



**GLOBAL**  
**FIRE EQUIPMENT**

**ORION EX MINI-REP**  
**EXTINGUISHING CONVENTIONAL REPEATER PANEL**

**INSTALLATION MANUAL**

VERSION 1.0 - 06/2015



## OVERVIEW

The ORION EX MINI-REP 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 EX MINI-REP can be connected to the Orion Conventional Panel using 4 different interconnecting technologies: RS-232, RS-485, Fiber Optics and TCP/IP. The unit is provided as standard with an RS-232 interface. Power for the ORION EX MINI-REP can be supplied from the control panel's auxiliary power output or 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.

## 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 Display to the unit's back box.
- b) Disconnect flat cable linking Orion Ex Mini-Rep Display to Interface Board.
- c) Fix unit's back box in required mounting position using the mounting holes provided. See Figure 1
- d) Reconnect flat cable connecting Orion Ex Mini-Rep Main Board to Data Loop Interface board.
- e) Connect Data Loop Cables to interface following instructions provided in this manual and on appropriate data loop interface data sheet. Please also refer to Orion panel's installation manual for further details on how to integrate this Orion Ex Mini-Rep unit on a networked system.
- f) Connect Power Supply. Orion Ex Mini-Rep are supplied by an external 24V DC, normally from the control panel. Do not apply supply voltage until installation is complete.
- g) Finally replace Orion Ex Mini-Rep 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 RS-232 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.

Signal cables for RS485 Communication Links (twisted pair) to Repeater panels

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**

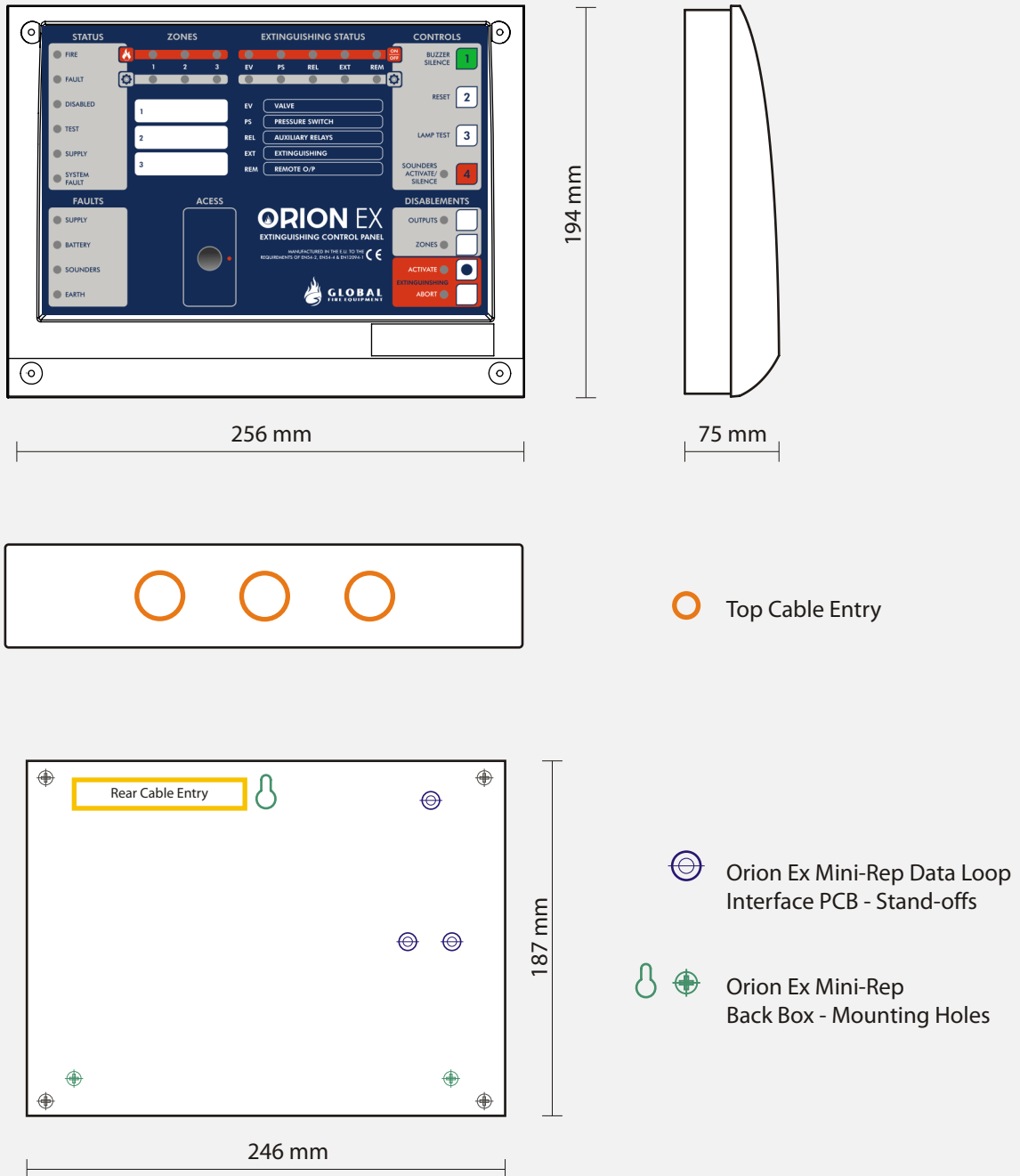
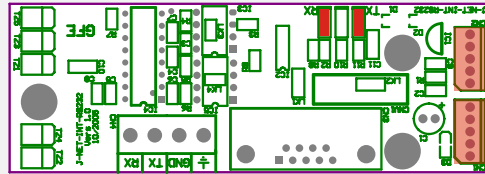


