

Package Contents

- 1 × Detector
- 1 × Mounting Accessories
- 1 × Sealing Rubber Ring
- 1 × User Manual

General

The BS-685 and BS-686 combustible gas detectors are designed for use in conjunction with compatible fire alarm control panels to detect natural gas and LPG leaks. The installation of the device must be carried out exclusively by qualified personnel who have read and understood these installation instructions.

In the event of a gas leak or alarm activation, remain calm and immediately follow the instructions below:

- Extinguish all naked flames and smoking materials.
- Switch off all gas appliances (cookers, boilers, hobs, etc.).
- Close the main gas supply valve or the LPG cylinder valve.
- Immediately open all doors and windows to fully ventilate the area.

Do not:

- Operate electrical switches, electrical appliances, or the detector itself.
- Use a telephone (landline or mobile phone) within the affected area.

Important: If the alarm remains active, evacuate the building immediately and contact the gas supply company or the Fire Service from a safe location.

Detection Sensitivity

- The BS-685 detector activates when the propane (LPG) concentration in the protected area exceeds 5–15% of the Lower Explosive Limit (L.E.L.).
- The BS-686 detector activates when the methane (natural gas) concentration in the protected area exceeds 5–15% of the Lower Explosive Limit (L.E.L.).

Operation

After the detector is connected to the control panel, approximately 20 seconds are required for the sensor to stabilize before the device enters normal operation. When the red LED is illuminated, the detector is in the alarm state. The alarm is activated when the sensor detects a gas concentration above the preset alarm threshold. The detectors are powered from the 24_M output of an Olympia Electronics conventional fire alarm control panel, as shown in Figure 2. When gas is detected, the detector transmits an alarm signal to the control panel. The alarm condition is cleared as follows:

- A. By resetting the control panel when the alarm latching function is enabled (e.g. connection to a conventional fire alarm control panel, Figure 4).
- B. When the gas concentration falls below 5–15% of the L.E.L., or by resetting the control panel when the alarm latching function is disabled (e.g. connection to the BS-690, Figure 3).

Installation Location

Depending on the type of gas to be detected, install the detector with the sensor facing downward:

- 30 cm below the ceiling for methane (natural gas) detection.
- 30 cm above the floor for propane (LPG) detection.

The detector should be installed at a horizontal distance of up to 4 m from the potential gas leak source and away from air currents and sources of moisture. It is recommended to verify the correct operation of the detector every 6 months, as well as after any change to its installation location.

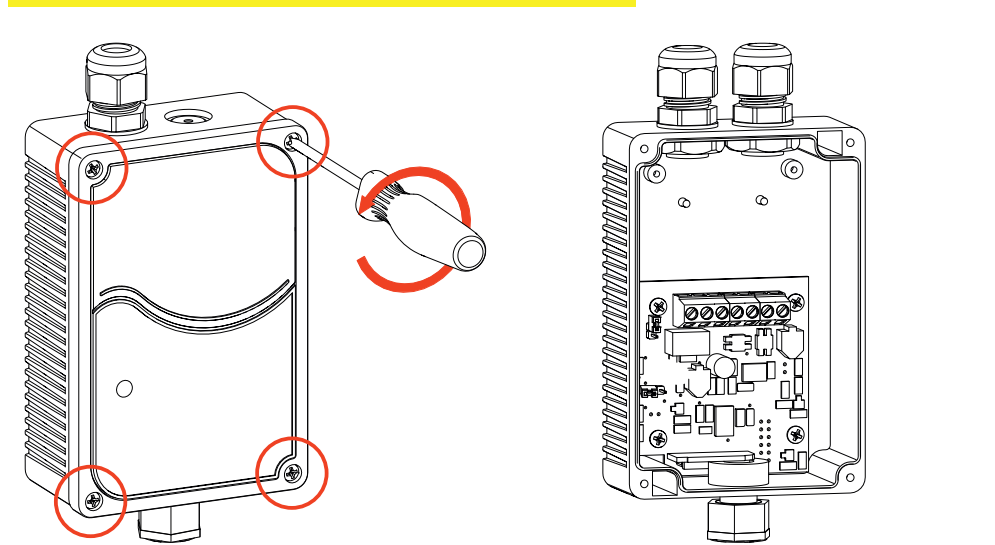
Do not install the detector:

- Next to cooking appliances or beneath cooker hoods.
- Near ventilation outlets, doors, or windows.
- Outdoors.
- In environments containing volatile or corrosive substances, organic solvents, or other chemical vapours.

