



ORION EX MINI-REP V2

Extinguishing Conventional Repeater Panel

INSTALLATION, OPERATION & MAINTENANCE MANUAL

GENERAL DESCRIPTION

The ORION EX MINI-REP V2 will provide remote control and system display status from multiple locations, to an ORION EX V2 based Conventional Fire Alarm System. Its reduced dimensions make it ideal for installation in reception areas or security booths where it would be impractical and unattractive to install a full size control panel. ORION EX MINI-REP V2 can be connected to the ORION EX V2 Conventional Panel using 4 different interconnecting technologies: RS232, RS485, (Fiber Optics and TCP/IP options are under development).

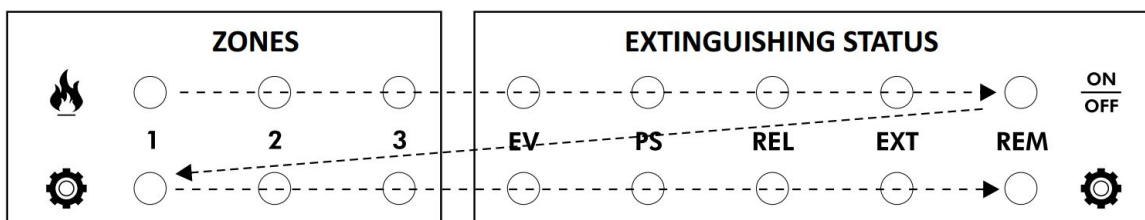
The unit is provided as standard with an RS232 interface. Power for the ORION EX MINI-REP V2 can be supplied from the control panel's auxiliary power output or from an external 24 Volt DC power supply if required.

IMPORTANT SAFETY NOTES

- This equipment must only be installed and maintained by a suitably qualified and technically competent person.
- 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.
- All wiring should be carried out with no power present in any part of the Fire Detection System.

COMPATIBILITY NOTE

ORION-MINI REP V2 repeater panel is only compatible with ORION-EX V2 extinguishing panels that exhibit the following sequential LED pattern during RESET.





INSTALLATION

In order to correctly install an ORION EX MINI-REP, the following steps should be taken:

- a) Remove the 4 screws fixing ORION EX MINI-REP V2 front cover to the unit's back box.
 - b) Disconnect flat cable linking ORION EX MINI-REP V2 mainboard to Interface Board.
 - c) Fix unit's back box in required mounting position using the mounting holes provided.
 - d) Reconnect flat cable connecting ORION EX MINI-REP V2 Main Board to Data Loop Interface board.
 - e) Connect communication wiring to interface following instructions provided in this manual together with the chosen interface manual. Refer to ORION-EX V2 panel's installation manual for further details about operation.
 - f) Connect Power Supply. ORION EX MINI-REP V2 requires 24V DC supply voltage, which can be derived from the control panel auxiliary supply output. Do not apply supply voltage until installation is complete.
 - g) Place ORION EX MINI-REP V2 cover onto unit's back box using the four previously removed screws.
- Before powering up the unit, verify that all connections are correctly made and that there are no open or short circuits on any of the interconnecting wires used for both supply and data transmission.

All connections should be performed with all elements of the Fire Detection System unpowered. The Repeater should be located where access to the internal components is not restricted and where the unit is not exposed to high levels of moisture, vibration and shock.

WARNING: Observe ESD precautions when handling the PCBs.

All cables should be screened.

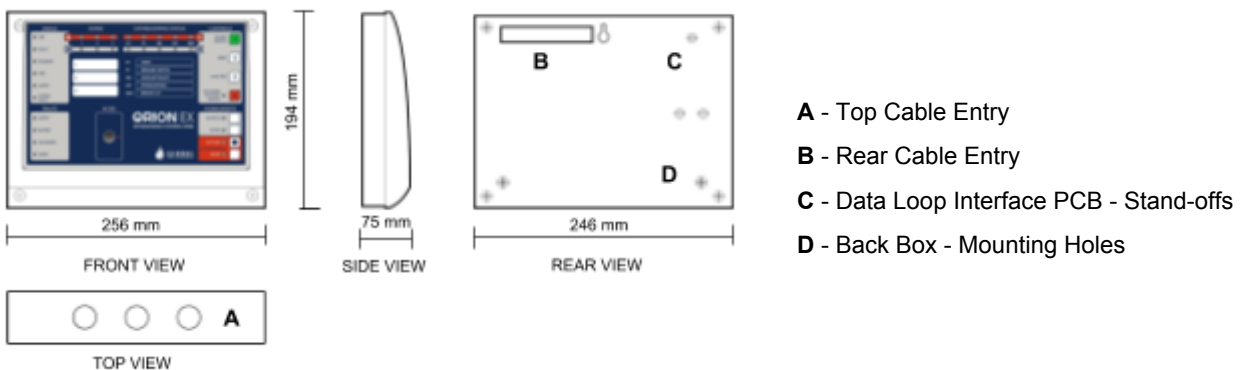
WARNING: Cable screen's should only be connected at one point to the physical Earth connection in order to avoid current loops.

