GLOBAL
FIRE EQUIPMENT

ORION-EX
Installation, Operation & Maintenance Manual

• General Description

The **ORION EX Conventional Fire Detection and Extinguishing Panel** is designed and manufactured to comply with EN 54-2, EN 54-4 and EN 12094-1.

Advanced configuration solutions include the following: programmable pre-release and extinguishing times, electro valve and flow switch status indications, manual and abort remote activation. There are 3 normal fire detection zones. All inputs are fully monitored for both Fire, Activation and Fault Conditions.

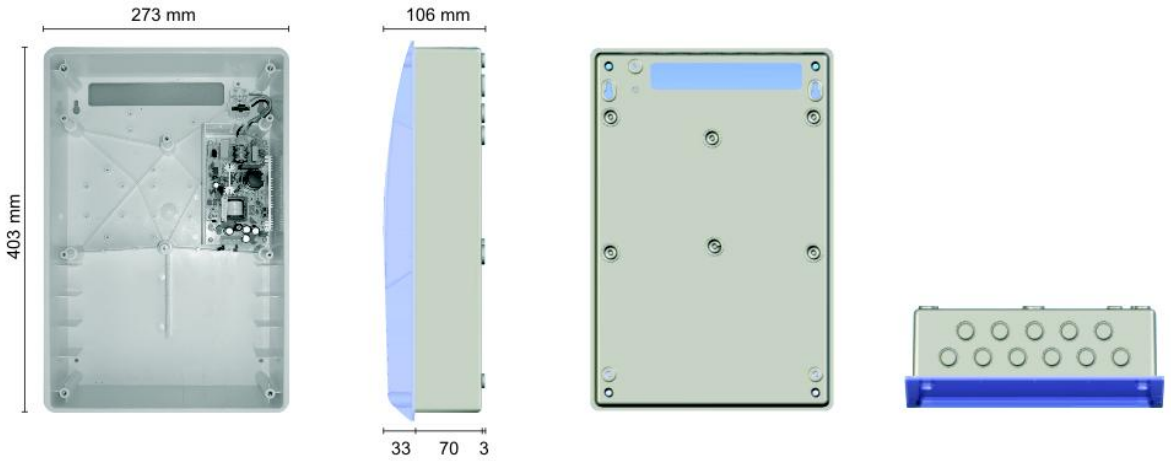
MAIN FEATURES

- ✓ 3 Fire Detection Zones, with Zones 1 and 2 linked with extinguishing cycle
- ✓ Up to 32 conventional smoke and/or heat detectors per Zone
- ✓ Active End of Line monitoring (10uF/50V bipolar capacitor) for Zones
- ✓ Programmable Pre-Release and Extinguishing times
- ✓ Remote Manual Activation and Remote Abort Input
- ✓ Electro valve and Pressure Switch Status Indication
- ✓ One man test
- ✓ Supervised auxiliary 24 volt supply output
- ✓ 2 Supervised/monitored output circuits
- ✓ 2 Remote inputs used for activation of Evacuation and Reset
- ✓ 2 Relay outputs fire and fault with status indication
- ✓ Fully EN 54-2, EN54-4 and EN 12094-1 compliant

• Important Safety Notes

- ✓ This equipment must only be installed and maintained by a suitably qualified and technically competent person.
- ✓ This equipment must have an Earth Connection.
- ✓ A basic knowledge and training in the installation of Fire Detection systems is assumed.
- ✓ The Fire Detection system should be designed by a suitably qualified person with reference to the Local Regulations and Guidance from the fire Officer where applicable.

• Mechanical data



INSIDE VIEW | VIEW FROM SIDE | VIEW FROM REAR | VIEW FROM TOP

• Cable Types

System wiring should be installed in accordance with National Standards and wiring regulations.

To protect against electrical interference we recommend the use of screened cables throughout the system. Separate cables should be used for sounder and detection circuits, the use of multi-core cables to carry sounder circuits and detector circuits is not recommended. The cable screens should be terminated and connected to Earth at the panel only. Maximum cross section of cables to use is 2.5mm, otherwise terminals in the control panel could be damaged.

Mains wiring should be 3 core 1mm² to 2.5mm² fed from an isolating fused spur, fused at 3A. This should be secure from unauthorized operation and be marked “Fire Alarm Do Not Switch Off” The mains supply must be exclusive to the fire panel.