Figure 1: ORION EX MINI-REP - Installation



Connect Orion Ex Mini-Rep CON3 (Data Loop) to corresponding interface.

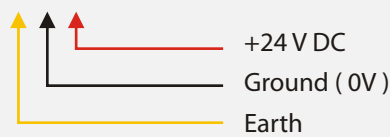
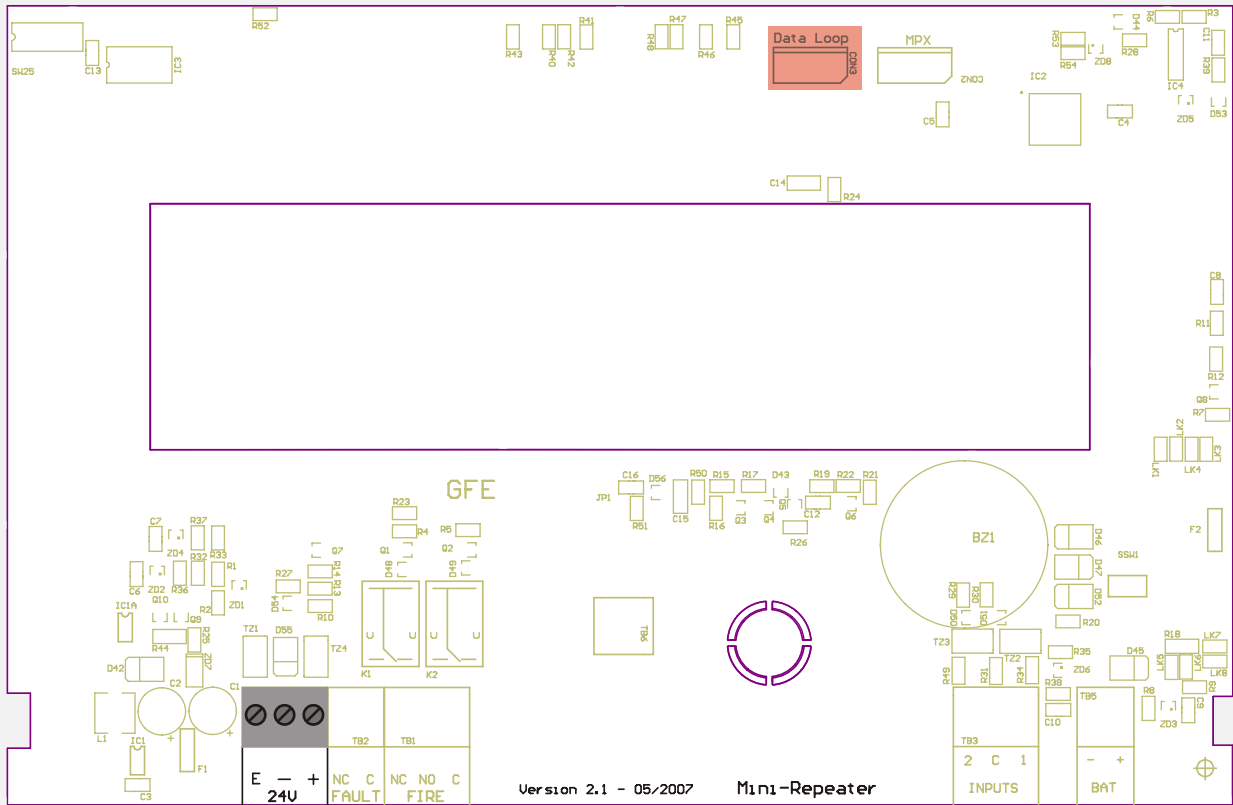


