

**BSR-6160**  
Analogue addressable rate-of-rise  
heat detector with integrated isolator



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EN 54-17:2005  
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## 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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## TECHNICAL CHARACTERISTICS

|  |                                       |
|--|---------------------------------------|
| COMMUNICATION PROTOCOL   | Olympia A Protocol                    |
| MAIN VOLTAGE   | 12-30V DC                             |
| STANDBY CONSUMPTION  | 90µA                                  |
| ALARM CONSUMPTION  | 2.5mA (with activated LED)            |
| TEMPERATURE SENSITIVITY  | Adjustable from 57°C to 120°C         |
| INDICATORS   | Alarm LED                             |
| OUTPUT   | Remote LED driver                     |
| CLASS  | A1R/A1S/CS adjustable                 |
| MAXIMUM LOOP CURRENT (I <sub>c</sub> max, -L in/out)                         | 1A                                    |
| MAXIMUM SWITCH CURRENT (I <sub>s</sub> max, -L in/out)                       | 5A                                    |
| MAXIMUM SERIES RESISTANCE (Z <sub>c</sub> max, -L in-out)                    | 300mΩ                                 |
| MAXIMUM LEAKAGE CURRENT<br>IN ISOLATION MODE (I <sub>L</sub> max, -L in/out) | 25mA pulses (6ms duration every 2sec) |
| ISOLATION VOLTAGE (V <sub>so</sub> min-max)                                  | 8.8 - 11                              |
| RECONNECT VOLTAGE (V <sub>sc</sub> min-max)                                  | 10.2 - 13                             |
| DEGREES OF COVER PROTECTION  | IP42                                  |
| PRODUCED IN ACCORDANCE WITH  | EN 54-5, EN 54-17                     |
| OPERATING TEMPERATURE RANGE  | -40 to 70 °C                          |
| RELATIVE HUMIDITY  | Up to 95%                             |
| CONSTRUCTION MATERIALS   | ABS/PC                                |
| EXTERNAL DIMENSIONS  | 103 (d) x 48 (h) mm                   |
| TYPICAL WEIGHT   | 145 gr.                               |
| GUARANTEE  | 2 years                               |

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

### GENERAL

The user have to read carefully the following instructions, in order to be properly informed and keep them for future use.

The BSR-6160 is an analogue addressable heat detector which integrates the function of rate-of-rise heat detection and it can work with any fire panel supports Olympia A Protocol. It can be adjusted to detect multiple levels of heat offering flexibility and rich functionality. Also, it integrates a short circuit isolation circuit which is automatically activated and disconnects the defective node from the remaining loop, allowing it to be located by the panel.

The detector sends to the main panel an analogue value which depends on the heat. The value is 100 at 57°C (A1R or A1S) or 89°C (CS) and increases proportionally to 120 at 90°C (A1R or A1S), or 120°C (CS). When a sudden increase in temperature is detected the detector sends the value of 121.

By default the panel is set to sound an alarm when the temperature reaches the lower level of each working mode, namely 57°C (A1R or A1S), or 89°C (CS). The user can change this setting from the panel for each detector and define any level of temperature between the lower and the upper limits, specifying the sensitivity of the system depending on the requirements of each site. Also, the user can select A1R, A1S, or CS working mode through the panel.

They are composed by two parts. A plastic base which is placed on the ceiling and the main body of the detector which fits on the plastic base with a simple rotation to the right. The detectors have a 360° visible led and a remote led driver which are light up constantly in case of detection of fire, till cancelled from the panel. Also, they are staying lit even if the sirens are silenced from the panel, so the detector which detected the alarm is visible. They are turned off only when a reset command is given from the panel. The

indicator led blinks every 10 sec indicating the connection status with the main panel.

### SETTING THE ADDRESS

Each detector must have a unique address, with which it is recognised from the panel. It is forbidden for two devices in the same loop to have the same address. To set it up you can use the function of changing address point as described in the user manual of the panel.

### INSTALLATION

The detectors should be placed in the ceiling in visible points without side obstacles, away from places that are barely ventilated or with strong air currents and water vapor. Each detector covers an area of 50 m<sup>2</sup> while the distance between two detectors should not be more than 15m. Also, they must be placed at least 50 cm away from fluorescent lamps. Cable diameter should be from **0.5 to 2.5mm**.