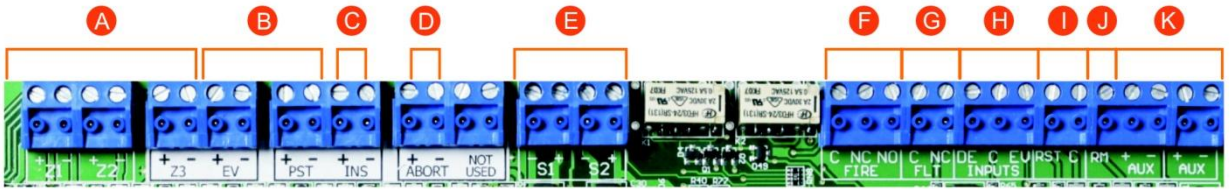
• Connecting the Panel

Before connecting zone or sounder cables, power up the control panel with the Active EOL connected to the zone inputs and the EOL resistors for the sounder/output lines connected. Connect mains and battery power; there should be no fault indications. The mains supply should be routed away from the other cables and enter the control panel adjacent to the mains terminal block.

Depending on panel load and standby requirements, two 12 volt VLRA batteries of capacity up to 7Ah may be fitted in the housing. The batteries should be wired in series (24 V) using the supplied link. Take care not to short circuit the battery terminals.

Check zone, remote input and sounder wiring for continuity. Short or open circuit indications must be rectified before connecting to the control panel. All cable testing must be carried out with a Multi meter… NEVER use a Megger when devices are connected.

Transfer Active EOL modules and EOL resistors to the last device on Detection and sounder circuits and connect the cables to their respective terminals in the control panel. See Diagram below.



	DESCRIPTION	PAGE INDEX
A	Zones	6
B	Monitored Inputs	8, 11
C	Remote Input – Start Extinguishing Cycle.	9, 11
D	Remote Input – Stop Extinguishing Cycle.	9, 11
E	Output Circuits (S1: Active with Fire; S2: Active during extinguishing).	6, 7, 9, 11, 12
F	Auxiliary Relay – Fire (Changeover).	8, 9
G	Auxiliary Relay – Fault (Normally Closed).	8, 9
H	Remote Evacuation - not monitored	7
I	Remote Reset - not monitored	7
J	RM - Monitored Open Collector Output (Active during extinguishing)	7, 9, 11, 12
K	Auxiliary Supply Outputs - 28V DC @ 300 mA	8

- ## Panel Status Indicators & Controls

STATUS LED'S

FIRE – LED used to indicate any FIRE ALARM condition present on panel.

FAULT – LED used to indicate any FAULT condition present on panel.

DISABLED – Disabled Status LED used to indicate that the panel has features that have been disabled in either Access Level 2 or 3 modes.

TEST – This LED is active whenever panel is in TEST MODE. Only LIT when in Engineering Mode and TEST mode has been selected.

SUPPLY - Multi function indicator used to indicate the presence of supply. When in Access Level 1 this LED is permanently lit. If in Access Level 2 (enter this mode using USER CODE) this LED will flash at a rate of once per second. And finally if in Access Level 3 mode (enter using ENGINEERING CODE) this LED will flash faster at a rate of once every 0,5 seconds.

SYSTEM FAULT – This LED will be lit whenever there is a processor failure or corruption of the panel firmware.

FAULT LED'S

SUPPLY FAULT – This LED will be ON whenever the Main Supply has been removed or has dropped below 20 Volts.

BATTERY FAULT – Indicates that there is low voltage level on the batteries or the battery charger circuit has failed.

SOUNDER FAULT – If there is a conventional sounder circuit fault, the General Fault LED will be lit and the Disable Sounders LED in the disablements section will also be lit and flashing.

EARTH FAULT – When this indicator is ON, there is leakage current flowing from the earth connection/wiring and any conductor in coming into the panel.

ZONES & INPUT LED'S

Individual zone and monitored input indicators are provided for both FIRE/ALARM and FAULT conditions. If any of these inputs is disabled then its FAULT LED will also be used to indicate the disablement of that particular zone/ input. The Zone/ Input Disabled LED will be ON along with the associated Disabled status LED. Flashing Fault LED along with General fault LED indicates fault on that zone.

CONTROLS KEYS

These four keys can have more than one function. They are numbered to indicate that they are used to enter digits from 1 to 4 for code entry.

BUZZER SILENCE (1) – At Access Level 1 this button is used to silence the panel's internal buzzer. Access level 3 used to confirm/accept changes in programming.

RESET (2) – Press this button to reset the panel at access level 2 or 3.

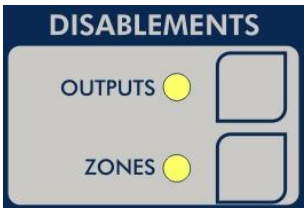
LAMP TEST (3) – Press this button at access level 1 or 2 to test all LED indicators and the panel's internal buzzer. Release when test is finished.

