



FP2011/12/13 QE20 Extender User Interface Installation Instructions

1. General Description

This sheet describes installation of the QE20 Extender User Interface Modules. There are three different Extender User Interface Modules available:

- FP2011 FP QE20 8Z/8WIP EXTENDER MODULE C/W MTG – with 8 zone and 8 WIP controls fitted
- FP2012 FP QE20 16 WIP EXTENDER MODULE C/W MTG – with 8 WIP controls fitted
- FP2013 FP QE20 16 ZONE EXTENDER MODULE C/W MTG – with 8 zone controls fitted.

These may be used as expansion user interface modules or for replacement of an existing module. Note that FP2012 and FP2013 are supplied with only 8 WIPs or 8 Zones fitted, so if more than 8 sets of controls are required on a module then one of these Expansion Boards will also be required.

- FP2021 FP QE20 8 ZONE EXPANSION BRD, C/W LOOM & MTG – provides 8 Zone Controls
- FP2022 FP QE20 8 WIP EXPANSION BRD, C/W LOOM & MTG – provides 8 WIP controls.

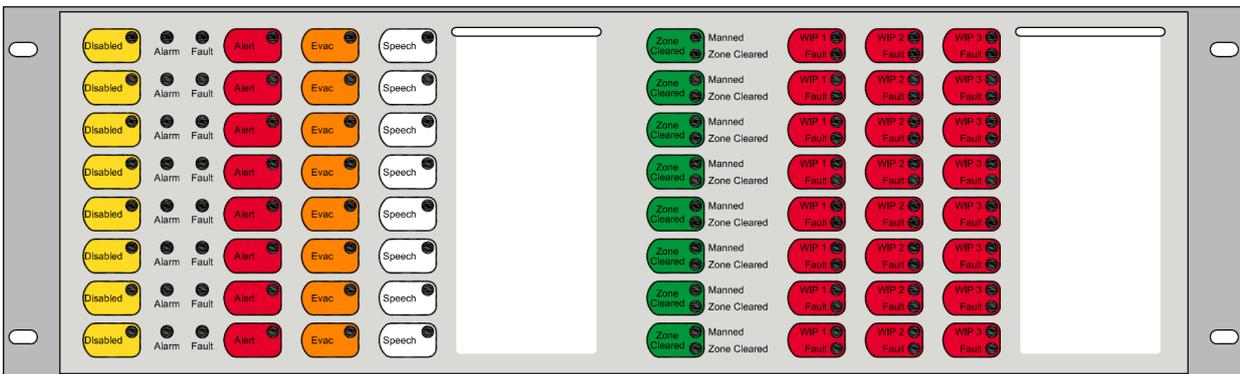


Figure 1A – FP2011 QE20 8 Zone/8 WIP Extender User Interface Module

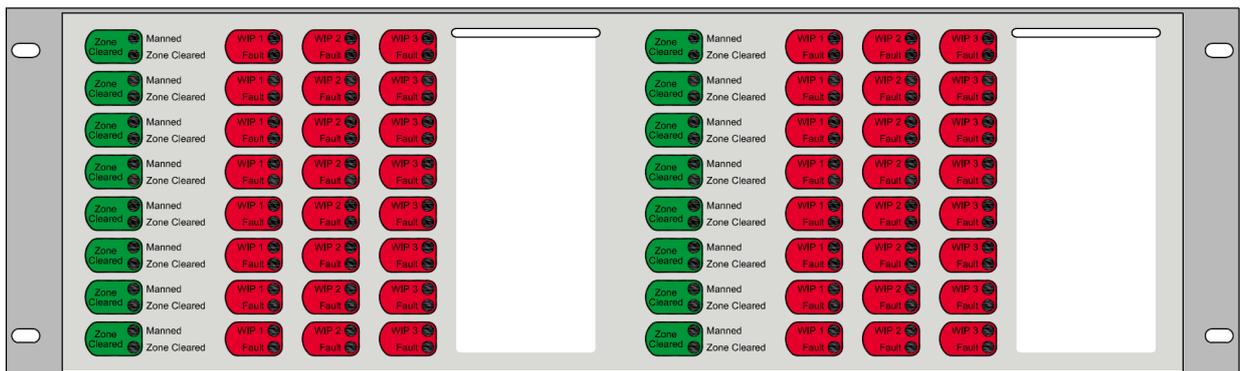


Figure 1B – FP2012 QE20 16 WIP Extender User Interface Module (8 WIP Fitted)

