



# ORION MINI-REP V2

## CONVENTIONAL REPEATER PANEL

MANUAL 210609



MADE IN PORTUGAL - EU

### GLOBAL FIRE EQUIPMENT S.A.

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## INSTALLATION, OPERATION & MAINTENANCE MANUAL

### GENERAL DESCRIPTION

The ORION MINI-REP V2 will provide remote control and system display status from multiple locations, to an ORION 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 MINI-REP V2 can be connected to the ORION Conventional Panel using 4 different interconnecting technologies: RS232, RS485, (Fiber Optics and TCP/IP options are under development).

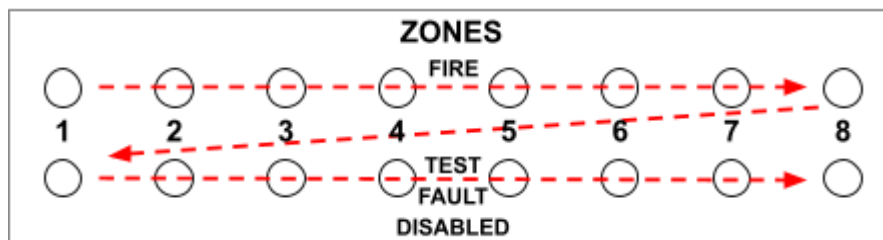
The unit is provided as standard with an RS232 interface. Power for the ORION MINI-REP V2 can be supplied from the control panel's auxiliary power output or from an external 24 Volt DC power supply if required.

### 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 panels that exhibit the following sequential LED pattern during RESET.



## INSTALLATION

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

- a) Remove the 4 screws fixing ORION MINI-REP V2 front cover to the unit's back box.
- b) Disconnect flat cable linking ORION 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 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 panel's installation manual for further details about operation.
- f) Connect Power Supply. ORION 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 MINI-REP V2 cover onto the 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.

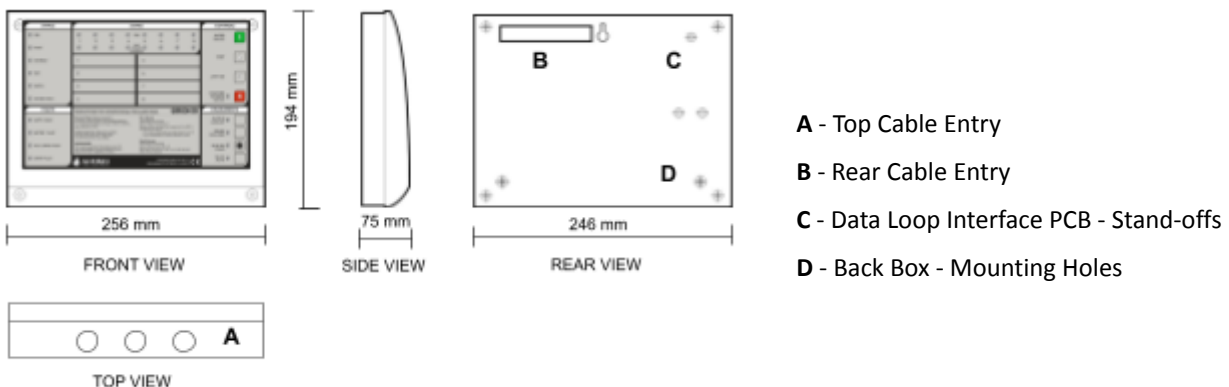
**WARNING: Cable screen's should only be connected at one point to the physical Earth connection in order to avoid current loops.**

