European manufacturer

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BS-627

4 ZONE PANEL WITH ONE EXTINGUISH OUTPUT

SPECIFICATIONS
INSTALLATION
CONFIGURATION
OPERATION

READ THIS MANUAL PRIOR TO ANY OPERATION

1. INTRODUCTION

1.1 GENERAL DESCRIPTION

The panel has :

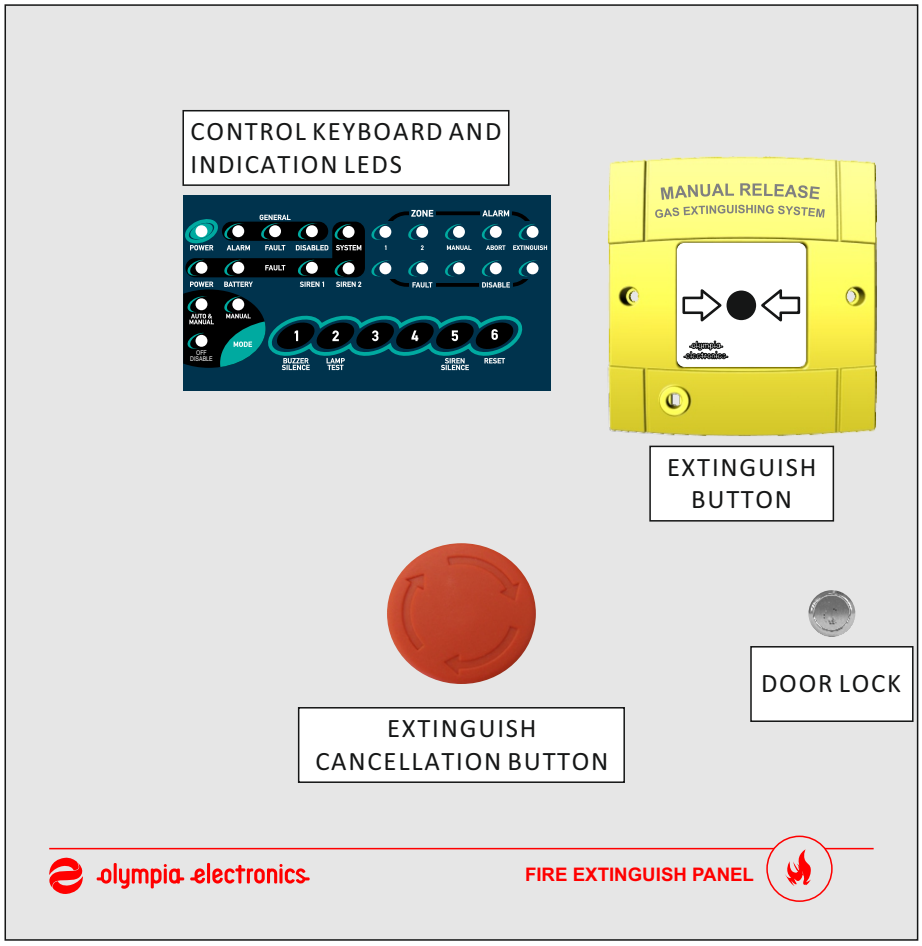
- One fire extinguish output monitored for open and short circuit. The output can operate with actuators or electro valves.
- Two cross zones for fire detectors.
- One zone for a manual call point to start the extinguish procedure.
- One zone for a manual call point to cancel the extinguish procedure.
- Three modes of operation
- The panel has two independent siren outputs.
- One contact relay for fault status.
- Two fully programable relay contacts.
- Terminals to communicate with conventional fire detection panels.

The battery A-986 (12V/7Ah) is required for the operation of the panel.

All functions and indications are according to European Norms EN 12094-1, EN12094-3, EN 54-2, EN 54-4.

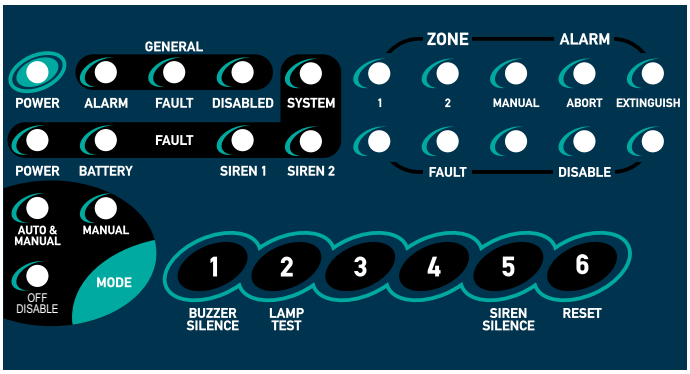
2. SYSTEM DESCRIPTION

2.1 Control panel fascia



2.2 LED INDICATORS

The LED indicators provide important information about the panel's active statuses, while more detailed information is displayed on the screen.