### MAINTENANCE & FUNCTIONAL TESTING

The detector has fault diagnosis function, which automatically informs you when detector replacement is required. This function combined with periodic manual testing ensure maximum security level. It is suggested to carry out a test every 6 months or after a change in the position of the sensor. A key element of its proper function is the air to be able to freely circulate inside it. So be careful not to block the openings of the outer cover. Before the manual testing procedure it is suggested to enable the special "walk in test" mode from the panel.

### CAUTION !!

After installation the device must not be covered with dust or be painted or anything else happen that will block the air to get to the sensor. Special attention must be given during the installation and the use of the device, since the user assumes full responsibility for proper operation afterwards.

### Additional features of the device :

- Integration of dynamic algorithms for noise and false alarm rejection.
- Automatic fault diagnosis.
- Adjustable temperature alarm level for maximum flexibility.
- 360° optically visible LED.

**UID:**  
In every device there is a double sticker with the UID (Unique Identifier) number. This number is unique for each device.

## Installation process

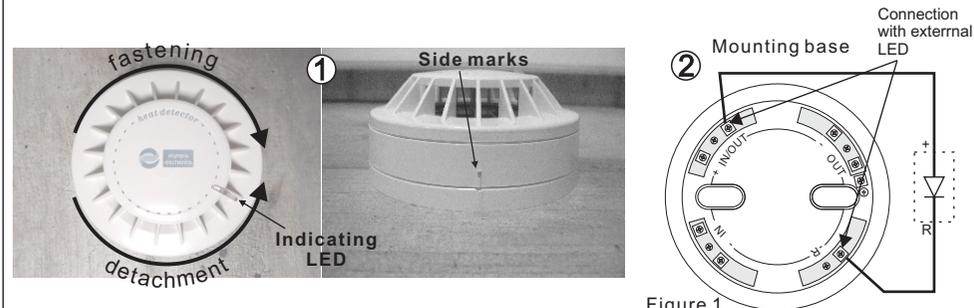


Figure 1

1. Remove the detector from its base rotating to the left till the side marks are aligned.
2. Fasten the base with the supplied mounting materials (point 5).
3. Connect the power cables (minding the correct polarity) according to the requirements of the installation (Figure 1, 2).
4. Place the detector carefully so that the side marks are on the same position and rotate the detector clockwise until it locks. Power the device and after 3-5 seconds it is ready for operation.

### CONNECTION

1. **+ IN/OUT:** Connect to (+L) of the loop.
2. **- IN:** Connect to (-L) of the loop.
3. **- OUT:** Connect to (-L) of the loop.
4. **- R:** External LED connection.
5. **(⊕):** Connected to the cable's shield (when shield is used).

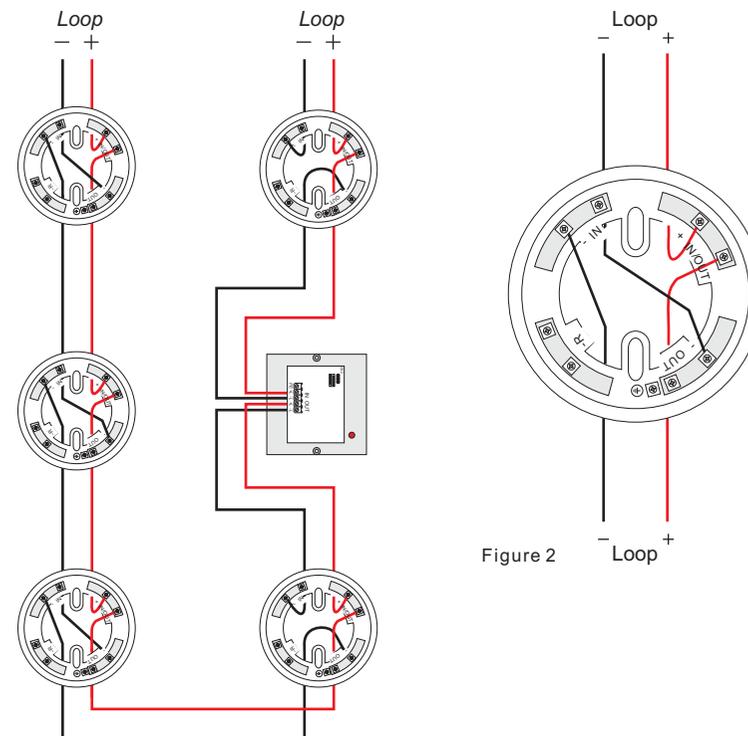


Figure 2