Warning!!

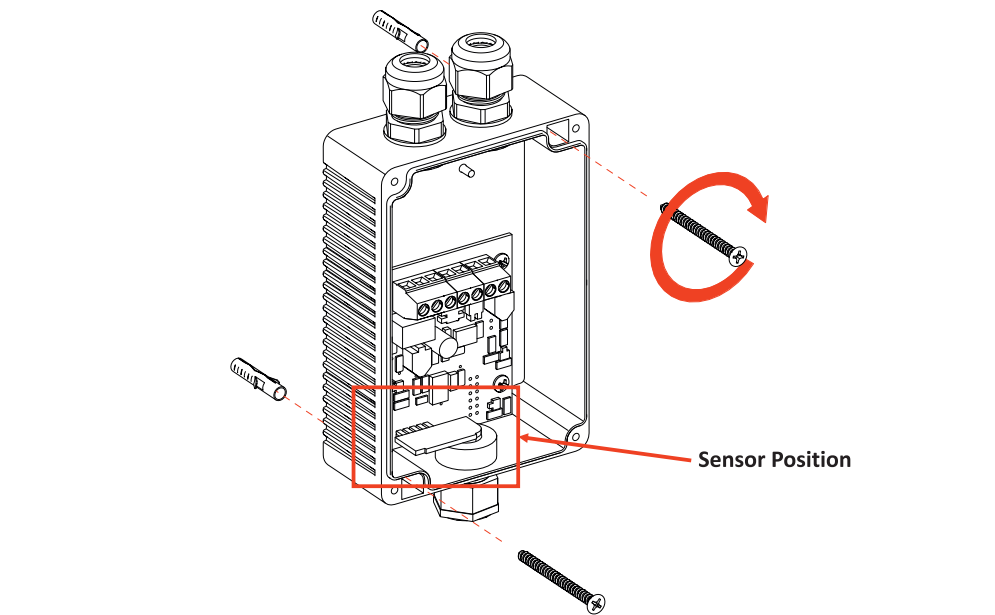
- Do not test the detector using gas from a cigarette lighter. Direct exposure to a high gas concentration may cause permanent damage to, or complete failure of, the sensor.
- This device may be used by children 8 years of age and older and by persons with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, provided they have been given supervision or instruction concerning the safe use of the device and understand the hazards involved. Children must not play with the device. Cleaning and user maintenance must not be carried out by children unless they are over 8 years of age and supervised.
- The installation of this device must be carried out exclusively by qualified personnel.

Installation Instructions



Loosen the four retaining screws and remove the detector cover. Then, drill a Ø15 mm hole for the installation of the second cable gland.

1



Secure the detector base using the appropriate mounting accessories.

Warning: Ensure that the sensor is facing downward and oriented towards the potential gas leak source.

2

The detector's alarm output resistance can be selected using the output resistance selection jumper located at the **JMP Relay** position

- Jumper installed:** The alarm output resistance is 0 Ω, allowing the use of an external end-of-line resistor.
- Jumper removed:** The detector uses the built-in 440 Ω internal resistor.

Alarm Latching Configuration

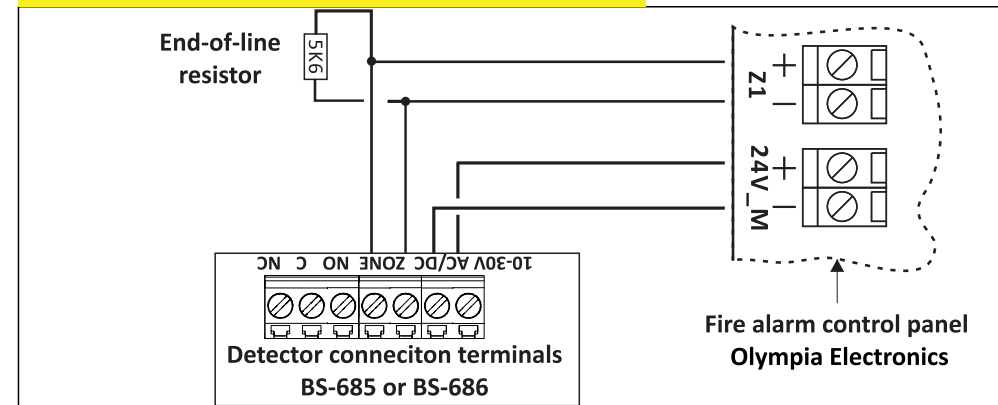
When the detector is connected to a fire alarm control panel, it is recommended that the Alarm Latching function be enabled.