Figure 2: ORION EX MINI-REP - General Hardware and Connections Layout

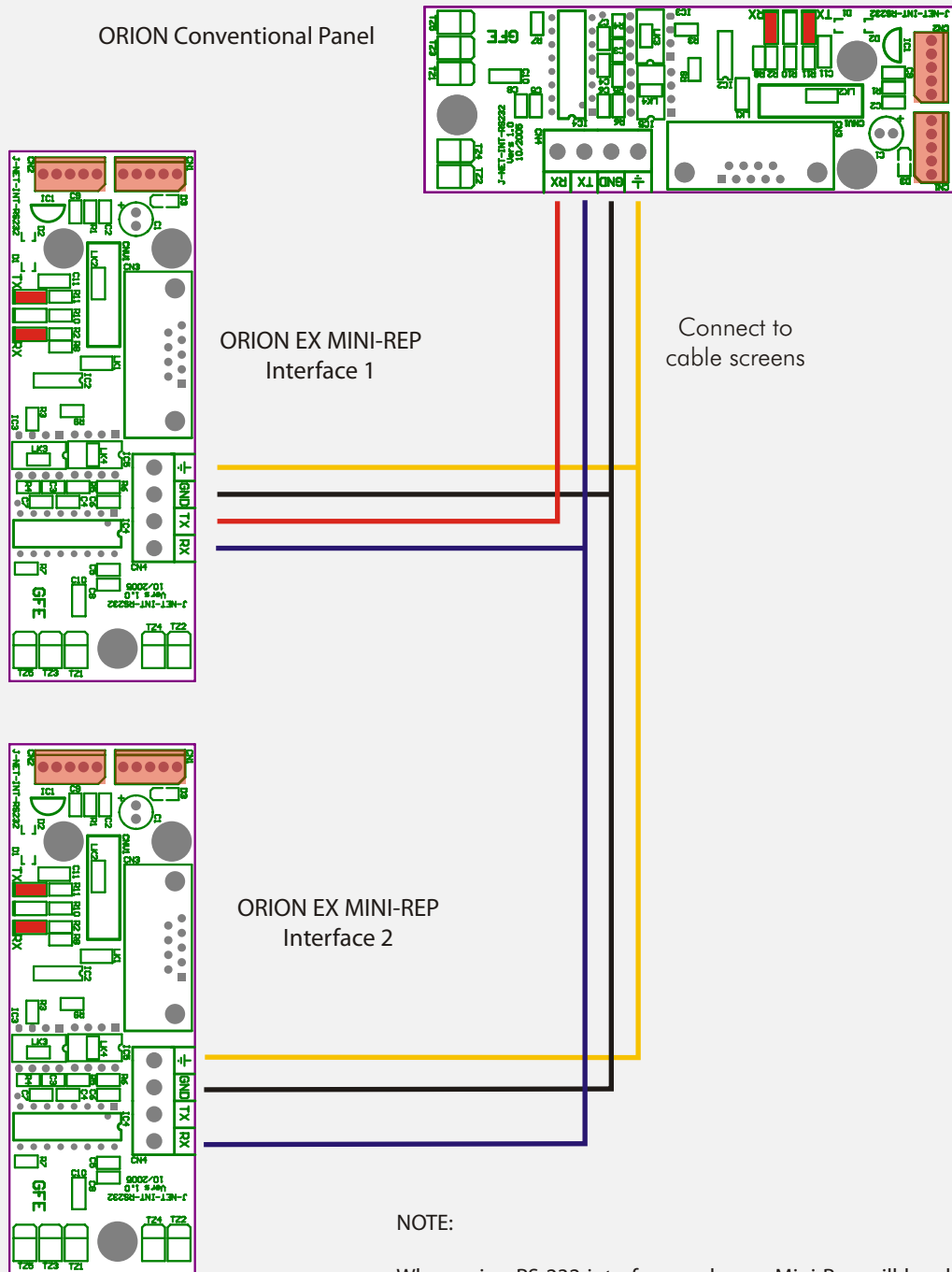