INDICATIONS LED STATUS		
LED LABEL	**COLOR**	**DESCRIPTION**
POWER	**GREEN**	**Steady:** Panel is powered by mains **Blinking:** In mains failure
ALARM	**RED**	Lights when there is an alarm condition
FAULT	**YELLOW**	Lights in every FAULT condition
DISABLE	**YELLOW**	Lights in every DISABLED condition
SYSTEM	**YELLOW**	Lights when occurred a problem in the central possessor unit (System fault).
POWER **BATTERY**	**YELLOW**	These two LEDs lights in different combinations and each one shows faults concerning the power supply. These combinations is showed below at table 1
SIREN 1 **SIREN 2**	**YELLOW**	**Steady:** The siren output is disabled **Blinking:** The siren output has a short circuit or open circuit
AUTO MANUAL **MANUAL** **OFF DISABLE**	**YELLOW**	Indicates the respective operation of the panel
ZONE 1 **ZONE 2**	**RED**	Lights when a zone is on alarm condition When both zone LEDs are steady on, the panel is on alarm condition and the extinguish countdown starts
MANUAL	**RED**	Steady on when a manual alarm is activated
ZONE FAULT 1 **ZONE FAULT 2**	**YELLOW**	**Steady:** The zone is disabled **Blinking:** The zone has a short circuit or open circuit
EXTINGUISH	**RED**	**Steady:** The extinguish output is activated **Blinking:** The extinguish countdown has began
EXTINGUISH FAULT	**YELLOW**	**Steady:** The extinguish output is disabled **Blinking:** The extinguish output has a short circuit or open circuit

Table 1. POWER and BATTERY Indication LED explanation status

LED / Status	Lack of AC Voltage	Battery Overcharging	Battery Discharged	Battery Absent	Charger Error
POWER	Steady ON	Steady ON	Steady ON	Blinking	Blinking
BATTERY	OFF	Steady ON	Blinking	Steady ON	Blinking

2.3 CONTROL KEYBOARD DESCRIPTION/OPERATION

The panel is controlled / operated using the six numeric keys 1 to 6. When a key is pressed a short tone is issued.

The panel has three access levels.

Figure 1

ACCESS LEVEL 1:

Buzzer Silence / Buzzer Reactivation: If an alarm or fault condition is issued, the internal buzzer will sound. Pressing the "1" key will silence the buzzer (the buzzer will sound periodically once every minute). Pressing this key again will reactivate the buzzer.

Lamp Test: Pressing the "2" key will have the following effect: a lamp test is conducted by lighting the LEDs. The panel then returns to normal operation.

Evacuate - Extinguish: By pressing the yellow button (Figure 1) on the front side of the panel, the panel enters the alarm condition and the extinguishing process starts after a 5-second delay. The yellow button requires double action to avoid an accidental alarm. To press the button, you must lift the transparent plastic cover first and then press the button. To restore the button to its previous position, you must use the included black plastic key. Place the key in the respective hole, turn it 90°, and pull it until the button is restored.

Figure 2

Cancel - Extinguish Deactivation: By pressing the red button (panic type) on the front side of the panel (Figure 2), the extinguish output is deactivated. To restore the button to its previous position, turn it clockwise.

ACCESS LEVEL 2:

Includes all the functions that the user can perform and requires an access code.

The code is **"34"** , it is the same for all panels and cannot be changed. The functions that can be implemented using this code are the following:

Siren Silence: When an alarm is issued and we want to silence the sirens, we must enter the user code **(34)** and then press the keys **'5'** and **'5'**. The sirens are silenced, but the internal buzzer continues to sound. The panel remains in normal operation. A new alarm from another zone will resound the sirens.

Panel Reset: When an alarm or fault condition has occurred and we want to reset the panel, we must enter the user code **(34)** and then press the keys **'5'** and **'6'**. The panel lights all LEDs in sequence and then enters normal operation.

Zone and Siren Enable/Disable: If we want to disable the operation of specific zones, we must enter the user code **(34)** and then press the keys **'5'** and **'4'**. The LEDs marked 'General disable' start to blink, and if a zone is disabled, the corresponding 'Alarm' LED lights to indicate this. Using the keys 1, 2, 3, and 4, we can enable or disable the respective zones. With the keys **'5'** and **'6'**, we can enable or disable the sirens of the panel. The disabled zones have the respective indication LED turned on. The panel resets automatically if no button is pressed for 30 seconds. The panel conducts an automatic reset and enters normal operation mode.

All disabled zones are supplied with the proper voltage but cannot issue an alarm or fault condition. If we have disabled zones, this is indicated by the 'General disable' indicator, the corresponding Disable LED zone, and the buzzer sounds once every minute.

ACCESS LEVEL 3:

These functions are implemented during the installation and need the technician code to be accessed. The technician code is **"364"**, it is the same for all panels and cannot be changed. The functions that can be implemented using the technician code involve activation methods used for the relays and can only be performed if the panel has not issued an alarm or fault condition.

