

## Package Contents

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## General

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

The **BSR-6155/MAR** is an analogue addressable smoke detector which integrates the function of optical smoke detection and it can work with any fire panel supports Olympia A Protocol. It can be adjusted to detect multiple levels of smoke 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 concentration of smoke. The value is 100 in concentration of 0.107dB/m (small amount of smoke) and increases proportionally to 120 in concentration of 0.300dB/m.

By default the panel is set to sound an alarm when the concentration of smoke is 0.107dB/m. The user can change this setting from the panel for each detector and define any level of smoke concentration between the lower and the upper limits, specifying the sensitivity of the system depending on the requirements of each site.

The **BSR-6157/MAR** is an analogue addressable smoke detector which integrates functions of optical smoke and heat detection and it can work with any fire panel supports Olympia A Protocol. It can be adjusted to detect multiple levels of smoke and 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 concentration of smoke and heat. The value is 100 in concentration of 0.107dB/m (small amount of smoke) or a temperature of 57°C and increases proportionally to 120 in concentration of 0.300dB/m or a temperature of 90°C. 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 concentration of smoke is 0.107dB/m or the temperature is 57°C. The user can change this setting from the panel for each detector and define any level of smoke concentration or 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 or A1S working mode through the panel.

The **BSR-6160/MAR** 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.

### 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 BSR-6155/MAR covers an area of 100m<sup>2</sup> and each detector BSR-6157/MAR & BSR-6160/MAR covers an area of 50m<sup>2</sup>. For distances and mounting points consult the local/national regulation. Also, they must be placed at least 50 cm away from fluorescent lamps. Cable cross-section should be from **0.5 to 2.5mm<sup>2</sup>**.

### MAINTENANCE & FUNCTIONAL TESTING

The detector has fault diagnosis and dust compensation functions, which automatically informs you when replacement or cleaning actions are required. These functions combined with periodic manual testing ensure maximum security level. The manual testing procedure is carried out by spraying a small amount of smoke into the detector with a testing spray or a counterpart product. 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 it is suggested to enable the special “walk in test” mode from the panel.

### CAUTION !!

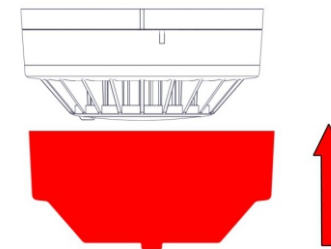
After installation the device must not be covered with dust or be painted or anything else happen that will block the smoke to get to the sensor. Special attention must be given during the installation and the use of the device, since the user assumes full responsibility for proper operation afterwards.

#### Additional features of the device :

- *Integration of dynamic algorithms for noise and false alarm rejection.*
- *Dust compensation and automatic generation of cleaning notifications.*
- Stable level of detection regardless of detector's working hours.*
- *Compensation of smoke measurements based on ambient temperature which ensures high precision measurements even under extreme environmental conditions.*
- *Automatic fault diagnosis.*
- *Adjustable smoke alarm level for maximum flexibility.*
- *Adjustable smoke and temperature alarm level for maximum flexibility.*
- *360° optically visible LED.*

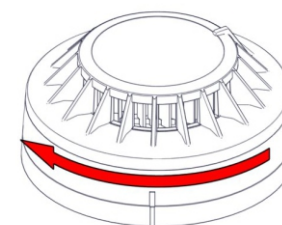
### UID:

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



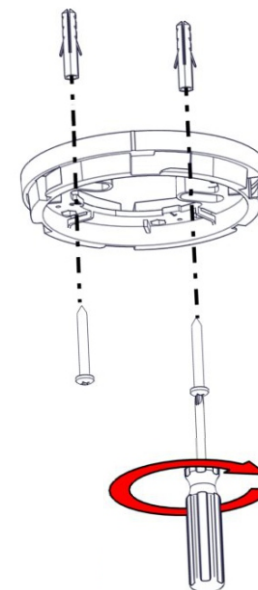
During site works place the plastic cover to the detector (only for BSR-6155/A & BSR-6157/A) as shown in the picture above to protect the device from dust.