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

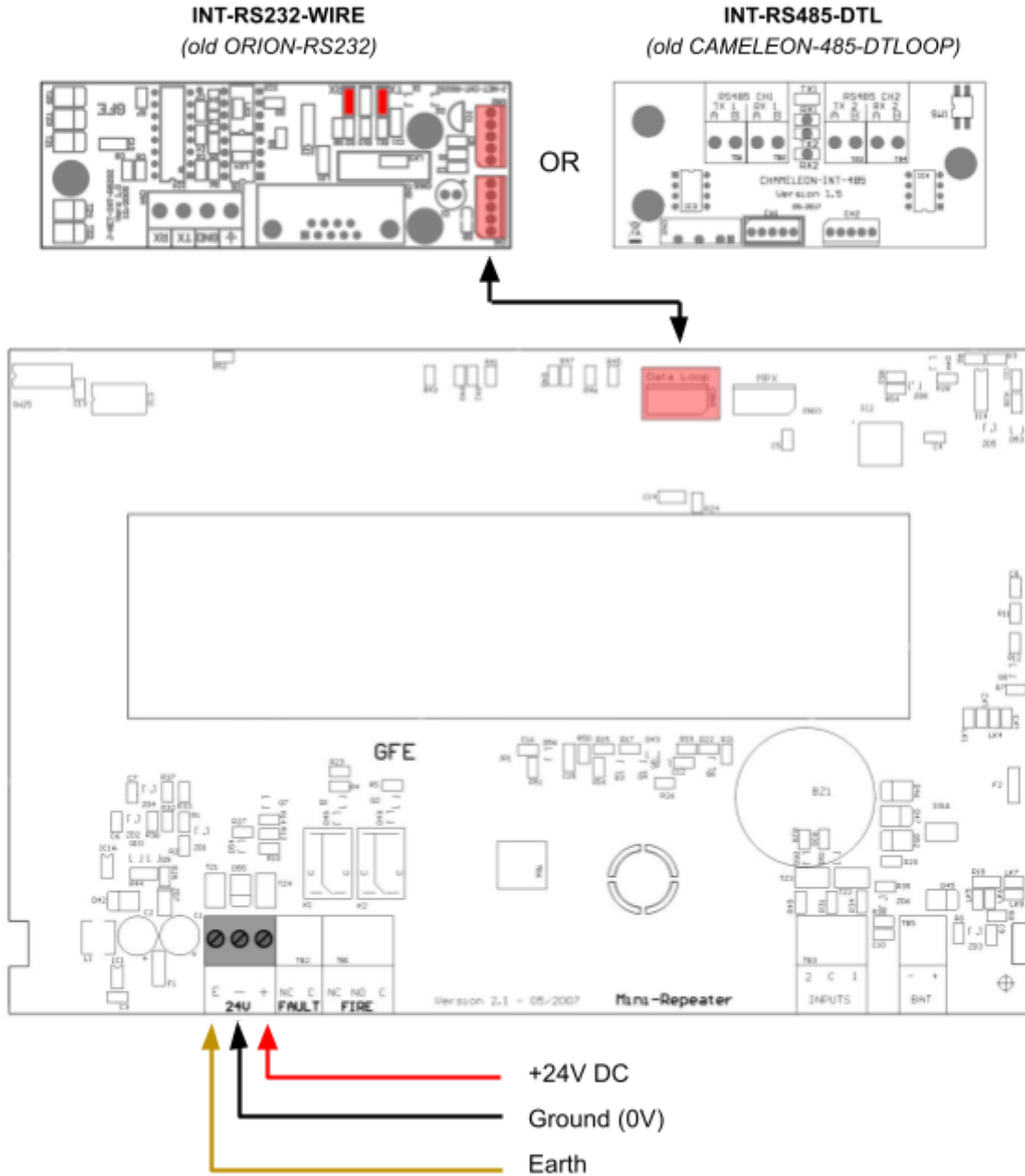
**Fiber Optic:** Multi-mode Dual Core sheathed fire proof with 62,5 $\mu$ /125 $\mu$  fibre terminated in ST connectors.

