European manufacturer

olympia electronics
SAFETY & SECURITY SYSTEMS
for a safer world!

BS-627

4 zone panel with one extinguish output

Thank you for purchasing this product of Olympia Electronics. A European manufacturer.

GENERAL

The panel has :

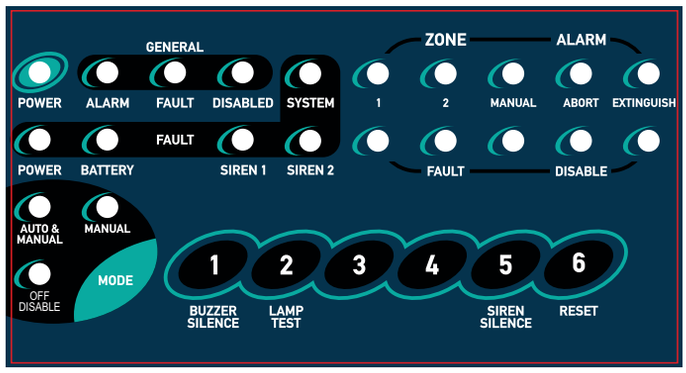
- One fire extinguish output monitored for open and short circuit. The output can operate with actuators or electro valves.
- Two cross zones for fire detectors.
- One zone for a manual call point to start the extinguish procedure.
- One zone for a manual call point to cancel the extinguish procedure.
- 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, EN 54-2, EN 54-4.

LED Indicator description

The picture shows the control keyboard and the indication plate of a BS-627 panel.



Starting from the top left side are :

The 'Power' LED lights when the panel is powered and blinks, in mains failure.

Also in the top left side we can see three indicators marked 'General'.
The 'Alarm' LED lights when we have an ALARM condition.
The 'Fault' LED lights in every FAULT condition.
The 'Disable' LED lights in every DISABLE condition.

The 'System' LED lights when occurred a problem in the central possessor unit (System fault).

The next indication LED groups are the 'ZONE' and 'ALARM'. These indicators light when the corresponding issues an alarm condition.
Below this group we have the 'Fault/Disable' indication for each zone. When the panel monitors an open or short circuit conditions in a zone then the corresponding LED will blink. If a zone is disabled the corresponding LED will light.

When the indication LED 'Extinguish' blinks, shows that the extinguish countdown has began. When this indicator lights continuously, shows that the extinguish output is activated.

The LED marked 'Extinguish Fault' corresponds to the extinguish output. If the output has a short circuit or open circuit then the LED will blink. If the output is disabled the LED will light continuously.

The 'Siren1' and 'Siren2' LEDs correspond to siren outputs. If a siren output has a short circuit or open circuit, then the corresponding LED will blink. If a siren is disabled the LED will light continuously.

The 'Batt' LED and 'Power' LED in combination, show us faults concerning the power supply. These combinations showed in the panel below.

The 'Auto & Manual', 'Manual' and 'OFF Disable' indicators correspond to the respective operations of the panel.

	Lack of AC voltage	Battery Overcharging	Battery Discharged	Battery Absent	Charger Error
Power Fault	Lights	Lights	Lights	Blinks	Blinks
Batt Fault	----	Lights	Blinks	Lights	Blinks

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.

Access level 1:

has all the functions that can be done directly from the user without using a code.

These operations are:
Buzzer silence / Buzzer reactivation. If an alarm of fault condition is issued then the internal buzzer will sound. Pressing the **"1"** key will silence the buzzer (the buzzer sounds periodically once every minute). Pressing this key again will reactive the buzzer.

Lamp test. Pressing the **"2"** key will have the following affect. A lamp test is conducted by lighting the LEDs. The panel then returns to normal operation.

Evacuate- Extinguish (Κατάσβεση): By pressing the yellow button (side picture) on the front side of the panel, the panel enters the alarm condition and the extinguishing process starts after a 5 seconds 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 at 90° and pull it until the button is restored.

Cancel - extinguish deactivation: By pressing the red button (panic type) on the front side of the panel (side picture) 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 do and an **access code is required**.