SOUNDERS (4) – Press once to activate/silence sounders. If sounders are active, for example, during a FIRE condition or in the event of an Evacuation action, pressing this button will stop the sounders. Auxiliary Relays are not affected by this action. Used in Access level 3 programming to select Zones.

DISABLEMENTS

These switches will only be active in Access Level 2.

OUTPUTS – Press this button to enable/ disable a particular output. When switch is pressed associated LED will also be lit. Select the required output by pressing consecutively the RED BUTTON (4) until the FAULT LED for the required output is lit. Confirm selection by pressing the GREEN BUTTON (1). The corresponding RED LED will be lit. Remove selection by pressing again the GREEN BUTTON (1). The associated RED LED will be OFF. To exit function repeat OUTPUTS switch press.



The RED LED when lit indicates which output is disabled.

The yellow LED is used which output is presently selected to ENABLE/DISABLE. When there are any outputs disabled, the yellow LED associated with the outputs button will be lit.

ZONES – Use this button to disable zones 1, 2 and 3. When switch is pressed associated LED will also be lit. Select the required ZONE by pressing consecutively the RED BUTTON (4) until the FAULT LED for the required ZONE is lit. Confirm selection by pressing the GREEN BUTTON (1). The corresponding RED LED will be lit. Remove selection by pressing again the GREEN BUTTON (1). The associated RED LED will be OFF. To exit function repeat ZONES switch press.

- # Connection Diagrams

ZONES 1, 2 & 3

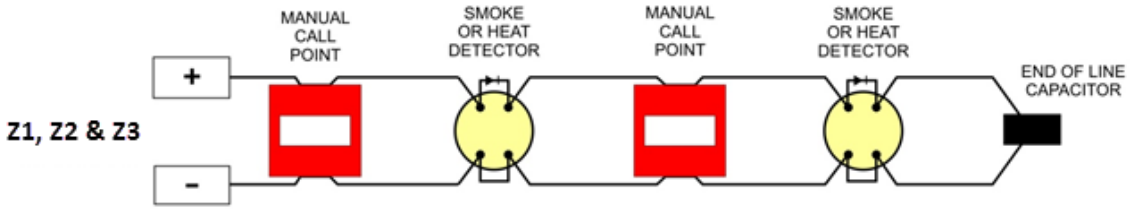
Three zones are available for detection device wiring. Each zone has capacity for up to 32 smoke / heat detectors and an unlimited number of manual call points. This may be restricted by local regulations.

An active end of line capacitor (10UF/50V bipolar) is supplied for each zone, as part of the monitoring circuit. This must be fitted to the last device of each Zone. If a detection zone is unused the end of line module must be connected at the panel, if is not fitted, a fault will be indicated for that zone.

A typical detector circuit wiring layout is shown below. Please consult the device manufacturer's instruction manual for detailed information.

If manual call points are wired on the same circuit as detectors then in order to comply with the requirements of BS5839 with respect to head removal monitoring, detector bases should have a Schottky diode fitted which permits manual call points after a removed detector to continue to operate normally (see diagram). Manual call points should have a maximum internal resistance of (470-680) ohms in Alarm.

The wiring for each detector zone should be terminated in the relevant terminal blocks at the control panel and the cable screens connected to earth.



NOTE: Zone 3 is totally independent from extinguishing cycle. Upon activation by one detector or call point, only **S1** output and panel **Fire** relay will be activated.

S1 & S2 MONITORED OUTPUTS

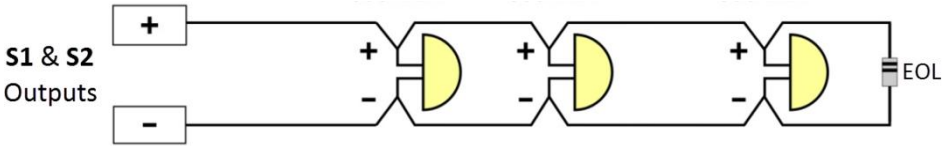
These output/sounder circuits have a combined maximum current output of 1Amp.

Connected devices (sounders, beacons, bells, pyrotechnic actuators, solenoids, relays, etc.) must be polarized, non-polarized devices trigger a fault on the panel circuit. In order to mitigate this situation a polarization diode should be added when using bipolar devices. With solenoids, relays and bells a flyback diode should be present.

