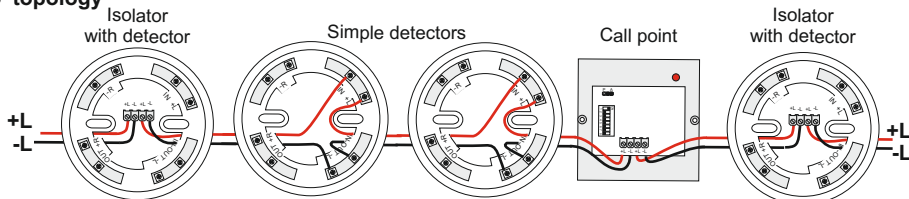
### A' topology



### B' topology

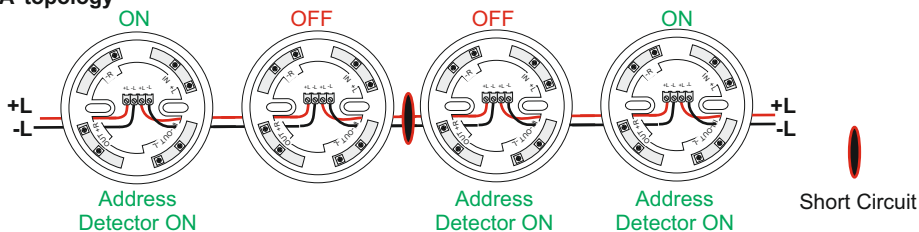


### C' topology

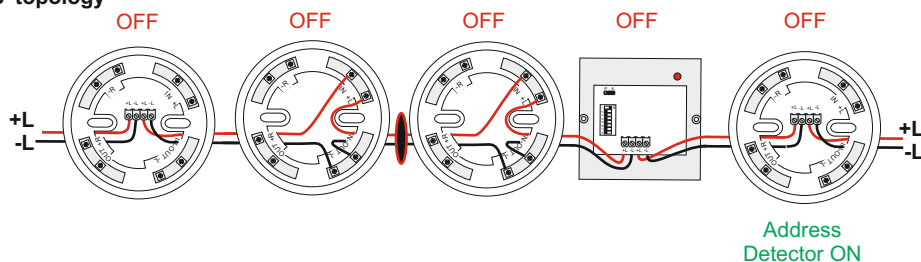


### Short Circuit on Loop Wiring

#### A' topology



#### B' topology



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.**

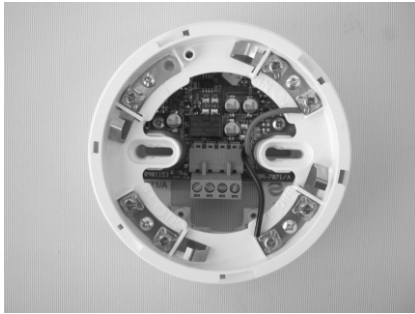
### **Reasons that lead to isolation**

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

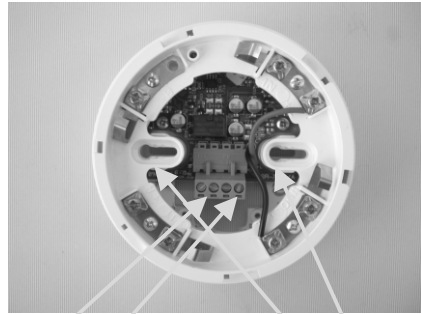
### **Installation - Comments**

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. When connecting the isolators in the loop, the first and the last isolator should be connected to the input terminal (+ L-L INPUT). There will be two intermediate isolators linking output to output. 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 4 additional units on the output of the isolator (4 detectors or 2 sirens or 3 call points) between two isolators. The device may inhibit the output from power considering increased cable losses. Maximum resistance between isolators in each loop, should not exceed the 1,5Ohm.
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 (assumed open loop)
  - b. Below the input voltage difference in case of load charging process (assumed open loop)
  - c. Equal to input voltage difference for set condition (assumed 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.

## Photos of the Product



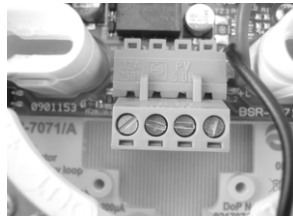
Isolator BSR-7071/A



Input / Output  
Connection Terminals      Mounting Screws



Smoke Detector attached on top of isolator  
BSR-7071/A



+L	-L	+L	-L
IN		OUT	

Polarity of Terminals



Packaging of BSR-7071/A with the manual  
and the mounting parts.

## WARRANTY

Olympia Electronics guarantees the quality, condition and operation of the goods. The period of warranty is specified in the official catalogue of Olympia Electronics and also in the technical leaflet, which accompanies each product. This warranty ceases to exist if the buyer does not follow the technical instructions included in official documents given by Olympia Electronics or if the buyer modifies the goods provided or has any repairs or re-setting done by a third party, unless Olympia Electronics has fully agreed to them in writing. Products that have been damaged can be returned to the premises of our company for repair or replacement, as long as the warranty period is valid. Olympia Electronics reserves the right to repair or to replace the returned goods and to or not charge the buyer depending on the reason of defection. Olympia Electronics reserves the right to charge or not the buyer the transportation cost.

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## Certification

The Line Isolator BSR-7071/A is certified from H.E.E.Q.A.C. Also H.E.E.Q.A.C. controls the production under CPR number:

**BSR-7071/A LINE ISOLATOR**



**0848-CPR-014  
EN-54-17: 2005**

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