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 then we must enter the user code **(34)** and then the keys number **'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 press the user code **(34)** and then the keys number **'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 then we must enter the user code **(34)** and then the keys number **'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, 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, then this is indicated with the indicators 'General disable' and 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 techncian 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 are activation methods used for the relays and can be done only 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**'** LED of zone 1 and zone 2 , **'**Manual**'** alarm and **'**Abort**'** show the way the extinguish output is programmed according to the next table:

	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 sec. In this programming mode if the keys **'1','2', '3'** and **'4'** are pressed , we can toggle the LEDs ON or OFF until we archive the desired behaviour according to the table above. In order to exit this

programming mode and to 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 is current for all the 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 technicians 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) or by the yellow activation button of the panel, or when the 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 the zones 1 and 2. The indication led **'**EXTINGUISH**'** and the output will be automatically deactivated after 30 seconds.
-**'OFF DISABLE'**: The extinguishing output is deactivated and cannot be active. The indication led **'**OFF Disable**'**, **'**Extinguish Fault**'** και **'**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 to 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 is current for all the zones, but if the yellow activation button is pressed, the delay will be 5 seconds.

Operation behaviour of the Relay 1 and Relay 2. If we want to program the operation behaviour of the Relay 1 and Relay 2 then 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 LED 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	Pre-Alarm	Before extinguishing	Extinguishing
Led Alarm zone 1	LED On	LED Off	LED Off
Led Alarm zone 2	LED Off	LED On	LED Off
Led Alarm Manual	LED Off	LED Off	LED On

Relay 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 the relay 1 is selected to operate in general pre-alarm condition and the 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 LED 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.

Connections

Connecting detectors and break-glass call points to zones.

By default each zone terminal block has a pre-installed terminal resistor. This resistor is must be removed and must be installed on the last device of the zone or is left connected on 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 kilometres with a cross section cable of 1.5mm².
The total amount (maximum) of the connected devices per zone is 30.

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

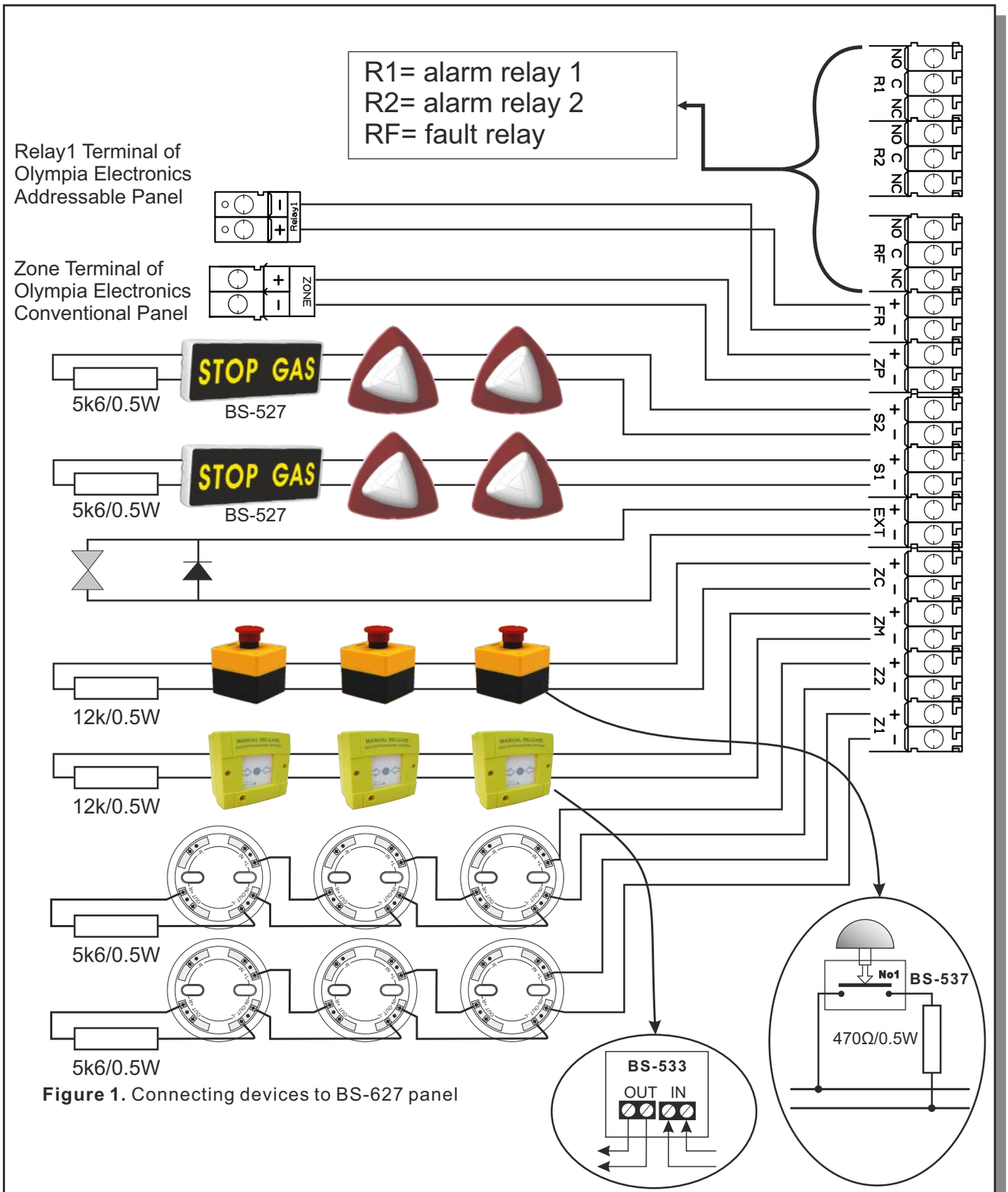
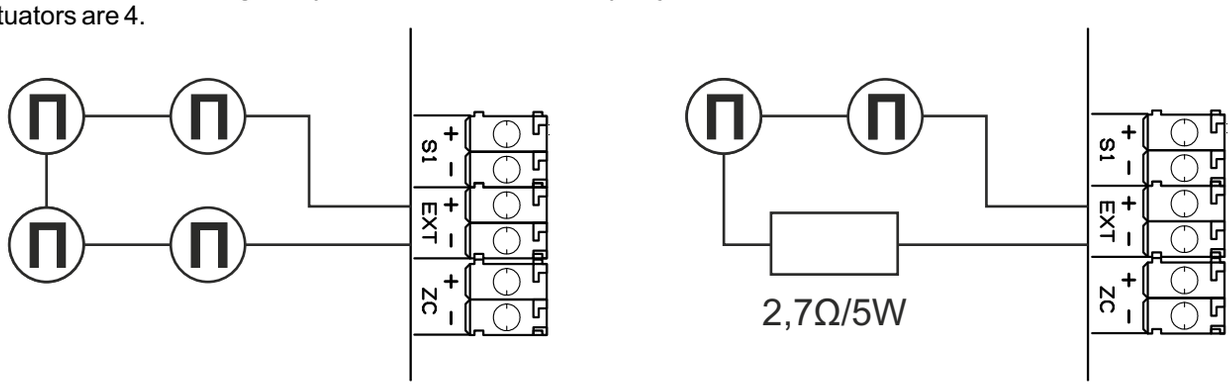