These methods of programming are:

Programming Delay of the Extinguish Output: If we want to program the delay of the extinguish output, we must enter the technician code **(364)** and then press the number key **'5'**. The 'General fault' and 'General alarm' LEDs start to blink. The 'Alarm' LEDs of zone 1 and zone 2, 'Manual' alarm, and 'Abort' indicate how the extinguish output is programmed according to the table below:

	No Delay	Delay 30 sec	Delay 60 sec	Delay 90 sec
LED Alarm zone 1	LED On	LED Off	LED Off	LED Off
LED Alarm zone 2	LED Off	LED On	LED Off	LED Off
LED Alarm Manual	LED Off	LED Off	LED On	LED Off
LED Abort	LED Off	LED Off	LED Off	LED On

The default setting of this delay is 30 seconds. In this programming mode, if the keys **'1'**, **'2'**, **'3'**, and **'4'** are pressed, we can toggle the LEDs ON or OFF until we achieve the desired behavior according to the table above. To exit this programming mode and store the settings in memory, press the key **'6'** or do not press any key for more than 30 seconds. The system will conduct an automatic reset and will enter normal operation mode. This delay applies to all zones, but if the yellow activation button is pressed, the delay will be 5 seconds.

Extinguish Operation Mode Selection: If we want the extinguishing operation to be programmed, we must enter the technician code **(364)** and then press the number key **'6'**.

Mode Selection: By pressing the **'1'**, **'2'**, and **'3'** keys, we can toggle the extinguish operation mode.

These modes are:

- **AUTO & MANUAL:** The output is activated by the zone ZM (manual activation), the yellow activation button of the panel, or when zones 1 and 2 are both activated. The indication LED 'Auto & Manual' lights.
- **MANUAL:** The extinguishing output can be activated only by the zone ZM (manual activation) or by the yellow activation button of the panel, and not from zones 1 and 2. The indication LED 'EXTINGUISH' lights, and the output will be automatically deactivated after 30 seconds.
- **OFF DISABLE:** The extinguishing output is deactivated and cannot be active. The indication LEDs 'OFF Disable', 'Extinguish Fault', and 'General Disable' light.

By default, the panel operates in **'AUTO & MANUAL'** mode. In this case, if we press the **'1'**, **'2'**, and **'3'** keys, we can toggle the indication status ON/OFF until we reach the requested operation according to the previous table.

To exit this programming mode and register the adjustments to the memory, press the **'6'** key or do not press any key for more than 30 seconds. The system will conduct an automatic reset and will enter normal operation mode. This delay applies to all zones, but if the yellow activation button is pressed, the delay will be 5 seconds.

Operation Behavior of Relay 1 and Relay 2: If we want to program the operation behavior of Relay 1 and Relay 2, we must enter the technician code (364) and then press the number key **'5'**. The 'General fault' and 'General alarm' LEDs start to blink. The Fault/Disable LEDs of zone 1 and zone 2 show the programmed activation method of the zone relays according to the table below.
We can see the programming process of the Relay 1 and Relay 2 operation in zone 1 and 2 Alarm LEDs, according to the table below.

Relay 1 & 2	Pre-Alarm	Before extinguishing	Extinguishing
Led Fault zone 1	LED On	LED Off	LED Off
Led Fault zone 2	LED Off	LED On	LED Off
Led Fault Manual	LED Off	LED Off	LED On

By default, Relay 1 is selected to operate in general pre-alarm condition and Relay 2 before extinguishing. In this state, if we press the **'1'**, **'2'**, **'3'**, **'4'**, **'5'**, and **'6'** keys, we turn on and off the LEDs until we reach the requested activation operation according to the table above. If no button is pressed for more than 30 seconds, the current state will be automatically registered, the system will conduct an automatic reset and will enter normal operation mode.

3. CONNECTIONS

3.1 Connecting detectors and break-glass call points to zones.

By default, each zone terminal block has a pre-installed terminal resistor. This resistor must be removed and installed on the last device of the zone or left connected to the zone terminals if the zone is not used. The picture below shows a typical connection of the panel.

The cable length for each zone must not exceed 1 kilometer with a cable cross-section of 1.5mm². The maximum number of connected devices per zone is 30.

Electro-Valve: If you use an electro-valve at the EXT extinguish terminal, you must remove the connected diode and connect it to the electro-valve with the same polarity as shown below.
The maximum power of the electro-valve is 26VA. The electro-valve nominal voltage must be 24VDC.