When using RS232 or RS485 interfaces, only use cables recommended for this communication media. As a general rule, cables used for LAN (Cat 5) are suitable for this type of interfacing technology as they are widely available and offer excellent data transmission characteristics. Other signal cables for RS485 communication (twisted pair) can also be used:

- 12 AWG Signal 88202 Belden 9583 WPW999
- 14 AWG Signal 88402 Belden 9581 WPW995
- 16 AWG Signal 88602 Belden 9575 WPW991
- 18 AWG Signal 88802 Belden 9574 WPW975
- FIRETUF FDZ1000 by Draka 2 core
- PIRELLI type FP200 Gold 2 core
- PIRELLI type FP-PLUS

Fibre Optic: Multi-mode Dual Core sheathed fire proof with 62,5µ/125µ fibre terminated in ST connectors.

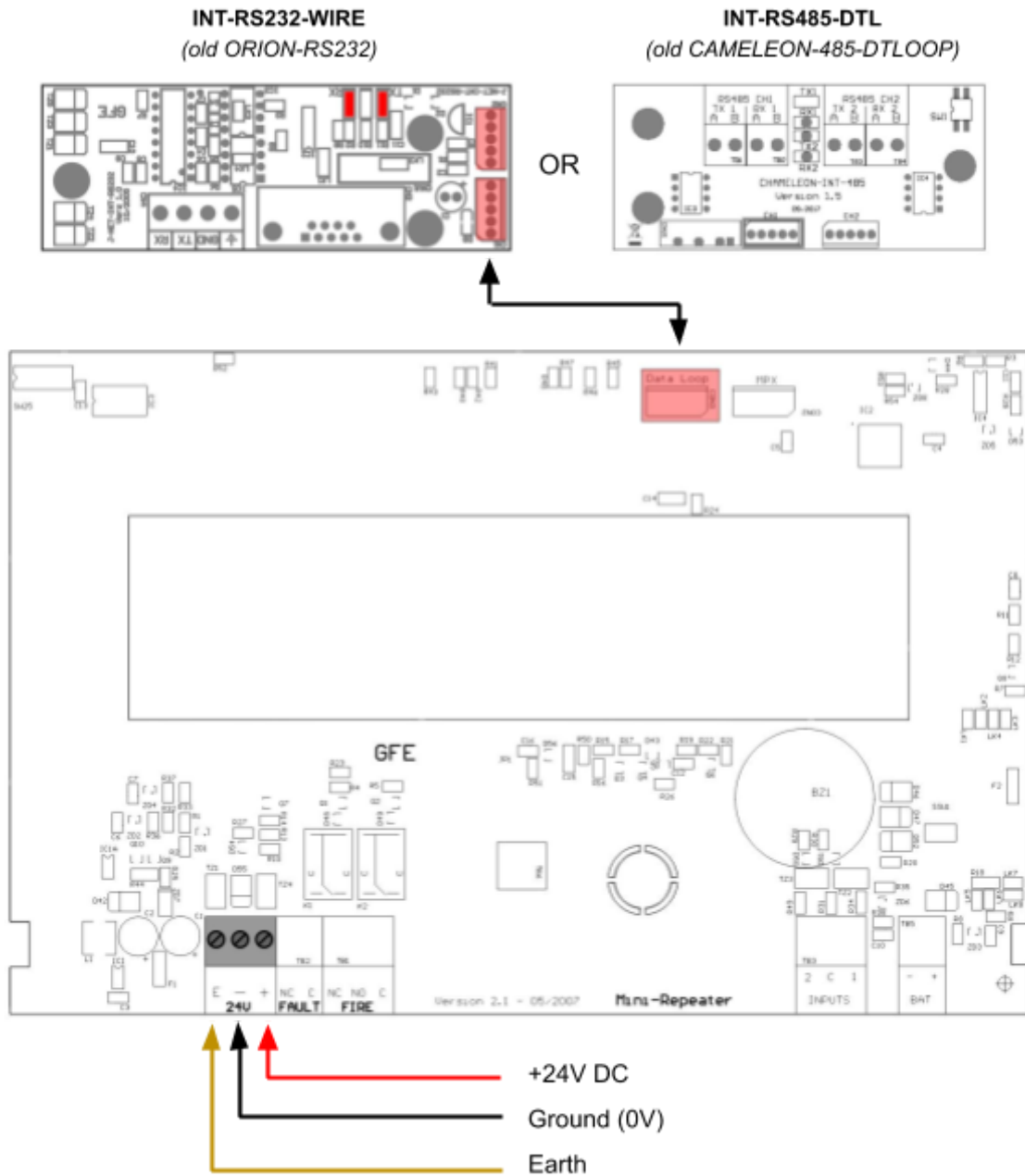
MECHANICAL DETAILS





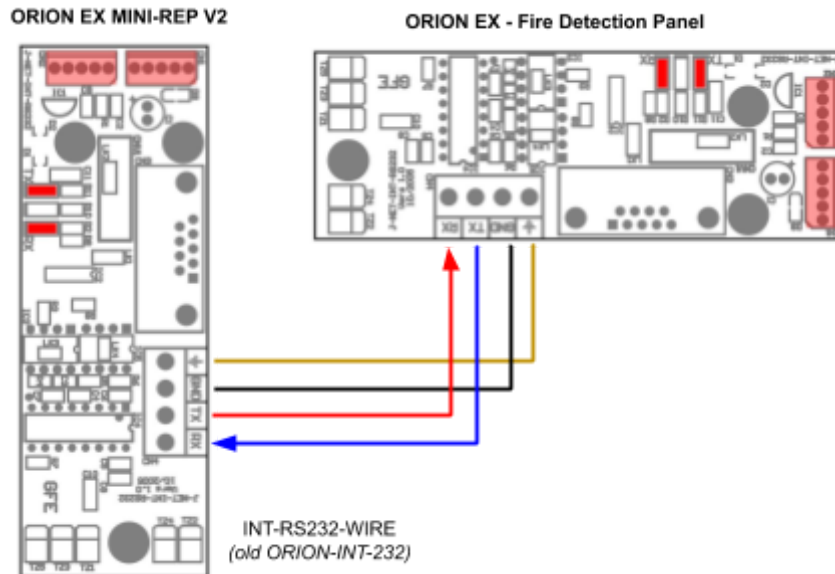