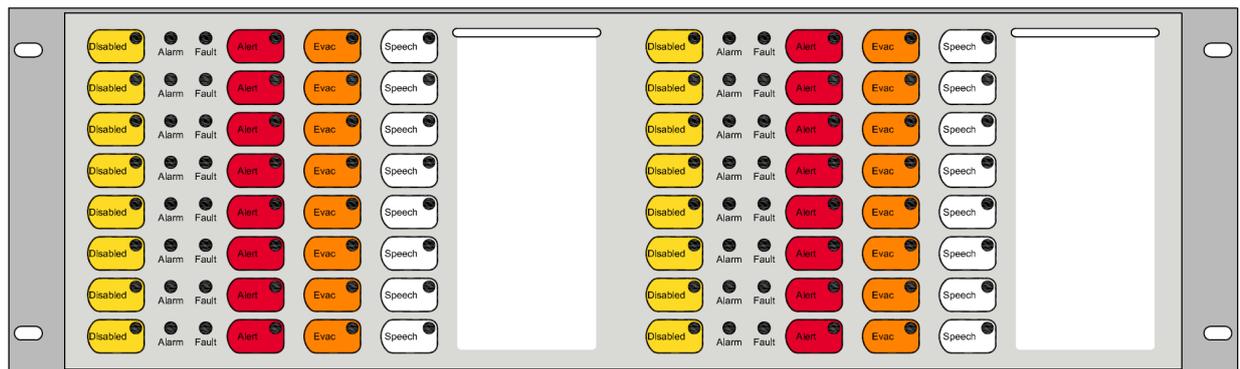


Figure 1C – FP2013 QE20 16 Zone Extender User Interface Module (8 Zones Fitted)

2. Kit Contents

Each kit contains:

- 1 x QE20 Extender User Interface Module
- 1 x QBus 4-way Power/Comms loom 475mm long to connect to the previous user interface module
- 4 x M4 x 10 screws to secure the module in the inner door
- 2 x LB0694 Label QE20 8 Zone Slide-In for zone / WIP labels
- 2 x Cable Ties to secure the Power/Comms loom
- 1 x Earth Loom 450mm, for earthing to the previous module
- 1 x LT0707, these installation instructions.

3. Mounting the Extender User Interface

Each Extender User Interface occupies one of the 3U positions on the QE20 inner door, as shown in Figure 2. Generally, it will be mounted above or below the previous Extender Module, as the zone numbering may go up or down the cabinet. Refer to the existing QE20 panel layout for the order of Extender Modules and the available positions when adding one.

The module is secured to the inner door hinge and support bracket using four M4 x 10 screws. Fit the module to the desired position and loosely insert the four screws. Centre the module and tighten the screws to hold the module in place.

Mount Extender Module with
four M4 x 10 screws provided
with module.