Figure 1. Connecting devices to BS-627 panel

Using Actuators.

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

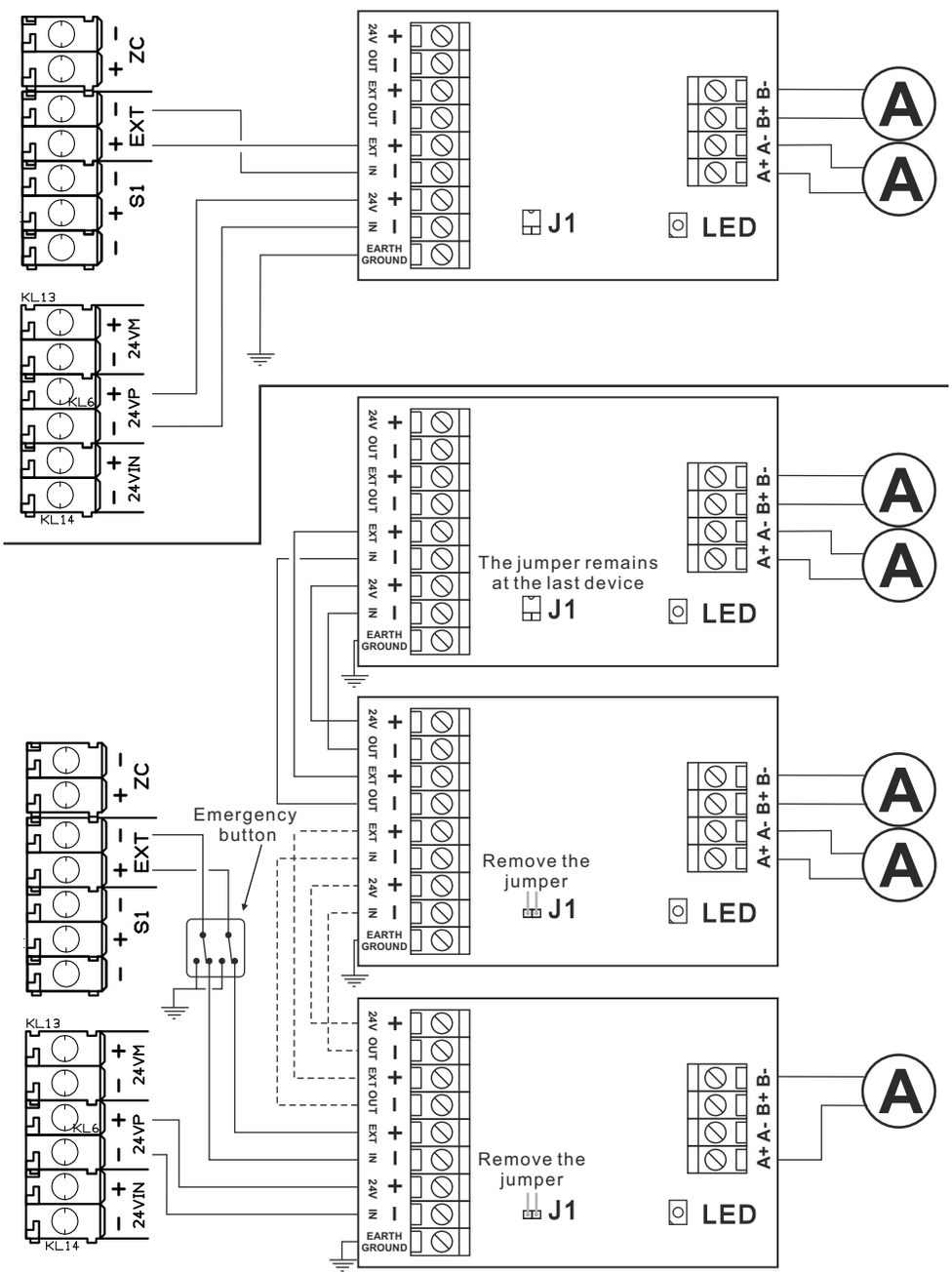


3-4 actuators typical connection

1-2 actuators typical connection

Figure 2. Typical Connection

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



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

Siren - Sounder Connections

Each panel offers 2 independent circuits for connecting sirens, bells or other devices that need 24Vdc in order to operate. Each circuit can supply to the devices a maximum of 300mA. Each terminal block by default has a pre-installed terminal resistor (5K6). This terminal resistor must removed and installed on the last siren of the line or is left on the terminal block if the circuit is not used.
The connections of both circuits are identical.

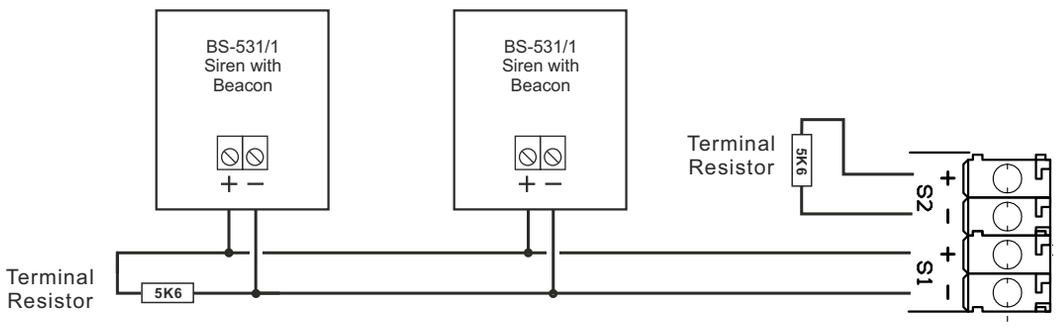


Figure 3. Connecting 2 BS-531/1 sirens to the S1 output. This connection requires polarity.

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 24Vdc 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 then the LED marked 'General fault' is lighted.
24VP: A 24Vdc 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 1.