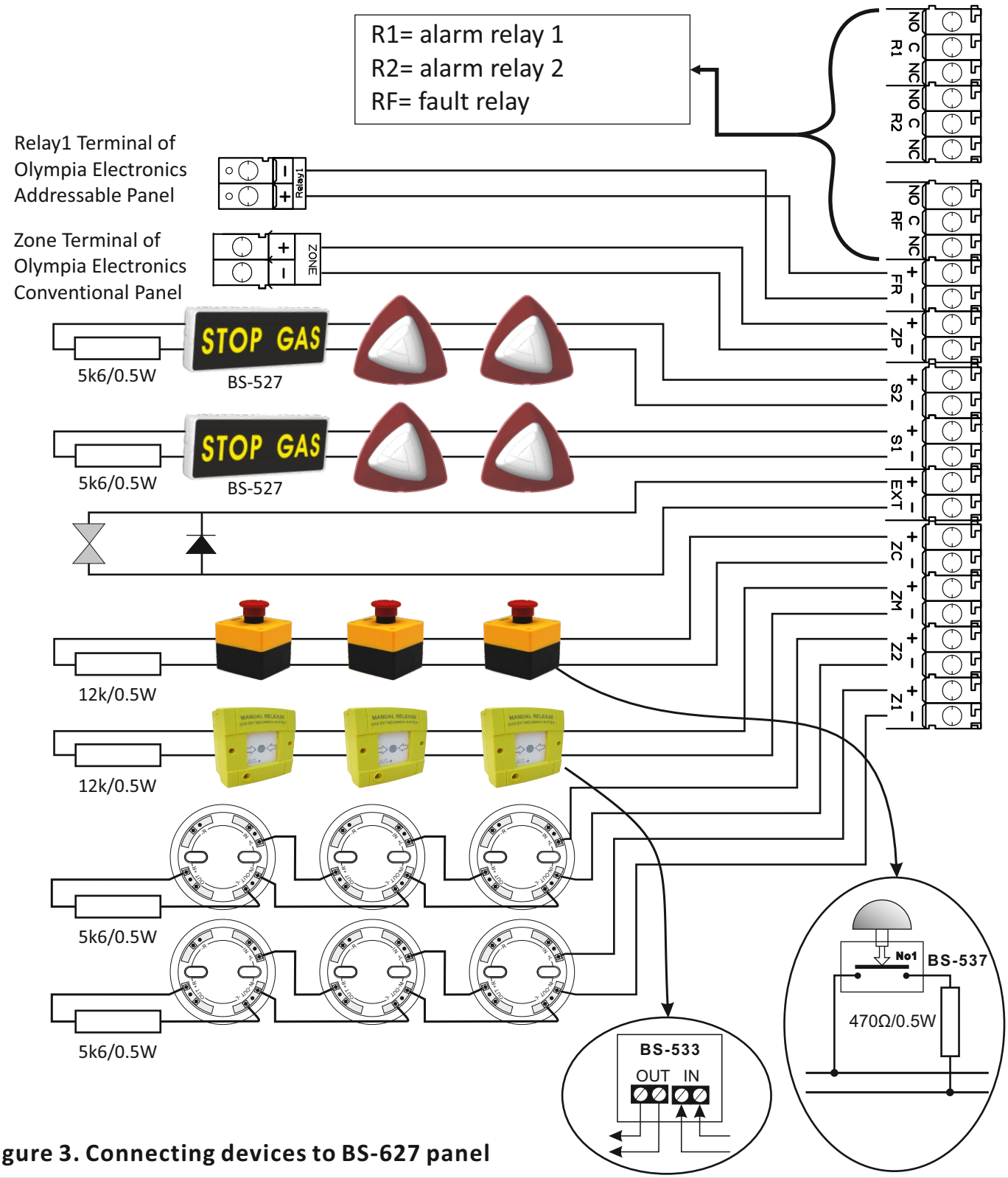
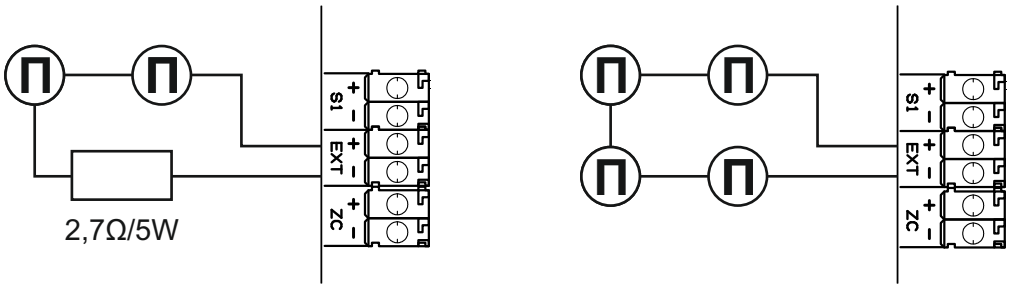