When this function is enabled, once the detector enters the alarm state, it remains latched until the gas concentration falls below 5–15% of the Lower Explosive Limit (L.E.L.). This allows the installer or maintenance technician to easily identify which detector initiated the alarm. To disable the Alarm Latching function, install the jumper at the LD1 position. The detector is factory configured with the jumper installed in this position.

Warning: The jumper at the LD1 position must only be installed or removed while the detector is powered off.

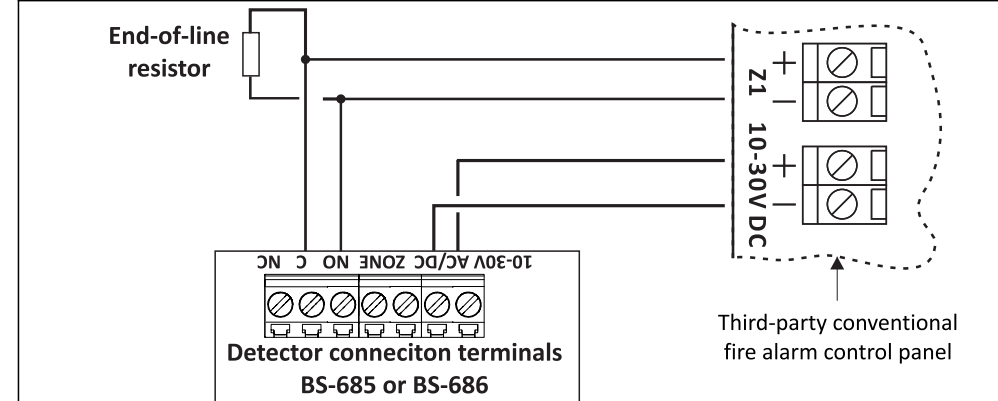
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Wiring Diagrams



Use the ZONE terminals when connecting the detector to an Olympia Electronics conventional fire alarm control panel. The zone polarity is not important. A 5.6 kΩ end-of-line resistor must be installed at the end of the zone.

Figure 1. Wiring diagram for connection to an Olympia Electronics conventional fire alarm control panel.



Use the NO and C terminals when connecting the detector to a compatible third-party conventional fire alarm control panel. Install the appropriate end-of-line resistor at the end of the zone, as specified by the fire alarm control panel manufacturer.

Figure 2. Wiring diagram for connection to a third-party conventional fire alarm control panel.