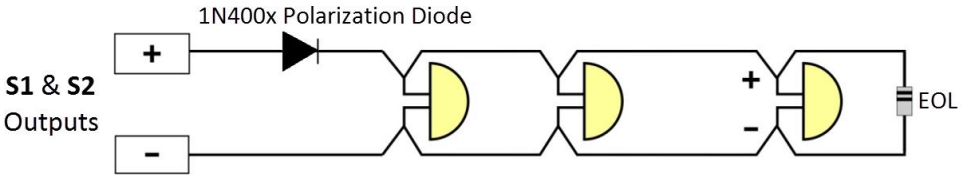
An end of line resistor (10 K Ohm) which is supplied with the panel, must be inserted in the last sounder for cable monitoring. If a sounder circuit is not used, the EOL resistor should be fitted in the control panel sounder output.

The sounder circuits are protected against short circuits, the electronic fuse will reset when the short circuit is removed and the control panel is reset.

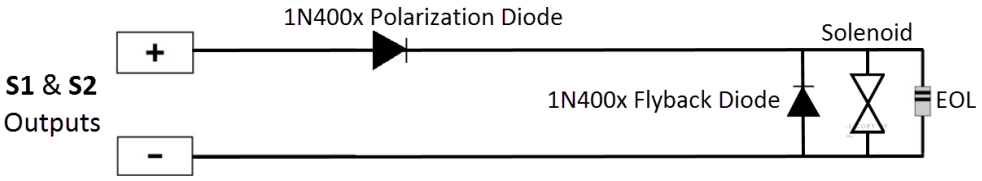
POLARIZED DEVICES



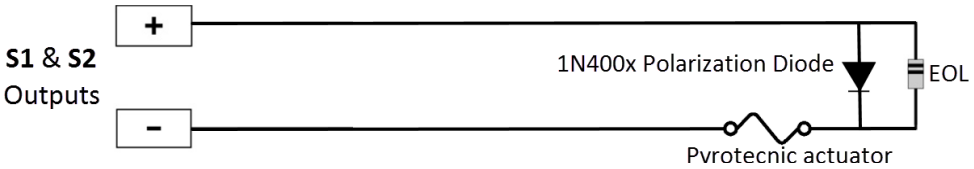
NON-POLARIZED DEVICES



RELAYS, SOLENOIDS OR BELLS

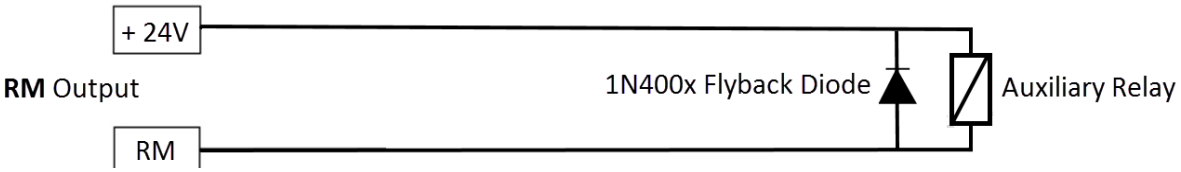


PYROTECNIC ACTUATORS



RM MONITORED OUTPUT

This is an open collector output that is activated during discharge. It's better suited to power an auxiliary relay that can be used to activate external actuators such as solenoids. Since it's an OC output, output current is very limited
(< 100mA). Line monitoring is achieved with a 4K7 resistor that mimics relay coil resistance, therefore resistance should be removed after connecting relay.



AUXILIARY INPUTS – Not Monitored

There are on the Orion-EX remote activation inputs. All remote inputs are activated using a voltage free dry contact like a relay or manual ON-OFF switch between input and 'C' terminal.

RST – The closure of a contact at this input will cause the panel to reset. In order to reapply a reset to the panel, contact has to be released and reapplied. Pulse action.

EV – Activates S1 & S2 outputs immediately when 0V is applied via a voltage free contact. Sounders active LED is illuminated, connected devices continue to operate until the input is removed. Pressing the Silence button will stop the sounders.

DE – Not used. Reserved for future developments.

AUXILIARY INPUTS – Monitored

All below inputs require an active EOL is used to monitor the status of the lines. Faults are signaled via the associated yellow LED.
Activation of this input is accomplished using a normally open (NO) voltage free contact in series with a resistor with a value in the range 470 to 1000 Ohms which is already included in some devices like GFE's MCPE-C call points. The red LED is activated when the contact is closed.

EV – This input is used to monitor and signal the panel the status of the SOLENOID valve associated with the extinguishing system.

PST – This input is used to monitor and signal the status of the PRESSURE switch associated with the extinguishing system.

INST – This input **starts** the automatic extinguishing cycle. Refer to page 13 for additional information.