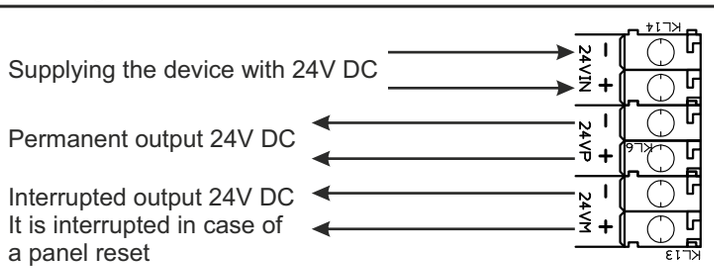


Figure 4. Power supply connections for external devices.

Extinguish activation from another panel.
To activate the extinguishing procedure from another panel (i.e **BS-1632**) you must perform the following schematic.

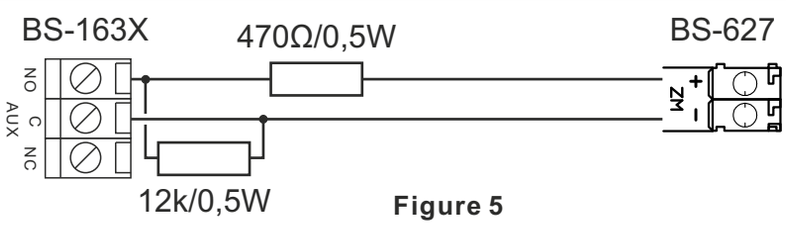


Figure 5

Except the described terminals so far, the panel has the following outputs:

RF Relay Fault: 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 to the corresponding zone . We can use these contacts to perform appropriate operations when an alarm occurs from a specific zone (i.e electromagnetic door latch activation, electro valves activation).

Connecting the BS-489 telephone operator

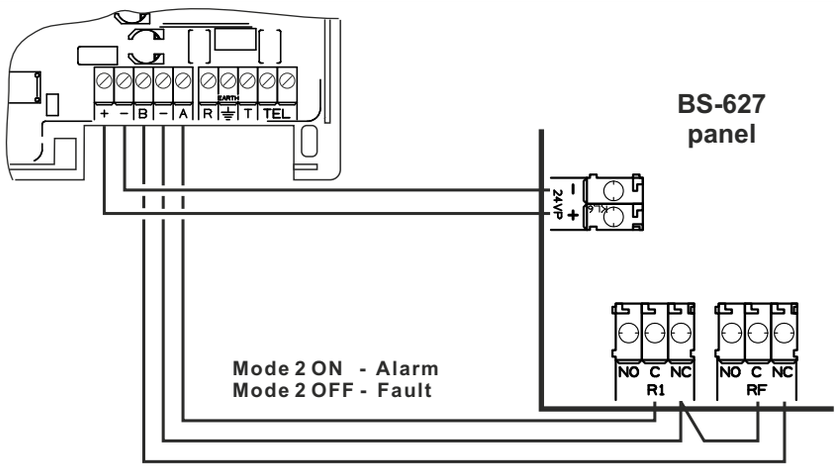
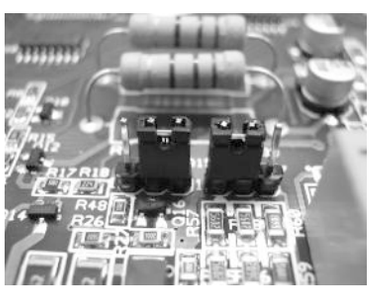


Figure 6. Connection diagram of BS-489 telephone operator.

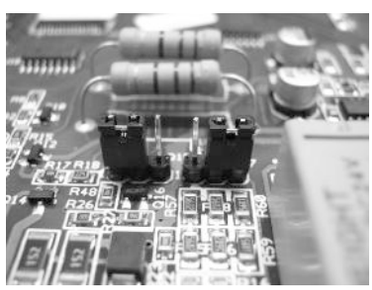
Output FR. This output is used to be connected with the output Fire Routing of the BSR-2104 and BSR-2114 as shown in figure 1.

OUTPUT +A,-A. This output is used only for production proposes. This must not be used by any other technician but only technician from olympia electronics.

CONNECTION OPTIONS IN ADDRESSABLE OR CONVENTIONAL PANEL
For connection on an addressable panel jumpers must be placed as shown on picture 1.
For connection on a conventional panel jumpers must be placed as shown on picture 2.