CONNECTION DIAGRAMS

ORION EX MINI-REP V2: General hardware and connections layout





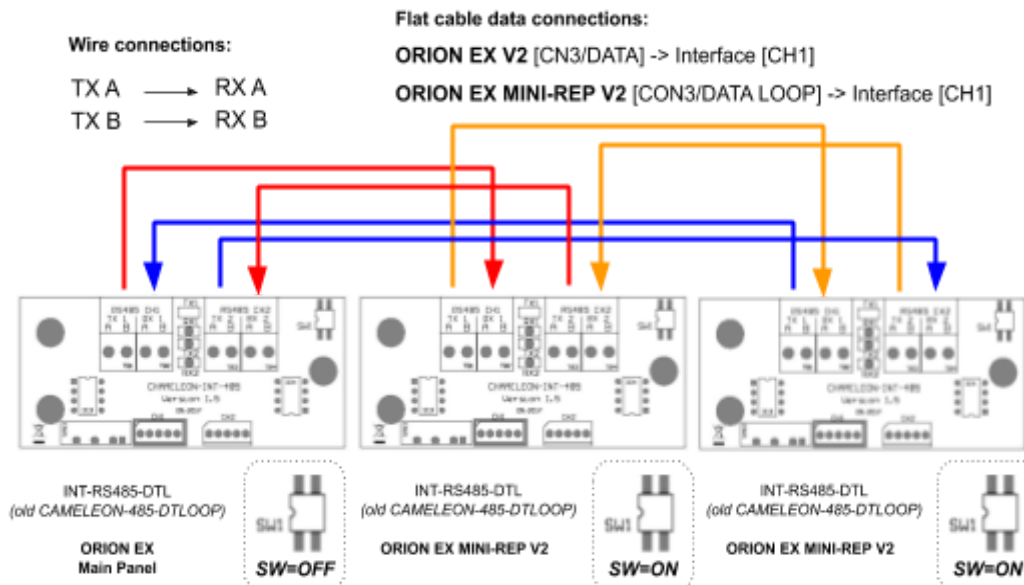
ORION EX MINI-REP V2: RS232 interface connections One single repeater connection



NOTE: Maximum of 4 ORION EX MINI-REP V2.
Maximum distance between Panel and last ORION MINI-REP should be 100 meters.

NOTE: If more than one Repeater is connected, in order for them to work properly some configurations are needed. Please refer to the "ADDRESSING THE PANEL" section in this manual.

ORION EX MINI-REP V2: RS485 interface connections Multi repeater connection until a maximum of 4



NOTE: If more than one Repeater is connected, in order for them to work properly some configurations are needed. Please refer to the "ADDRESSING THE PANEL" section in this manual.