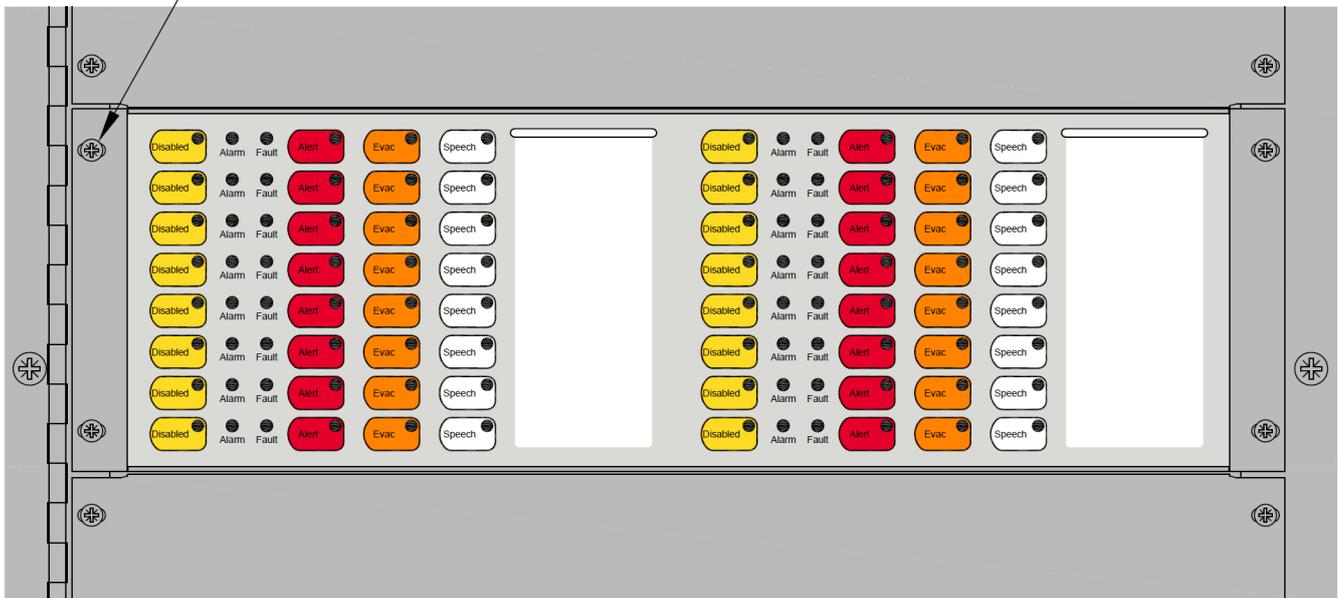


Figure 2 – QE20 Extender User Interface Mounting

Earth Loom

The Extender User Interface Module must be earthed to the cabinet frame, directly or through another User Interface Module or Blank panel. Connect the supplied earth lead from the earth tab on this Extender to the earth tab of any higher Extender or blank panel, or to the cabinet earth tab if this Extender is the top-most one in the cabinet. Connect the earth lead from the lower user Interface Module to the earth tab on this module so that every User Interface module, WIP tray and blank extender is earthed. See Figure 3 for example earth wiring.

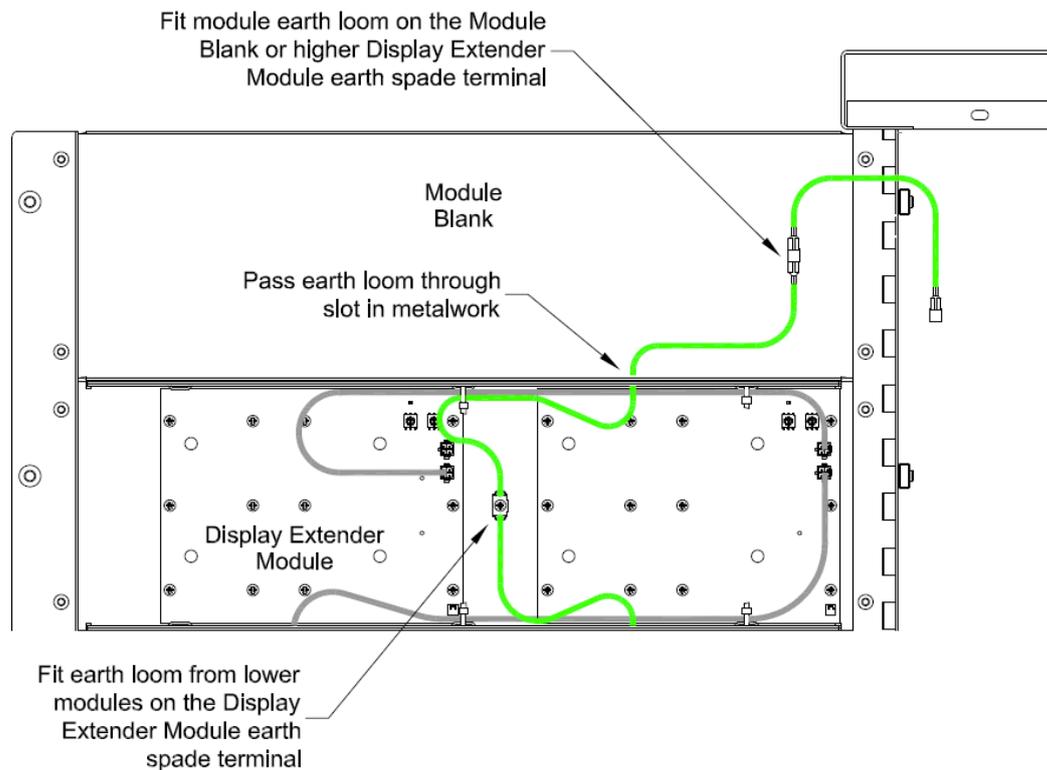


Figure 3 Earthing Of User Interface Modules

Zone / WIP Labels

Two blank LB0694 zone / WIP label cards are provided for identifying each of the zones / WIPs controls on the extender module. Print the names of each of the zones / WIPs on the card and slide the card into the correct pocket provided on the front of the Extender Module. Or use QE20Config to print out the labels using the names configured.

4. Replacing An Existing Module

When replacing an FP2012 16 WIP Module or FP2013 16 Zone Module and the expansion board is fitted to the existing module (to provide up to 16 WIPs or zones), it will be necessary to either transfer one of the boards from the existing module to the new one, or obtain and install a new expansion board (FP2021 or FP2022 as appropriate) to the new module, as the new module comes with only 8 Zones or 8 WIPs fitted. Refer to the expansion board installation instructions LT0715 for details.

Set the UBus ADDRESS rotary switches on the PCB(s) on the new module to match the replaced module's settings. Refer to Figure 4 for the switch and link locations.