Figure 3. Connecting devices to BS-627 panel

3.2 Using Actuators

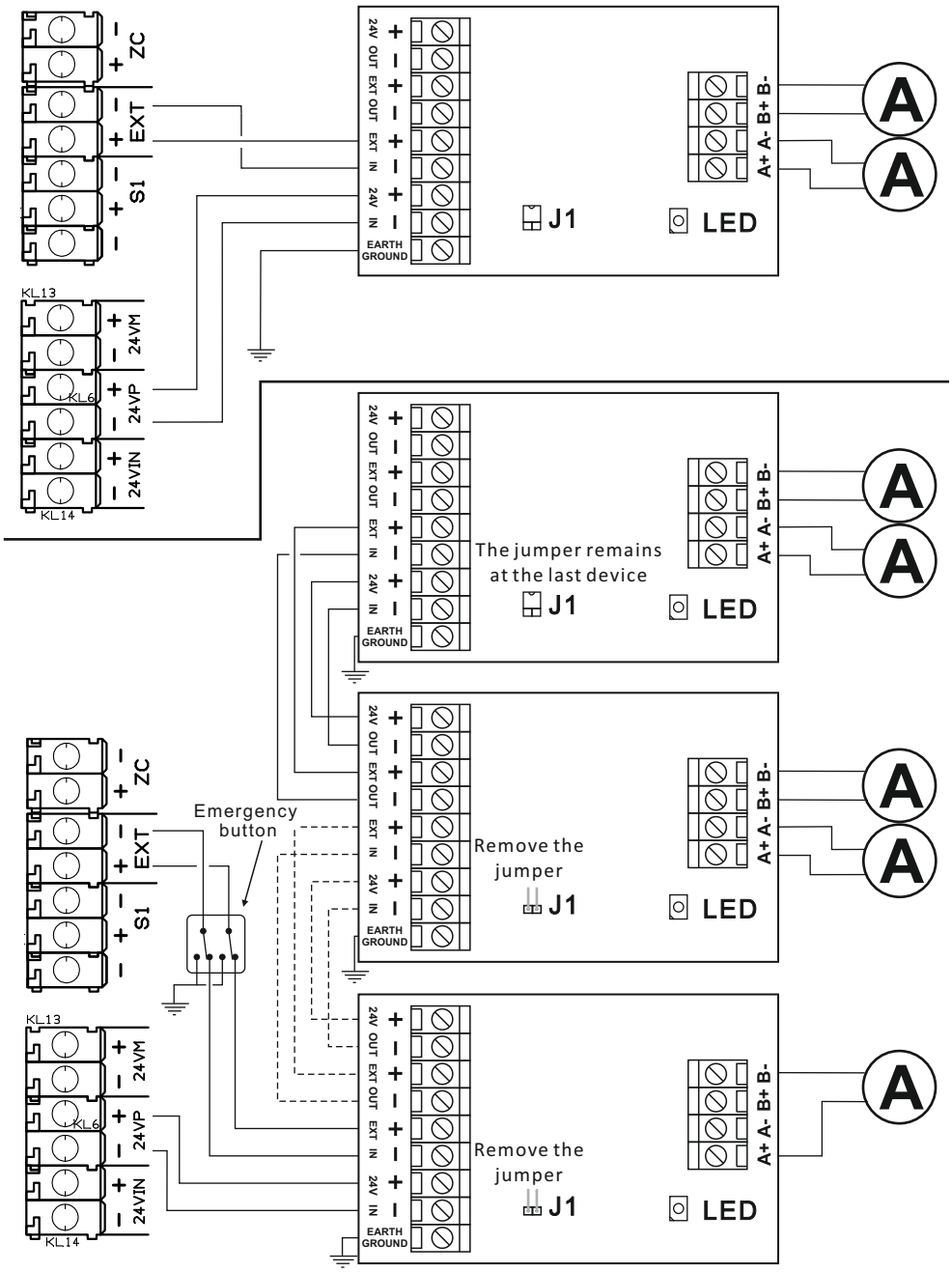
You can connect actuators in series. If you use 1 or 2 actuators, you must connect a 2.7 Ohm / 5W resistor in series as shown below on the right. If you use 3 or 4 actuators, you just connect them in series. The maximum number of actuators is 4.



1-2 actuators typical connection **3-4 actuators typical connection**

Figure 4. Typical Connection

Connection Diagram Example for BS-637 (Sequencial activator for aerosol generators)



Note!! Do not connect more than 10 devices in series

3.3 Siren - Sounder Connections

Each panel offers 2 independent circuits for connecting sirens, bells, or other devices that need 24V DC to operate. Each circuit can supply a maximum of 300mA to the devices. Each terminal block, by default, has a pre-installed terminal resistor (5.6KΩ). This terminal resistor must be removed and installed on the last siren of the line or left on the terminal block if the circuit is not used.The connections of both circuits are identical.

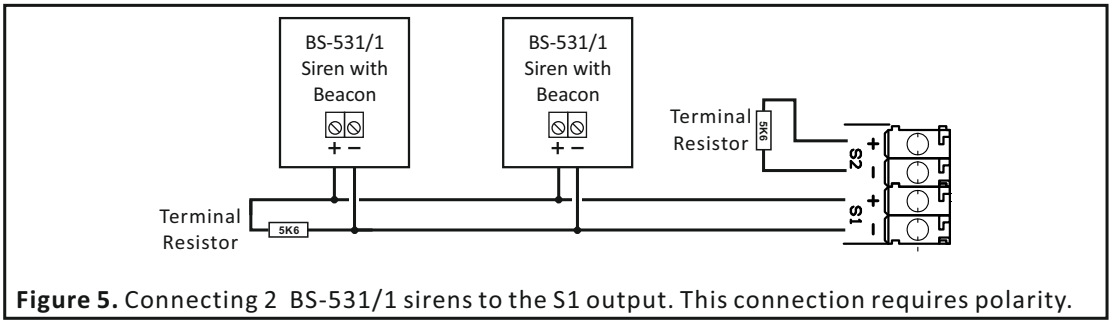


Figure 5. Connecting 2 BS-531/1 sirens to the S1 output. This connection requires polarity.