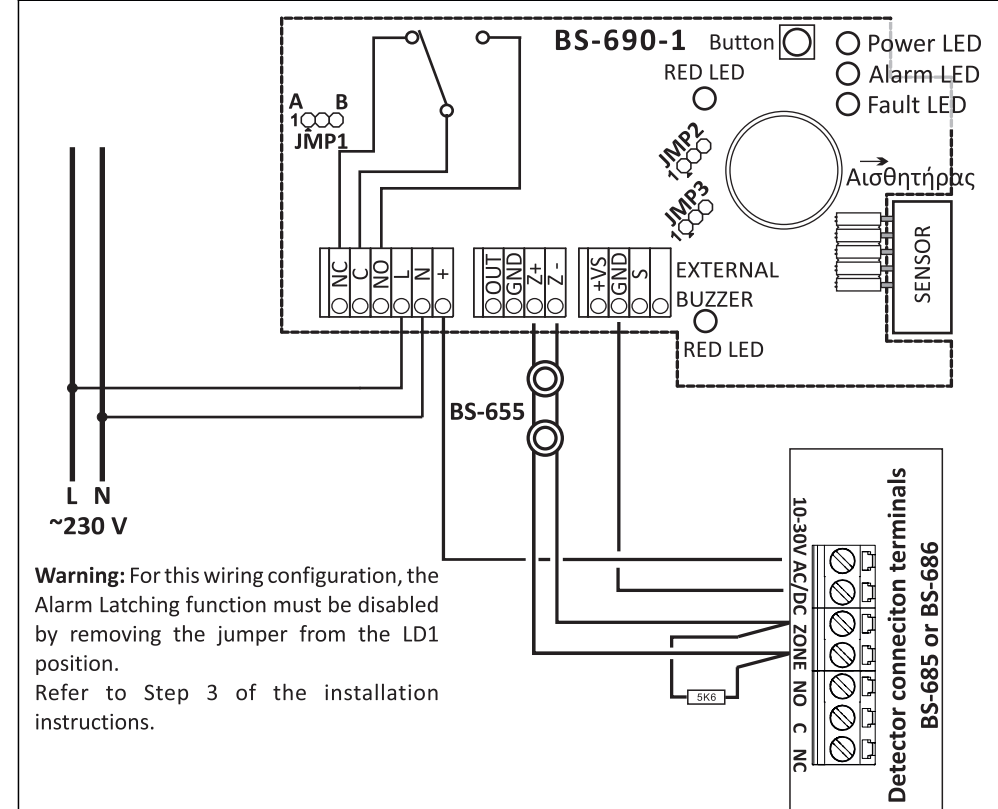
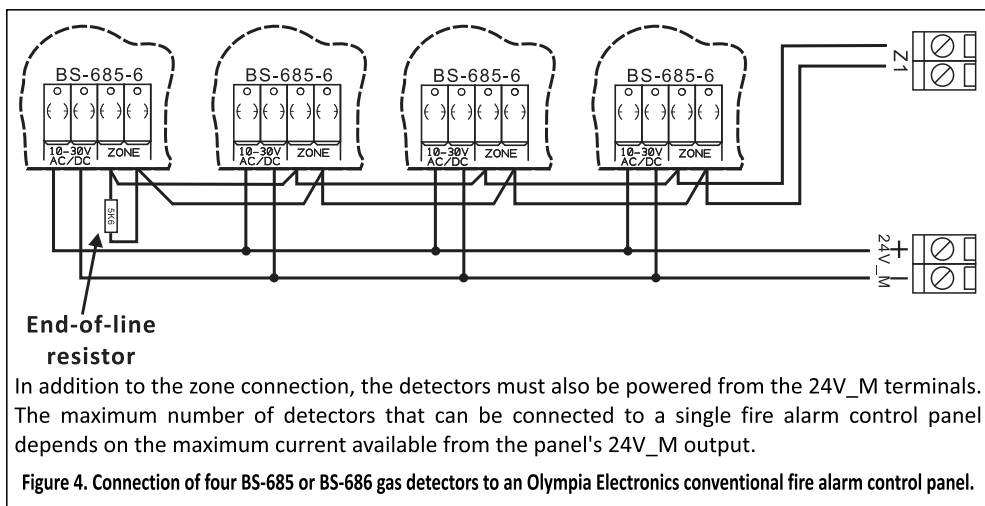
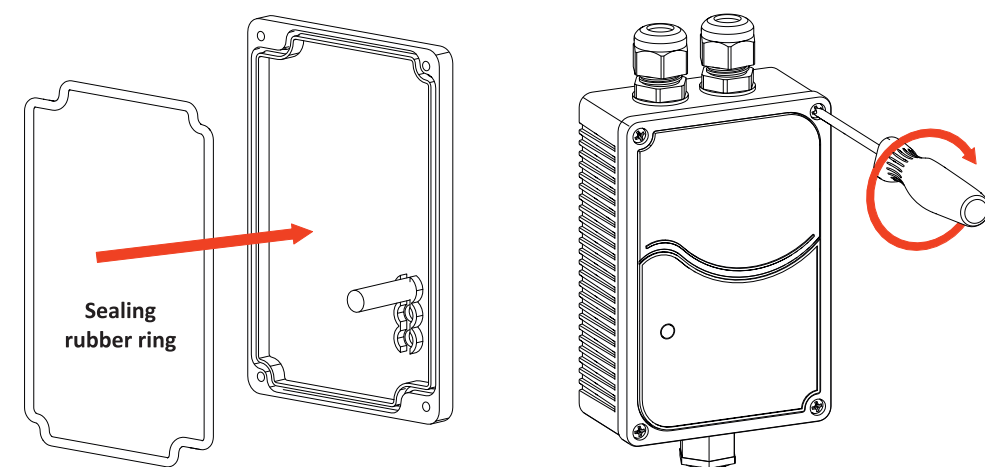


Figure 3. Wiring diagram for connection to the BS-690.