PANEL STATUS INDICATORS & CONTROLS



STATUS

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

FAULT – LED used to indicate Fault condition present on panel. In case of communication fault between ORION-EX V2 and ORION MINI REP V2 or any other peripheral, Fault LED will flash at a rate of once per second.

DISABLED – Disabled Status LED used to indicate that the panel has functions that have been disabled in either Access Level 2 or 3 modes. Check ORION-EX V2 for detailed information.

TEST – This LED is active whenever panel is in TEST MODE. Only activated when in Engineering Mode and TEST mode has been selected at ORION-EX V2 panel.

SUPPLY - This LED signals the presence of Supply. Additionally, when in Access Level 1 this LED is permanently ON. If in Access Level 2 (USER CODE 2244) this LED will flash at a rate of once per second. It's only possible to access Level 3 mode (ENGINEERING CODE 4321) in main panel. Entering Level 3 code in ORION MINI REP V2 enters Level 2.

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

FAULTS

SUPPLY – This LED will be ON whenever the main panel supply has been removed or has dropped below 20 Volts.

BATTERY – Indicates low voltage level on the main panel batteries or if the battery charger circuit has failed.

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

EARTH – When this indicator is ON, there is leakage current flowing from the earth connection/wiring and any wire connected to main panel.



ZONES & INPUTS

Individual zone and monitored input indicators are provided for both FIRE/ALARM, EXTINGUISH 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 - AUTHORISED USER CODE: 2244

Some keys will only be operational at the repeater after entering the authorised user code. If the operation of a switch is only available after successfully entering the authorised user code, it will be clearly stated in this manual that these functions are only active at Access Level 2.

NOTE: If active please SILENCE INTERNAL BUZZER before entering code.

The four numbered keys are used to enter digits from 1 to 4 for authorised user code entry.

BUZZER SILENCE (1) – At Access Level 1 this button is used to silence the panel's internal buzzer. Access Level 2 used to confirm/accept changes in programming.

RESET (2) – Press this button to reset the panel at Access Level 2.

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. When selected the disablements in Level 2, this button is used to choose the desired disablement.

EXTINGUISHING CYCLE

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 physical access key provided or by User Code 2244.

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

- Activation is confirmed after the internal buzzer sounding for 1 second.
- Extinguishing outputs will be activated immediately for the duration of the previously programmed extinguishing time.
- S1 will also be activated.
- When the extinguishing cycle is initiated manually, the pre-extinguishing delay is not obeyed.

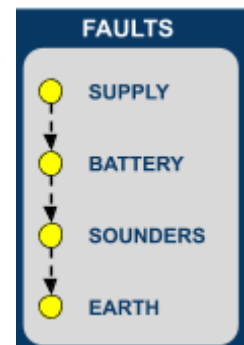
The extinguishing cycle can be stopped once initiated by pressing the ABORT EXTINGUISHING button.



ADDRESSING THE PANEL

There can be connected up to four ORION MINI- REP V2 to the ORION-EX V2 panel.
When more than one repeater is needed, each repeater has to be addressed.
To address the ORION MINI-REP V2 please follow the steps below:

1. Install and connect the repeater (refer to *INSTALLATION* section of this manual).
2. Apply supply voltage to main panel.
3. On the repeater, introduce code 4321 (*Engineering Functions code*).
4. Push **OUTPUTS** button on the **DISABLEMENTS** section.
The LEDs in the **FAULTS** section will flash alternately (see image on the right) indicating that the repeater is in **ADDRESSING MODE**. General **FAULT** LED on the **STATUS** section will flash indicating that the communication between the Repeater and the main panel was lost.
5. Select the desired Address by pressing the Red Switch (4) consecutively until the Yellow (**FAULT**) LED that corresponds to the desired Address is ON (please refer to the table below for additional details).
6. 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.
7. Exit function pressing **OUTPUTS AUXILIARY** button.
8. **RESET** the repeater by pressing the **RESET** key.
9. Repeat steps 3 to 8 to the remaining repeaters.
10. Reset the main panel.



Address Configuration Table									
Active RED LEDs during setup	ALL LEDES OFF	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
Corresponding Address	No Address	1	2	3	4	-	-	-	-

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATIONS	
SUPPLY VOLTAGE	24V DC nominal (21-29V DC)
SUPPLY CURRENT	40 mA
CONNECTIONS	Supply: +/- ; Communication: Tx/Rx & GND
REPEATER NETWORK	RS232, RS485, FO or TCP/IP* - 1 Display & Control + 3 Display Only
PANEL COMPATIBILITY	ORION-EX V2
MAX. HUMIDITY	95% RH Non-Condensing
OPERATING TEMPERATURE	-10°C to 50°C
CASE MATERIAL	ABS
DIMENSIONS	256 (L) x 194 (W) x 75 (H) mm
WEIGHT	1.4 Kg
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