Siren	Operation	Zones activation	Delay
S 1	Pre-alarm	From any zone	Without
S 2	Alarm-extinguish	From crossed zone or zone ZM	Without

The panel also has the following outputs:

- **24VM:** A 24V DC output that is interrupted in the event of a panel reset. It is mainly used for powering gas detectors or other devices that need an interrupted power supply when the panel is resetting. If this output is short-circuited, the LED marked 'General fault' is illuminated.
- **24VP:** A 24V DC power output that is not interrupted in the event of a reset. It can be used to power electromagnetic door latches.
- **ZONE IN (ZP):** This output can be used to communicate with a conventional panel BS-632, BS-634, or BS-636.

The connection is shown in Figure 6.

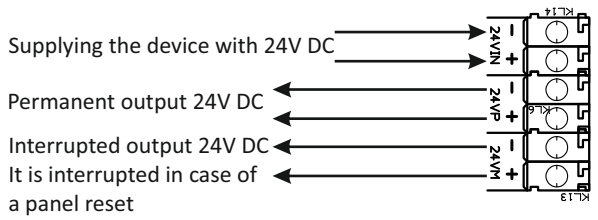


Figure 6. Power supply connections for external devices.

3.4 Extinguish activation from another panel.

To activate the extinguishing procedure from another panel (e.g., BS-1632), you must follow the schematic below.

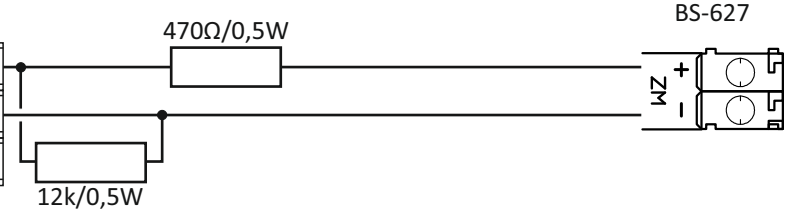


Figure 7. Connection to another panel

3.5 Connecting the BS-489 Telephone Operator

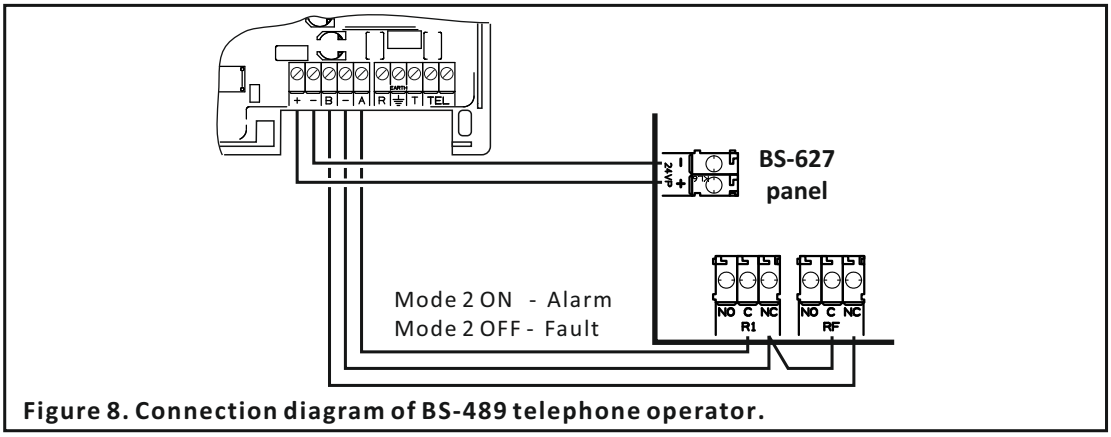


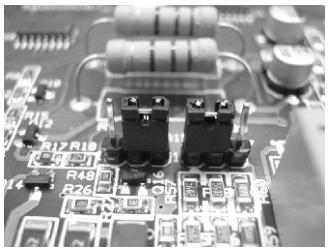
Figure 8. Connection diagram of BS-489 telephone operator.

3.6 Additional outputs

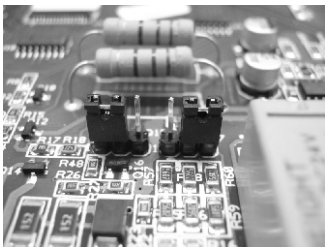
In addition to the previously described terminals, the panel has the following outputs:

- **Relay Fault (RF):** A voltage-free relay contact that is, by default, programmed to be activated by the panel in case of a fault.
- **Relay 1 and 2:** Voltage-free relay contacts that are active in case of an alarm in the corresponding zone. These contacts can be used to perform appropriate operations when an alarm occurs in a specific zone (e.g., electromagnetic door latch activation, electro valve activation).
- **Output FR:** This output is used to connect with the Fire Routing output of the BSR-2104 and BSR-2114, as shown in Picture 1.
- **OUTPUT +A, -A:** This output is used only for production purposes. It must not be used by any technician other than those from Olympia Electronics.