ABORT – This input **stops** the extinguishing cycle, normally via a colored call point that connects directly to input.

AUXILIARY OUTPUTS – Monitored

AUXILIARY SUPPLY OUTPUT - 28V DC max 300 mA, short circuit protected, supervised. The output is protected
against short circuit by an electronic fuse which resets when the fault is cleared and the panel is reset.

FIRE – Provide Fire signal to external devices. Changeover contact (rating: 30V DC/2A). Active until Reset.

FLT – Provide normally closed Fault signal to external devices. Relay contact rating: 30V DC/2A. max resistive.
Also Active for microprocessor fault. Active until Reset and all faults are cleared. Relay contact will open when any fault is present on the system.

DATA – Communication port for repeater panel connection with available interfaces.

• Commissioning

The ORION-EX is supplied ready to operate as a standard conventional Fire Alarm control panel. Optional functions and their programming are described in the next section.

The default settings for the ORION-EX are as follows:

- ✓ All zones Latching
- ✓ No timers are programmed
- ✓ Authorized User Access Code (Level 2) : **2244**
- ✓ Alternatively access to Level 2 can be entered using the Access Key provided.
- ✓ Programming Access Code (Level 3) : **4321**

PREPARATION

1. **1º.** Check detector cables and ensure all field connections are made, ensure that all EOL devices are fitted to the last detector, call point or sounder of each circuit. EOL Capacitors should be fitted to zones or remote monitored inputs. EOL Resistors should be applied to sounder circuits.
2. **2º.** Connect detector and sounder lines or terminate with EOL.
3. **3º.** Remove the mains fuse.
4. **4º.** Connect mains supply according to local mains voltage. Ensure good earth connection
5. **5º.** Fit batteries (do not connect)
6. **6º.** Insert mains fuse and connect batteries - observe correct polarity

COMISSIONING

1º. If all is normal only the Green “supply” LED should be illuminated.
2º. If any Faults are indicated they should be corrected before proceeding.
3º. Initiate lamp test and check all LEDs operate and internal buzzer sounds.
4º. Test each key for correct functioning.
5º. Test all detectors, manual call points, sounders, relays etc. for proper operation.

TESTING – Z1 to Z3, EV, PST, INS, ABORT Inputs

1º. Set zones to Test mode
2º. Activate device according to manufacturer specification
3º. Wait until response indicator on device indicates Red
4º. Reset initiating devices or until detectors are normal (Z1 to Z3)
5º. Automatic reset after (10 sec)

After testing is completed be sure to return control panel to normal operating mode. Pressing RESET button will EXIT TEST mode.

TESTING – S1 Output Circuit

1º. Initiate sounder test by entering Access Level 2 and pressing Sounders Activate/ Silence.
2º. Press again to stop.

TESTING – FIRE, FLT, S2, RM Outputs

With the system in normal operating mode induce an Alarm and a Fault to confirm proper operation of relays and external devices at the end of any programmed delay.

• Operating & Programming the Panel

The ORION-EX has a number of programmable options to help the engineer customize the system to meet the customer's requirements. To access these options it is necessary to enter access level three.

There are three levels of Access on the ORION-EX:

LEVEL 1 – General User Controls

- Perform a lamp test
- Silence Internal buzzer
- Put the panel into Access Level 2 or 3 if in possession of the required access code.

LEVEL 2 – Authorized user controls (2244) or Access Key

This higher level allows the user to:

- Silence and resound the sounders
- Reset after an Alarm or Fault
- Manually activate the sounders (Evacuate function)
- Silence Internal Buzzer
- Test the indicator lights
- Disable/Enable: Outputs; Zones & Monitored Inputs; Activate & Abort Extinguishing Cycle

When any zone or function is disabled the Disabled LED on the STATUS area of the Control Panel display, will be lit, together with the corresponding function or zone disablement LED. Disabled zones will have their corresponding FAULT/ DISABLED LED illuminated.

Level 2 Access is gained by entering the code **2244** using the numbered buttons. When in panel is in Level 2 the green LED will flash with a frequency of 1 Hz.

Each successful button press is indicated by the illumination in succession of the Fault LEDs for zones 3, 4, 5 and 6. If the code is not completed within 20 seconds of the last key press, the system reverts to level 1.

NOTE: If any Fire or Fault events have occurred these must be acknowledged by pressing the Buzzer Silence button to acknowledge each Fault or Fire event before code entry will be accepted.