## MECHANICAL DETAILS



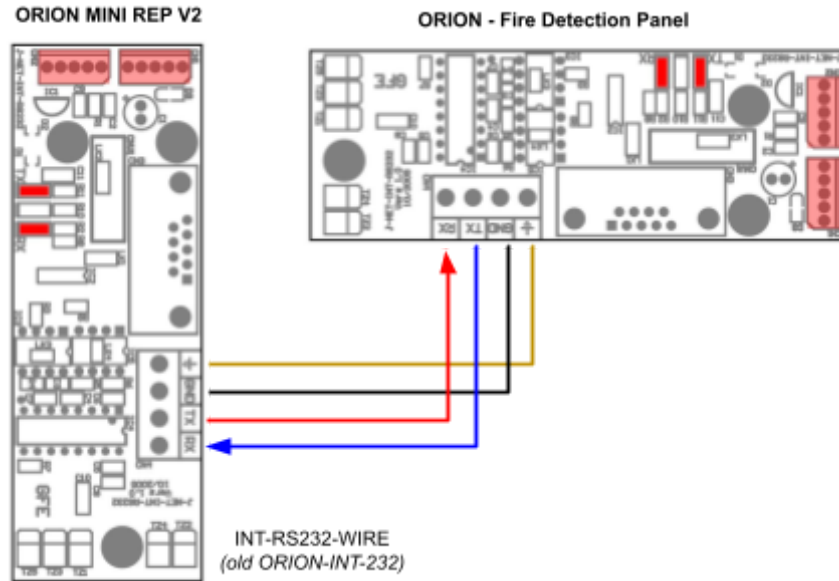
# CONNECTION DIAGRAMS

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



## ORION MINI-REP V2 - RS-232 interface

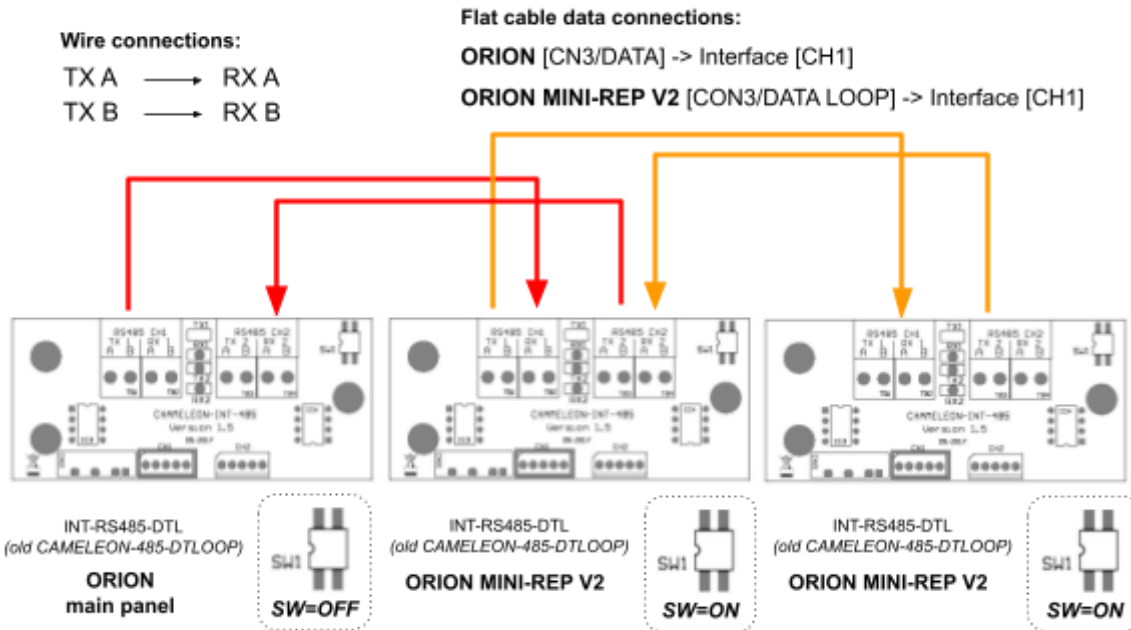
One single repeater connection



**NOTE:** Maximum of 1 ORION MINI-REP V2 with INT-RS232-WIRE (for multi-rep use INT-RS485-DTL). Maximum distance between Panel ORION MINI-REP should be 100 meters.

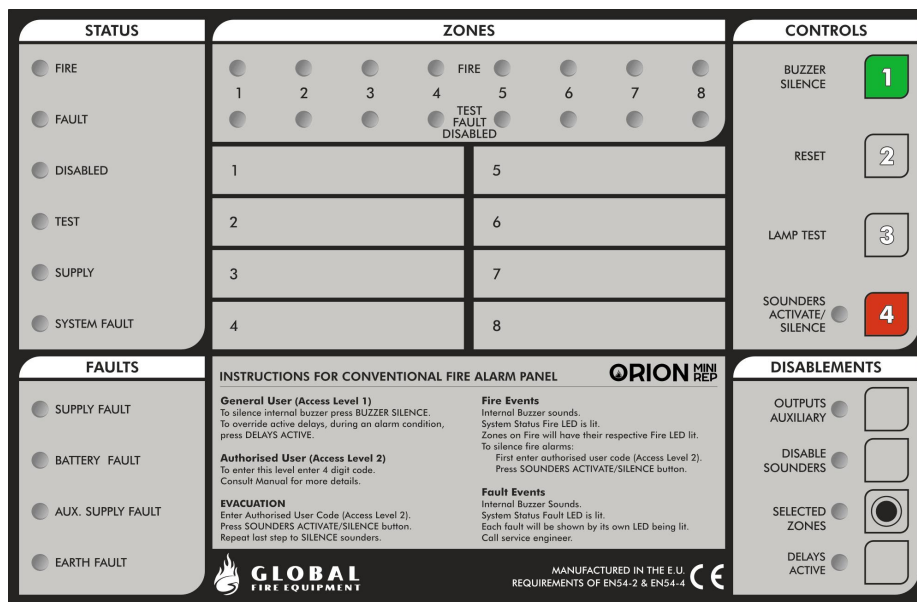
## ORION MINI-REP V2 - RS-485 interface

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 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 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 the ORION 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.

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

## FAULTS

**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.

**AUX. SUPPLY FAULT** – Indicates that the Auxiliary Supply has a fault.

**EARTH FAULT** – When this indicator is ON, there is leakage current flowing between the Earth connection/wiring and any other wire connected to the panel.

**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 be flashing.

## 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.

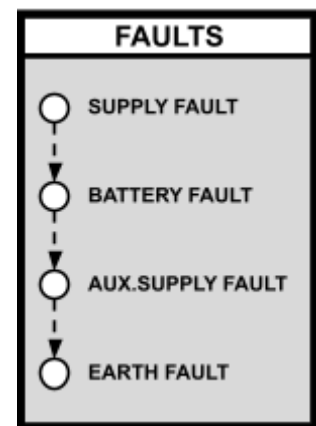
**LAMP TEST (3)** – Press this button at Access Level 1 or 2 to test all LED indicators and the panel's internal buzzer. Release when test is finished.

**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.

## ADDRESSING THE PANEL

There can be connected up to four ORION MINI- REP V2 to the ORION Conventional 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 AUXILIARY 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 LEDS OFF	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8
Corresponding Address	No Address	1	2	3	4	-	-	-	-

## 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
MAX. HUMIDITY	95% RH Non-Condensing
OPERATING TEMPERATURE	-10°C to 50°C
DIMENSIONS	256 (L) x 194 (W) x 75 (H) mm
WEIGHT	1.4 Kg
COLOUR / CASE MATERIAL	White or Red / ABS



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