CONNECTION OPTIONS IN ADDRESSABLE OR CONVENTIONAL PANELS:
For connection to an addressable panel, jumpers must be placed as shown in Picture 1.
For connection to a conventional panel, jumpers must be placed as shown in Picture 2.



Picture 1



Picture 2

4. INSTALLATION

- The installation of the panel must be carried out by qualified personnel only.
- Disconnect power before servicing.
- Never insert or remove boards or components with the power on.
- During installation, use a grounded antistatic wristband to protect this equipment from ESD.
- The panel must be installed permanently. It is not allowed to connect the device directly to any socket outlet.

4.1. Mounting the Panel to the Wall

- The site chosen for the location of the panel should be clean and dry and not subject to shock or vibration.
- The panel must be placed at least 1m above the floor and 1m below the ceiling and must have a distance of 30cm from any other devices.
- No other power lines should pass behind the panel, only the supply cables of the panel.
- The mounting holes are shown in Figure 11.

4.2. Connecting the Mains Power Supply (220-240V AC)

- The panel has holes on the base for all the wiring to pass through.
- You can connect cables with a maximum conductor diameter of 2.5mm² to the panel's terminal blocks.
- The mains power supply wiring must use a double insulation cable.
- The mains supply must include an earth conductor connected to the fixed installation earthing system of the building.
- The connection to the mains power supply must be made to the terminal blocks located in the upper right area of the panel, as shown in Figure 9.

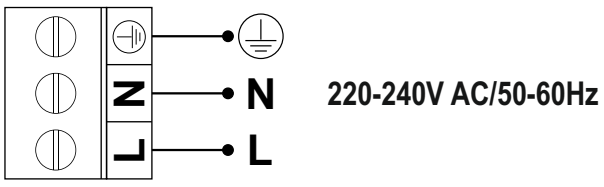


Figure 9. Connection to mains power supply

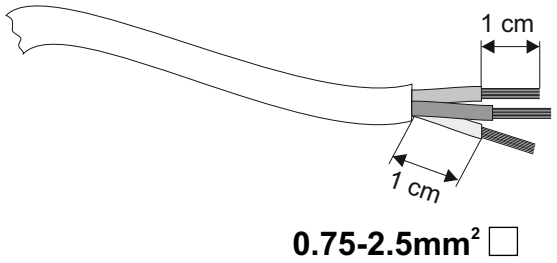


Figure 10. Power Supply cables

4.3. Battery Connection

The battery compartment has the appropriate dimensions for two batteries A-986 of Olympia Electronics.
The charging unit on the PCB is also designed for this specific battery. Replace the battery only with one of the same type.
Two battery wires with special terminals on the ends are connected from the PCB. These must be connected to the two battery poles. Connect the black wire to the negative pole (marked (-) or with a black mark) and the red wire to the positive pole (marked (+) or with a red mark), as shown in Figure 11.
To connect two batteries, they must both be of the same type and capacity. Two extra cables are included in the package; use them to connect the second battery to the respective terminals on the PCB. Connect the black wire to the negative pole (marked (-) or with a black mark) and the red wire to the positive pole (marked (+) or with a red mark), as shown in Figure 12.

Battery disposal.
It is not allowed to discard batteries in to common trash bins, they must be discarded only in battery recycling points.

Figure 11. Interior of the panel (1 battery)

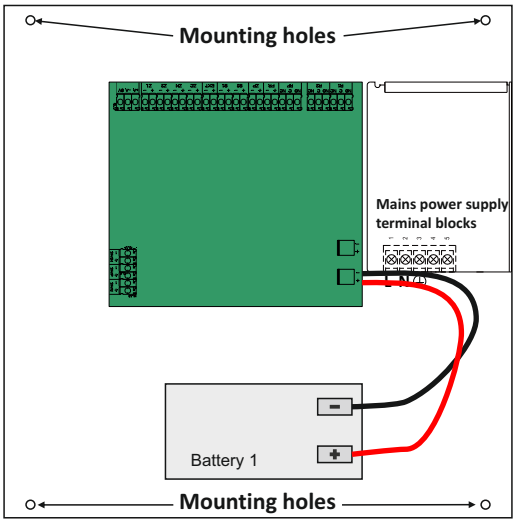
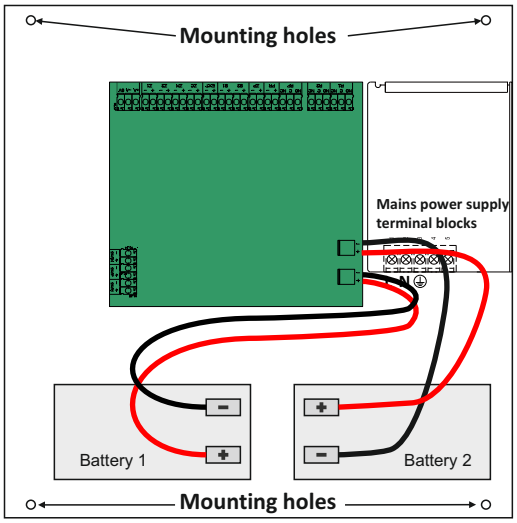