LEVEL 3 – Engineering Functions (4321)

It is accessed from Level 1 and allows:

- One Man Test
- Extinguishing Pre-Release Delay and Extinguishing Timer Configuration

NOTES:

1) Changes made at this level affect the factory default settings and the operation of the system. They should only be made by qualified personnel who are fully aware of their effects.
2) If any Fire or Fault events have occurred, these must be acknowledged by pressing the Buzzer Silence button to acknowledge each fault and Fire event before code entry will be accepted.
3) When in Access Level 3, the occurrence of any Fire or Fault condition the system will automatically exit from Level 3 and revert to Level 2.

To enter Engineering Mode (Access Level 3) enter the factory programmed code, using the numbered keys (from 1 to 4), which are available on the top right hand side of the control panel display. Each successful button press is indicated by the illumination in succession of the Fault LEDs for zones 3, 4, 5 and 6. If the code is not completed within 20 seconds of the last key press, the system reverts to Level 1.

Once this mode is entered the GREEN LED (SUPPLY) will flash once every 0,5 seconds.

To exit this mode at any time, press the RESET button. The panel will revert to Access Level 1.
Total removal of power during the programming phase may lose the changes entered.

• Programmable Options

ONE MAN TEST

After entering Engineering Mode (Access Level 3) press the LAMP TEST button. Release button and the TEST LED will be on along with the fault LED for all zones that are available for testing indicating that the panel is in TEST mode. Zones that are in Fault or are Disabled will not have their LED illuminated.

Test zones as required. At each zone activation, the corresponding zone FIRE LED will light up for 5 seconds.

Zones will automatically reset after 10 seconds. Internal Buzzer and SOUNDERS will operate for 1 second.
To end TEST mode press LAMP TEST button.

To exit Engineering Mode (Access Level 3), press the RESET button.

PRE-RELEASE DELAY

1º. After accessing Level 3, press **ACTIVATE EXTINGUISHING** switch. The associated LED will be activated.
2º. Select the required time delay by pressing the RED switch (4) consecutively until one of the LEDS that correspond to required day it's lit up. Please refer to below table for additional details.

3º. Confirm the selection by pressing GREEN (1) key. Upon confirmation the RED (FIRE) LED will be activated. Remove selection by pressing the GREEN key again. The corresponding LED will be switched OFF.
4º. Perform step 3 until all LEDS are ON.
5º. To exit the function press **ACTIVATE EXTINGUISHING** switch.

EXTINGUISHING TIMER

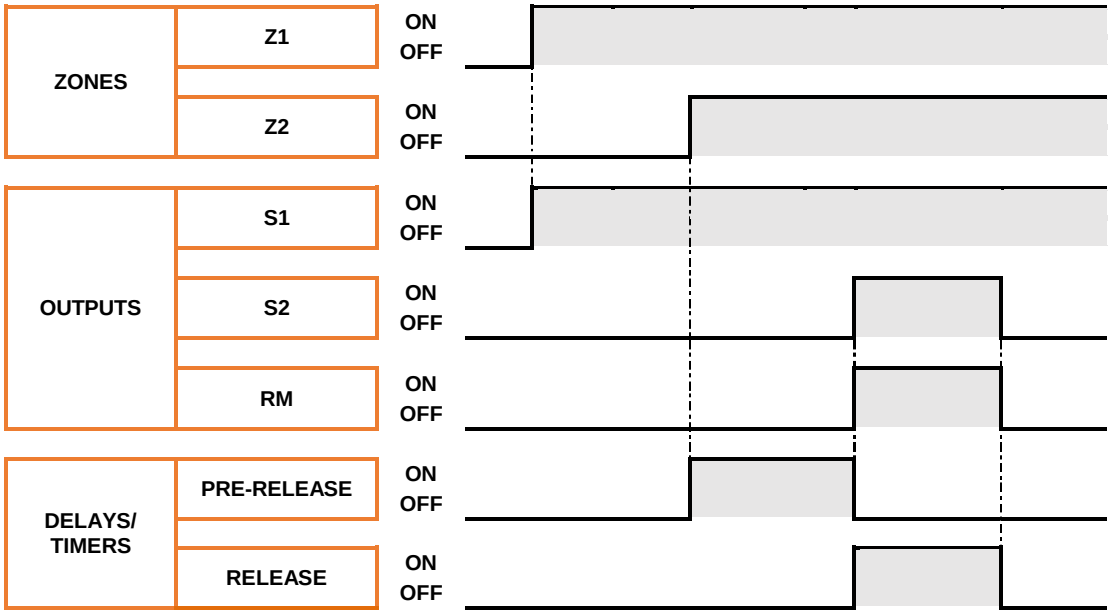
1º. After accessing Level 3, press **ZONES** switch. The associated LED will be activated.
2º. Select the required time delay by pressing the RED switch (4) consecutively until one of the LEDS that correspond to required time it's lit up. Please refer to below table for additional details.
3º. Confirm the selection by pressing GREEN (1) key. Upon confirmation the RED (FIRE) LED will be activated. Remove selection by pressing the GREEN key again. The corresponding LED will be switched OFF.
4º. Perform step 3 until all LEDS are ON.
5º. To exit the function press **ZONES** switch.