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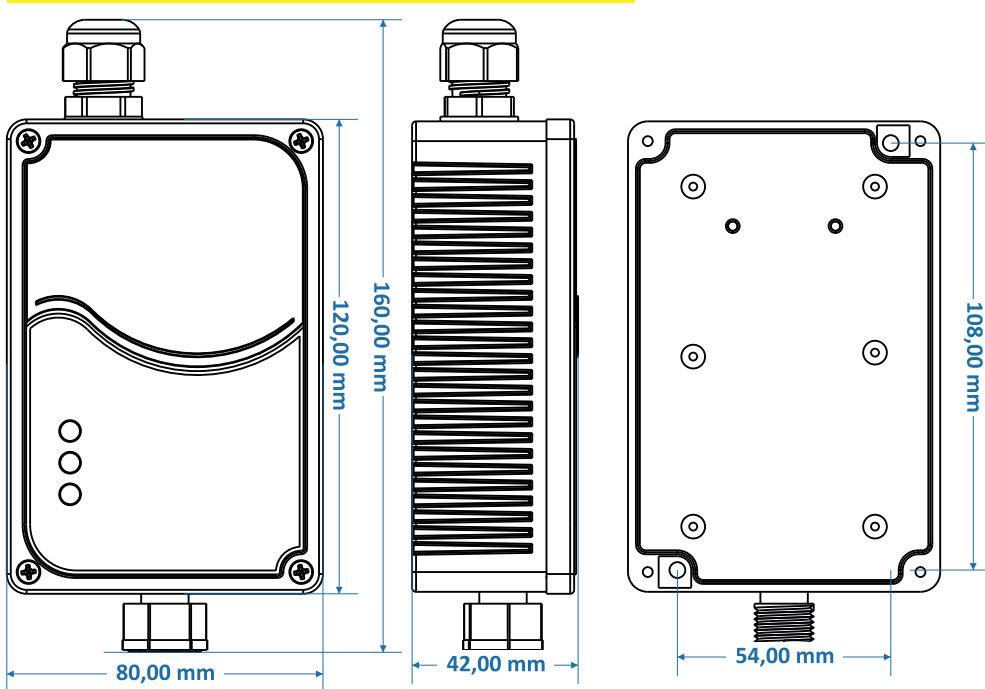
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An IP65 sealing rubber ring is supplied with the detector. Install the searling rubber ring into the dedicated groove in the detector cover, ensuring that it is properly seated along the entire perimeter of the groove. Then, reinstall the cover onto the detector base and secure it using the four screws removed in Step 1.

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Dimensional drawing



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Technical Specifications

DEVICE TYPE	BS-685	BS-686
SUPPLY VOLTAGE	10 - 30V AC/DC (Powered by panel)	
MAXIMUM POWER CONSUMPTION	0,5W (12VDC 40mA DC, 24VDC 20mA DC)	
DETECTION SENSITIVITY	5–15% L.E.L. PROPANE	5–15% L.E.L. METHANE
INDICATORS	ALARM LED	
SENSOR LIFETIME	5 years	
DEGREES OF COVER PROTECTION	IP65	
PRODUCED IN ACCORDANCE WITH	EN 50194-1, EN 50270	
OPERATING TEMPERATURE	0 to 60 °C	
RELATIVE HUMIDITY	Up to 95%	
HOUSING MATERIAL	ABS/PC	
DIMENSIONS (L × W × H)	160 x 80 x 42 mm	
TYPICAL WEIGHT	150gr.	
WARRANTY	2 years	

Sensor Replacement

The sensor must only be replaced by qualified personnel and only after the detector has been disconnected from the power supply.

1. Follow Step 1 of the installation instructions to disassemble the detector.
2. Disconnect and remove the sensor from the connector on the main PCB (see Step 2 for the sensor location).
3. Install the new sensor, ensuring that it is suitable for the type of gas to be detected.
4. Reassemble the detector

Spare Parts

328000013 NGM2611 Alcohol / Methane Sensor
328000014 LPM2610 Propane (LPG) Sensor

Waste Electrical and Electronic Equipment

 This symbol indicates that this product must not be disposed of with household waste. Instead, it should be taken to an appropriate collection point for the recycling of electrical and electronic equipment, in accordance with local laws and regulations. Proper disposal helps protect the environment and human health from potential hazards. The batteries of the product must also be collected separately and taken to designated battery recycling points. Do not incinerate them.

Terms of Sales - Technical Support



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