Figure 12. Interior of the panel (2 batteries)

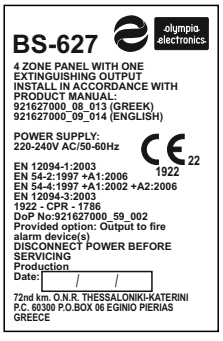


5. Warnings

- Service and maintenance activities should be done only when the device is disconnected from the mains power supply and the battery.
- During installation, the connections to the mains power supply and the battery must be made after all other connections are finished.
- The panel connection to the mains supply must be done via a 10A external fuse or an automatic circuit breaker rated at 10A. This fuse must be a separate, labeled fuse.
- Always use cables with double insulation.
- The diameter of the cable must be at least 1mm (see Figure 10).
- The inner insulation of each cable must not be cut more than 1cm (see Figure 10).
- The outer insulation must not be cut more than 1cm away from the internal insulation.
- The battery fuse is a resettable 3A fuse inside the panel.

6. CERTIFICATION

The panel BS-627 is certrified from DEDAL.
Also DEDAL controls the production under CPR number: 1922-CPR-1786.
Below is the marking:



TECHNICAL SPECIFICATIONS

MAINS POWER SUPPLY	220-240V AC 50/60Hz
CONSUMPTION	100VA
BATTERY TYPE	Two Batteries 12V Lead acid sealed 7Ah maximum (A-986)
CHARGING CIRCUIT	Stabilized power supply 13.8V / max. 400mA
AUTONOMOUS DURATION	48 hours with one battery 12V-7Ah and 72 hours with two batteries 12V-7Ah (without using the 24VM and 24VP outputs)
ZONE CIRCUITS	2 circuits monitored for short and open circuit conditions for detection devices (maximum current 35mA). 2 circuits monitored for short and open circuit conditions for brake glass call points (maximum current 10mA).
ALARM CIRCUITS	Two 24V circuits that are monitored for open and short circuit conditions (maximum current 300mA each). Each output is protected with a self-reseting electronic fuse.
OUTPUT 24VP	26VDC (±3VDC) permanent output with maximum current output 0.3 A The output is protected with a self-reseting electronic fuse.
OUTPUT 24VM	26VDC (±3VDC) reset interrupted output with maximum current output 0.3 A The output is protected with a self-reseting electronic fuse.
FAULT RELAY AND RELAYS 1 AND 2	The relay 1 and 2 contacts have value of 5A 250VAC.The fault relay contacts have value 1A 30VDC. Under no circumstances should voltages or currents outside limitsbe connected. All relays output must be protected with a fuse of the same rating.
EXTINGUISH OUTPUT	Extinguish output for actuators and electro valves (maximum 26VA). The circuit is monitored for open and short circuit conditions
TOTAL LOAD	The total output current (zones circuits, siren circuit, outputs 24VP, 24VM) must not exceed 1A.Imax a=Imax b=1A, Imin=60mA
BATTERY CUT OF VOLTAGE	21V
MAXIMUM CURRENT BATTERIES DISCHARGE	1A
BATTERY MAXIMUM INTERNAL RESISTANCE RIMAX	1 Ohm
DEGREES OF COVER PROTECTION	IP40
CABLES	Connection cables must be approved for fire detection systems such as FIP200, MICC, PYROFIL. Recommended types of cables for outputs: LiYCY, NHXCHFE180
OPERATION TEMPERATURE	0 to 50 °C
HUMIDITY	Up to 95% relative humidity
CONSTRUCTION MATERIAL	Electrostatically painted metal plate and ABS - polycarbonate
DIMENSIONS	345 x 125 x 348 mm
WEIGHT	3880gr
PRODUCED IN ACCORDANCE TO	EN 12094-1, EN 12094-3, EN 54-2, EN 54-4
OPERATION PANEL FUNCTIONS	The optional function of the panel according to the room EN 54-2 is: (Fire alarm device(s)) paragraph 7.8 (EN 54-2)
DESIGN	Components of the panel have been selected for the intended purpose, and are expected to opetate within their specification when the environmental conditions outside the cabinet of the panel comply with class 3k5 of EN 60721-3-3:1995 Class A: temperature range of - 5 °C to + 40 °C, A factory production control is carried out.
ACTIVATION TIME OF MANUAL TRIGGER	<3 seconds
ACTIVATION TIME OF OUTPUTS AFTER TRIGGER	<1 second
GUARANTEE	2 years

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

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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