ACTIVE	CORRESPONDING DELAY DURATION IN SECONDS																												
ZONE LEDS	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	200	210	220	230	240	250	260	270	280	290	300	310
Z1	ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON		ON
Z2		ON	ON			ON	ON			ON	ON			ON	ON			ON	ON			ON	ON			ON	ON			ON	ON
Z3				ON	ON	ON	ON					ON	ON	ON	ON					ON	ON	ON	ON					ON	ON	ON	ON
Z4								ON	ON	ON	ON	ON	ON	ON	ON									ON	ON	ON	ON	ON	ON	ON	ON
Z5																ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON	ON

NOTE: The programmed delay/timer is calculated multiplying by 10, the binary digit represented by the total number of RED LEDs lit. Each count represents 10 seconds.

• Extinguishing Cycle - Automatic

GRAPHICAL OVERVIEW



NOTE: All outputs are deactivated with panel RESET.

FUNCTIONAL DESCRIPTION

Based on presented in graphical timeline, when both zones 1 and 2 are in Fire condition, the pre-extinguishing delay is initiated, if previously programmed.

- **S1** output is activated immediately with each zone activation.
- **S2** and **RM** outputs will be active for the duration of the programmed time but only after the pre-extinguishing delay has elapsed.
- **S1** output can be silenced using Sound/ Resound Alarms button.

NOTE: If no extinguishing delay has been programmed, both sounder circuits and output RM will activated immediately for the duration of the programmed extinguishing cycle.

When this timer elapses both **S2** and **RM** outputs will be de-activated. Sounder Circuit 1 is silenced using Sound/ Resound Alarms button upon entering access level 2. The LED associated with this button will be OFF. FIRE LEDs for zone 1 and 2 will be active. With each fire activation the SOUNDERS RED LED will be activated. When the extinguishing is active both EXTINGUISHING and REMOTE O/P RED LEDs will be lit.

• Extinguishing Cycle - Manual

MANUAL – INS Input

Upon activation of this input, normally via a dedicated colored call point, extinguishing cycle process starts in the same way as if both zones Z1 & Z2 have been activated.

- **S1** output is activated immediate. **S1** output can be silenced using Sound/ Resound Alarms button.
- **S2** and **RM** outputs will be active for the duration of the programmed time but only after the pre-extinguishing delay has elapsed.

MANUAL – Panel

The extinguishing process can be controlled manually using the buttons available on the panel's front display.

The extinguishing release timer can be initiated manually executing the following steps:

a) In level 1, silence the internal buzzer using the INTERNAL BUZZER SILENCE button if there are any Fire or Fault conditions which have not been acknowledged.
b) If panel is in access level 1, access level 2 by using either the access key provided or by entering the user code 2244.

c) In order to activate the extinguishing press the **ACTIVATE EXTINGUISHING button for minimum of 5 seconds**.

- Activation is confirmed after the internal buzzer sounds for 1 second.
- Extinguishing outputs **RM** and **S2** will be activated for the duration of programmed extinguishing time.
- S1 will also be activated.

NOTE: The pre-extinguishing delay is not obeyed, extinguishing agent release is initiated immediately.

• Troubleshooting - Fault Indications

NOTE: Troubleshooting work of any fault on the panel should only be carried out by qualified technicians.

General Fault - The General fault LED is illuminated whenever there is a fault on the system. It is always lit along with at least one other fault indicator which gives more detail relating to the fault.

Zone Fault - This type of fault will indicate that there is either a short or open circuit condition on zone circuit. Revise wiring.

Supply Fault - Associated with a low voltage (below 20 V) present at the input of the power supply or the removal of the main power supply. Measure voltage levels and verify electrical mains fuse.

Battery Fault - This fault is present when there is a low voltage below 20 V DC at the battery terminals or if there is a battery charger problem. Charger problems can be caused by panel's hardware failure or batteries that have not been connected in the specified manner as indicated in this manual, on the installation section. Verify if batteries are properly connected. Measure the voltage at the battery terminals. If it is below 21V DC replace batteries. Remember to verify also the main electrical fuse.

NOTE: Don't short circuit battery terminals in order to verify battery charge. Only use batteries which are batteries which are VLRA LEAD ACID 12V DC.