## Installation Instructions



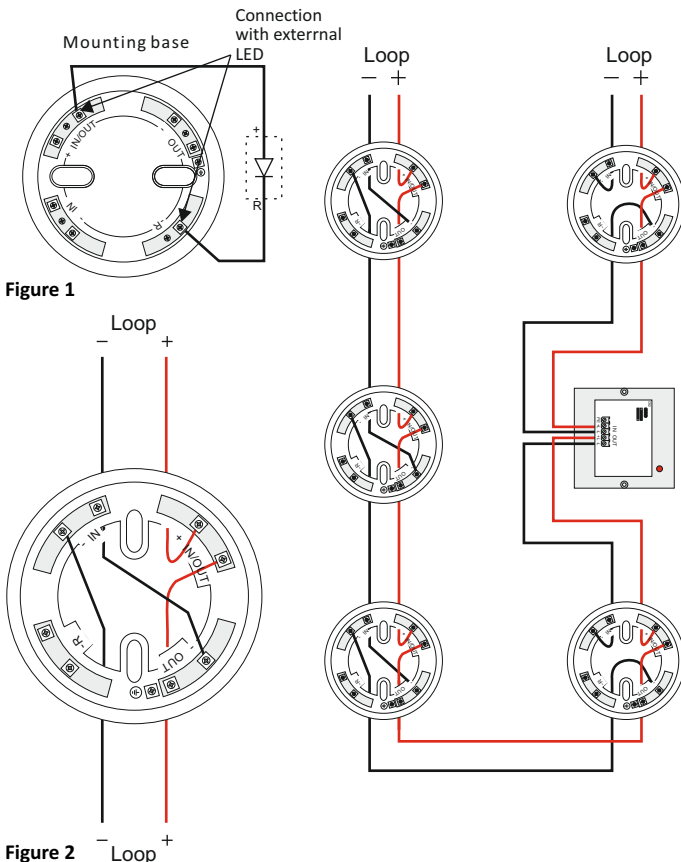
Remove the detector from its base rotating to the left till the side marks are aligned.

1



Fasten the base with the supplied mounting accessories.

2

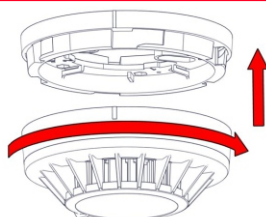


Connect the power cables (minding the correct polarity) according to the requirements of the installation. (Figure 1, 2)

#### CONNECTION

1. **+ IN/OUT** : Connect to (+L) of the loop.
2. **- IN** : Connect to (IL) 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).

3



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.

4

## Technical Characteristics

	BSR-6155/MAR	BSR-6157/MAR	BSR-6160/MAR
COMMUNICATION PROTOCOL	Olympia A Protocol		
MAIN VOLTAGE	12-30V DC		
STANDBY CONSUMPTION	195µA		90µA
ALARM CONSUMPTION	2.5mA (with activated on board LED)		
SMOKE CONCENTRATION SENSITIVITY	Adjustable from 0.107 to 0.300 in 0.010db/m steps		
TEMPERATURE SENSITIVITY (BSR-6157)	Adjustable from 57 to 90 in 1.5°C steps		
TEMPERATURE SENSITIVITY (BSR-6160)	Adjustable from 57°C to 120°C		
INDICATORS	Alarm LED		
OUTPUT	Remote LED driver		
CLASS	-	A1R/A1S	A1R/A1S/CS adjustable
MAXIMUM LOOP CURRENT (I <sub>lc max</sub> , -Lin/out)	1A		
MAXIMUM SWITCH CURRENT (I <sub>sm max</sub> , -Lin/out)	5A		
MAXIMUM SERIES RESISTANCE (Z <sub>c max</sub> , -Lin/out)	300mΩ		
MAXIMUM LEAKAGE CURRENT IN ISOLATION MODE (I <sub>l max</sub> , -Lin/out)	25mA pulses (6ms duration every 2 sec)		
ISOLATION VOLTAGE (V <sub>so min-max</sub> )	8.8 - 11		
RECONNECT VOLTAGE (V <sub>so min-max</sub> )	10.2 - 13		
DEGREES OF COVER PROTECTION	IP42		
PRODUCED IN ACCORDANCE WITH	EN54-7, EN54-17	EN54-5, EN54-7	EN54-5, EN54-17
	IEC 60092-504	IEC 60092-504	IEC 60092-504
	IEC 60533	IEC 60533, EN54-17	IEC 60533
OPERATING TEMPERATURE RANGE	-10 to 55 °C		
RELATIVE HUMIDITY	Up to 95%		
CONSTRUCTION MATERIALS	ABS/PC		
EXTERNAL DIMENSIONS (∅ x height)	103 x 48mm	103 x 55mm	103 x 48mm
TYPICAL WEIGHT	160 gr.	160 gr.	143 gr.
GUARANTEE	2 years		

## 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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**BSR-6155/MAR, BSR-6157/MAR  
& BSR-6160/MAR**

**ANALOGUE ADDRESSABLE  
SMOKE & RATE OR RISE HEAT DETECTORS  
WITH INTEGRATED ISOLATOR**

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