Figure 3: ORION EX MINI-REP - RS-232 Data Loop Interface Connections

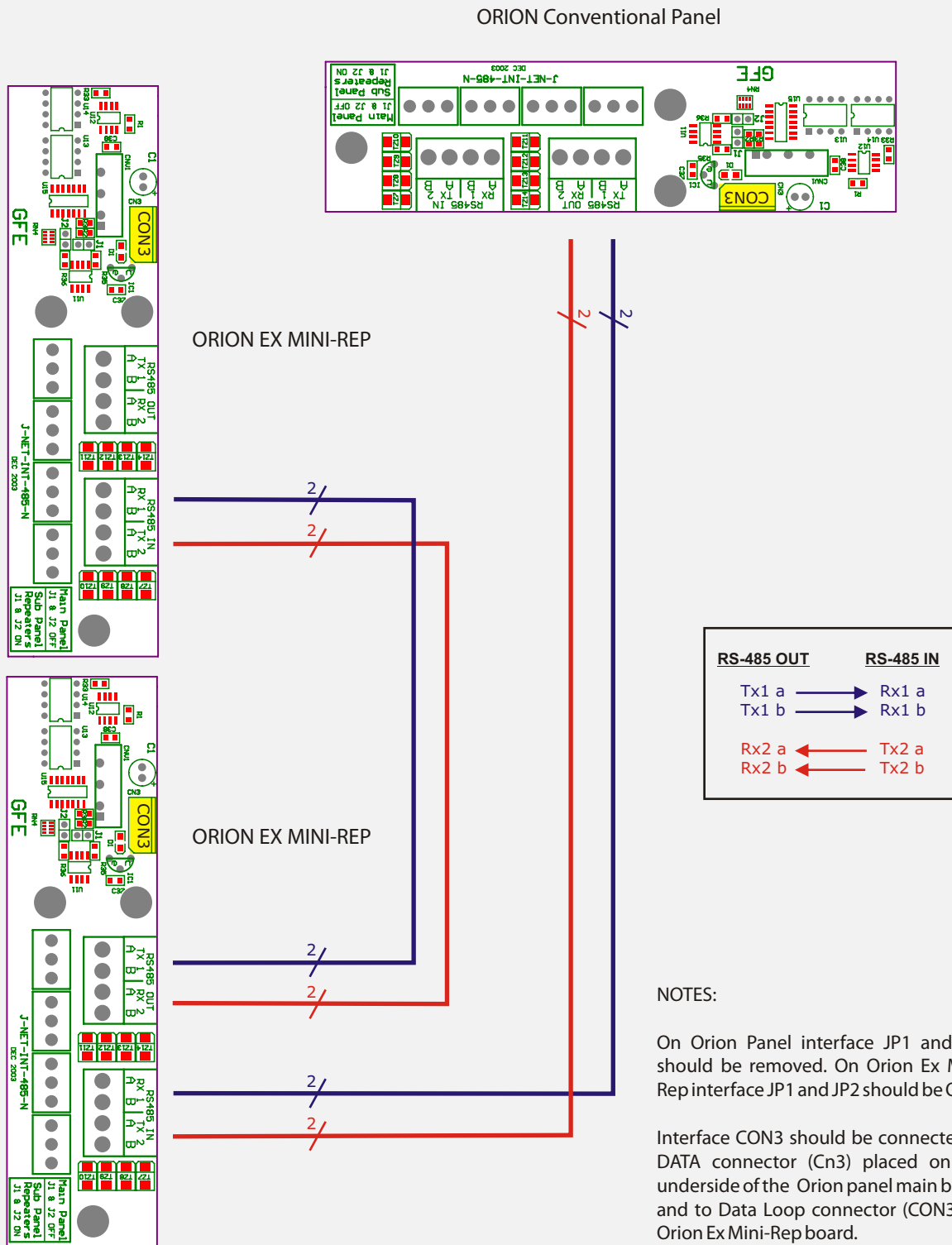
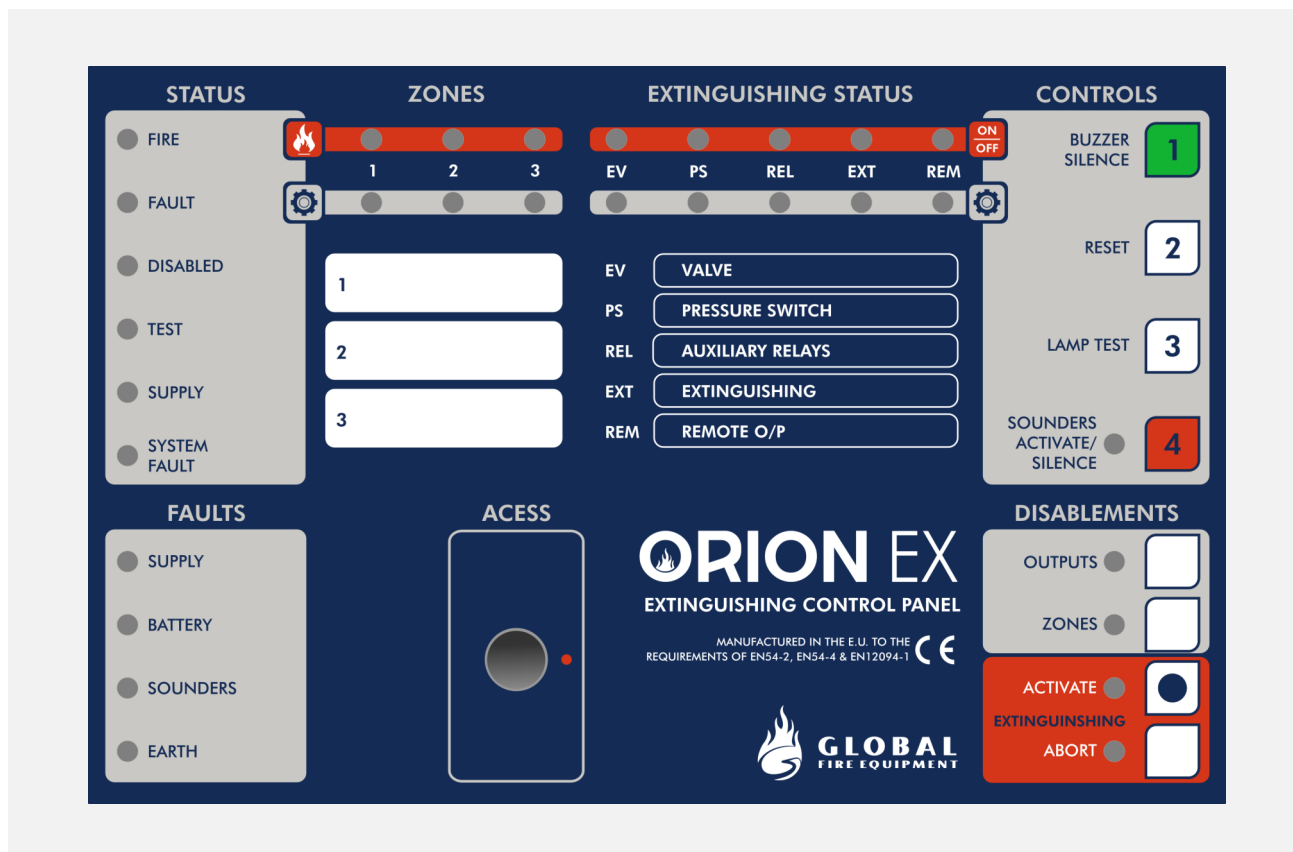