Earth Fault - This FAULT will indicate that there is some level of current leakage between any of the wire conductors and the EARTH connections. VERIFY WIRING.

System Fault - This FAULT indicates that there is a fault at the main processor level. In this particular fault, the panel's main board needs to be replaced or repaired.

- ## Standby Battery Calculation

  Battery capacity should be between 2 x 2.4 Ah 12 V DC and 2 x 7 Ah 12 V DC.

  The battery Ah required for a given installation is calculated from the following formula:

$$\left(\begin{array}{c}\text{Quiescent current in mA of the panel with everything connected}\end{array} \times \begin{array}{c}\text{Standby time required in hours divided by 1000}\end{array}\right) + \left(\begin{array}{c}\text{Alarm current in Amps (sounder load)}\end{array} \times \begin{array}{c}\text{Alarm time in hours}\end{array}\right) + 20\%$$

Round the result to the next available battery size.

Quiescent current of the panel with everything is found by adding the standby current of all connected devices to the standby current of the panel (38mA). Consult the manual for the individual devices to confirm the standby current.

- ## Repeater Interface Connection

The interface board used to establish communication between the ORION-EX and its associated repeater(s) should be linked to the connector labelled DATA, which is situated on the underside of the panel's PCB board. The interface should be fixed to the base of the back box as shown below. The panel's main board and interface are connected using the 5 way flat cable provided. The cable is fitted with 2 polarized connectors of the Molex type.

For details about connection, please refer to repeater installation manual.

TECHNICAL SPECIFICATIONS	
SUPPLY SPECIFICATION	
PRIMARY SUPPLY VOLTAGE - IN	230 +10% -15% V AC
PRIMARY SUPPLY VOLTAGE - OUT	28.5 V DC nominal
PRIMARY SUPPLY CURRENT - OUT	1.7 A @ 28.5 V DC nominal (max.)
SECONDARY SUPPLY VOLTAGE	21.0 min. - 27.2 max. V DC - BAT charger o/p 28 V DC
SECONDARY SUPPLY CURRENT OUTPUT	1.85 Amp Maximum @ 200C
INTERNAL BATTERY CAPACITY - MAXIMUM	2 x 12V x 7Ah Sealed VRLA Lead Acid Batteries
MAINS FUSE	4 A -250 V Slow Blow - 20 mm
BATTERY FUSE	1.85 Amp - Resettable
DETECTION CIRCUIT SPECIFICATION	
NUMBER OF DETECTION ZONES	3
ZONE CURRENT - QUIESCENT / ALARM	4 mA / 60 mA - Maximum
MAX. CABLE RESISTANCE / CAPACITANCE	40 Ohms / 0.470 uF
END OF LINE MONITORING	Active EOL - Capacitor
BS5839 DETECTOR REMOVAL COMPLIANT	YES provided diodes are fitted to detector base
DEVICES PER ZONE	32 Maximum - EN54 pt.2
ALARM RESISTANCE VALUE	270 - 1000 Ohms
SOUNDER/OUTPUT CIRCUIT SPEC.	
CURRENT OUTPUT	1000 mA combined maximum current drive for both circuits
VOLTAGE OUTPUT	27.5 V DC Nominal
END OF LINE RESISTOR	10 K Ohms - 1/4 Watt
AUXILIARY OUTPUTS SPECIFICATION	
AUXILIARY RELAY OUTPUT	1 Fire (COM-NC-NO) - 1 Fault (COM-NC) non-supervised
RELAY CONTACT RATING	30 V DC - 2 Amp resistive loads
REMOTE INPUT SPECIFICATION	
FULLY MONITORED INPUTS	Remote Activation, Remote Abort, Electrovalve Status, Flow/Pressure Switch Status
EVACUATION AND RESET	Non-Latching - Voltage free contact
MECHANICAL & OPERATING SPEC.	
MAX. HUMIDITY	95% RH Non-Condensing
PROTECTION	IP30
OPERATING TEMPERATURE	-10ºC to 50ºC
WEIGHT	1.7 Kg - 7 Kg (inc. 2 x 7 AH 12 V bat.)
DIMENSIONS	273 (L) x 107 (W) x 404 (H) mm
COLOUR	White or Red

GLOBAL FIRE EQUIPMENT S.A.

Sítio dos Barrabés, Armazém Nave Y, Caixa Postal 908-Z, 8150-016 São Brás de Alportel - PORTUGAL
Tel: +351 289 896 560 • Sales: sales@globalfire.pt • Technical Support: techs@globalfire.pt • www.globalfire.pt