Picture 1



Picture 2

INSTALLATION

The installation of the panel must be carried out by qualified personnel only.
Disconnect power before servicing.
Never insert or remove boards or componets with the power on.
During installation use grounded antistatic wrist band to protect this equiment form ESD.
The panel must be installed permanetly. It is not allowed to connect the device directly to any socket-outlet.

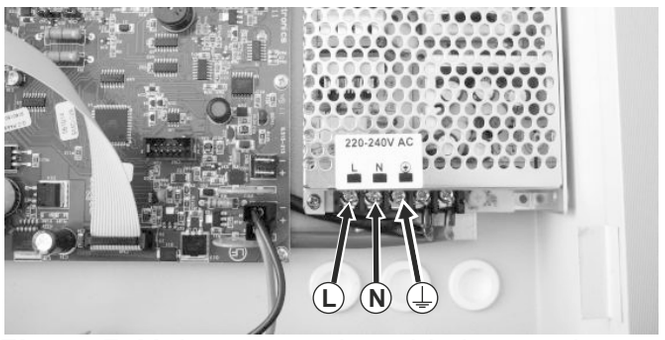


Figure 7. Mains connection with the panel.

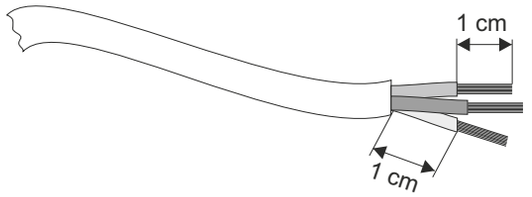


Figure 8. Power supply cables

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.
In page 8 shows the mounting holes of the panel.
The panel must be placed above 1m from the floor and and 1m below the ceiling and must have distance 30cm from any other devices. No other power lines must pass behind the panel, only the supply cables of the panel.

Cabling

The maximum conductor diameter size , which can be terminated, is 2,5mm²

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 max. Conductor diametre of 2.5mm to the panels terminal blocks.
The mains power supply wiring must use a double insulation cable.
The main supply must include an earth conductor connected to the fixed installation earthing system of the building.

The connection with the mains power supply must be done to the terminal blocks located on the panels up right area. Figure 7 .

Battery connection

The battery compartment has the appropriate dimensions for A-986 battery of ***olympia electronics****.*
The charging unit on PCB is also calculated for the specific battery. Replace the battery only with one of the same type
From the PCB, are connected two battery wires with a special terminal on the edge. They must be connected to the two battery poles. Connect the black wire to the negative pole (marked (-) or a black mark) and the red wire to positive pole (marked (+) or a red mark).

Battery disposal.

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

Warnings.

1. Service and maintence activities should be done only when the device is disconneted from the mains power supply and the battery.

2. During the installation the connections to the mains power supply and the battery must be done after all other connections are finished.

3. The panel connection with the mains supply must be done via a10A external fuse or an automatic circuit breaker rated at 10A.This fuse has to be a separate, labeled fuse.

4. Always use cables with double insulation.

5. The diameter of the cable must be at least 1mm.(Figure 9)

6. The inner insulation of each cable must not be cut more than 1cm (Figure 9)

7. The outer insulation must not be cut more than 1cm away from the internal insulation.

8. The batery fuse is a resetable fuse 3A inside the panel.

Technical Specifications

	BS-627 4 zone panel with one extinguish output
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 batteries12V-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 limits be 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	1Ohm
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 ^{o}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 54-2, EN 54-4

Technical Specifications

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

Certification

The panel BS-627 is certrified from HEEQAC. Also HEEQAC controls the production under CPR number: 0848-CPR-005. Below is the marking:

BS-627

4 ZONE PANEL WITH ONE EXTINGUISHING OUTPUT
INSTALL IN ACCORDANCE WITH PRODUCT MANUAL:
921627000_08_012 (GREEK)
921627000_09_012 (ENGLISH)

POWER SUPPLY:
220-240V AC/50-60Hz

CE 0848 14

EN 12094-1:2003
EN 54-2:1997 +A1:2006
EN 54-4:1997 +A1:2002 +A2:2006
EN 12094-3:2003
0848-CPR-005
DoP No:921627000_59_001
Provided option: Output to fire alarm device(s)
DISCONNECT POWER BEFORE SERVICING
Production Date: / /

72nd km. O.N.R. THESSALONIKI-KATERINI
P.C. 60300 P.O.BOX 06 EGINIO PIERIAS
GREECE