Figure 3: Orion Panel Multi - ORION EX MINI-REP - RS-485 interface connections.

## THE ORION EX MINI-REP SYSTEM STATUS INDICATORS AND CONTROL BUTTONS



### STATUS

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.



## FAULTS

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

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

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

## ZONE & INPUT INDICATORS

Individual zone 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 Disabled status LED. Flashing Zone Fault LED along with General fault LED indicates fault on that zone.

## CONTROLS - AUTHORISED USER CODE: 2244

Some switches 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 switches are numbered to indicate that they 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 3 used to confirm/accept changes in programming.

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

LAMPTEST (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.

## EXTINGUISHING CYCLE

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



The extinguishing cycle 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. Activation is confirmed after the internal buzzer sounds for 1 second. Extinguishing outputs will be activated immediately for the duration of the previously programmed extinguishing time. Sounder Circuit 1 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.

TECHNICAL SPECIFICATIONS	
SUPPLY VOLTAGE	28 V DC nominal derived from Orion Aux. Supply O/P
SUPPLY CURRENT	40 mA
CONNECTIONS	+Supply, -Supply, TX and RX
REPEATER NETWORK	RS232, RS485, FO or TCP/IP - 1 Display & Control 3 Display Only
MAX. HUMIDITY	95% RH Non-Condensing
OPERATING TEMPERATURE	-10°C to 50°C
WEIGHT	1.4 Kg
DIMENSIONS	256 (L) x 194 (W) x 75 (H) mm
COLOUR	White or Red
ORDER CODE	
ORION EX MINI-REP	CONVENTIONAL MINI-REPEATER PANEL FOR ORION EX - INCLUDES 1 X RS232 INTERFACE



**GLOBAL FIRE EQUIPMENT S.A.**

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