Disconnect the QBus and earth looms from the existing module, undo the four screws holding it into the hinge frame and remove the module.

Remove one of the PCBs if it needs to be transferred to the replacement module and fit it to the new module. Make sure this PCB is not faulty.

Correctly set the address rotary switches on the new module and fit the module to the hinge brackets. Secure in place with the screws.

Refit the earth looms to the tabs on the module. Reconnect the QBus leads to the correct connectors on the module.

Power up the QE20 and check no faults are present. Carry out an LED test – press and hold the **Silence Buzzer** button for at least 3 seconds to turn all the LEDs on. Check all the replaced module LEDs are visible and correct.

Press at least one button on the new module to make sure the correct function is activated (e.g., zone Speech or WIP rings).

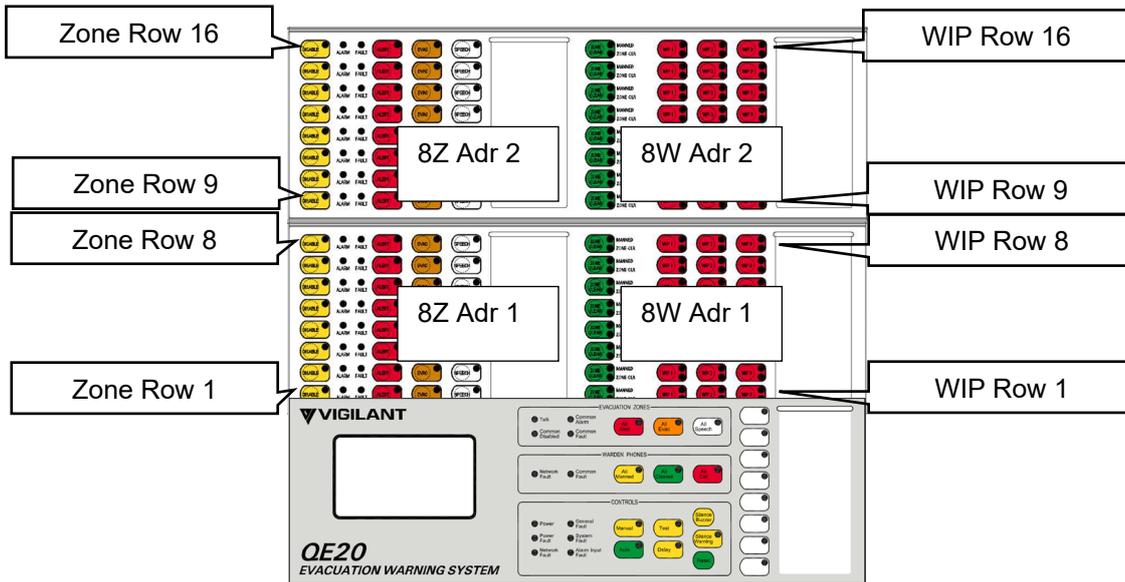


Figure 5 – Zone and WIP Rows & Module Addressing

5. Internal Wiring

The QE20 Extender User Interface is connected to the previous Extender Module or to the Master User Interface Module using the 4-way Power/Comms loom provided.

- Connect the 4-way loom from J4 on the right-hand side PCB (viewed from the rear of the inner door) of the new module to J3 on the left-hand PCB of the previous Extender Module (see Figure 6) or to J2 or J3 on the MKI PCB on the Master User Interface (see Figure 7). Run the cable through the slots in the top or bottom folds of each module and secure in place using the cable ties. If the cable needs to run from one cabinet to another then a much longer 4-way loom will be needed. Possible part numbers are:
 LM0065 LOOM,1994-29, QE20, POWER/COMS,4 WAY,1.2m LONG
 734-075 SXU HARNESS POWER COMS 4 WAY 8FT LENGTH

Figures 6 and 7 show the wiring to the previous Extender or to the Master User Interface. Note there is a loom from J3 of the right-hand side PCB to J4 on the left hand side PCB on the FP2011 8 Zone / 8 WIP Extender Module, and on the FP2012 and FP2013 Extenders if the 8 Zone / 8 WIP Expansion Board is fitted. For the FP2012 and FP2013 Extender modules if the 8 Zone / 8 WIP Expansion Board is being fitted (to provide 16 zones / WIPs) then follow the instructions provided with the board (LT0715).

The Extender User Interface Module must be earthed to the cabinet body. Refer to Figure 3 for wiring information.

The 4-way loom wiring is suitable for up to 120 zones of evacuation and WIPs (30 Extender boards in total). If more than 30 Extender boards are required additional power wiring will be required to the last Extender Module.

6. Field Wiring

There are no field wiring connections on the Extender User Interface Modules.

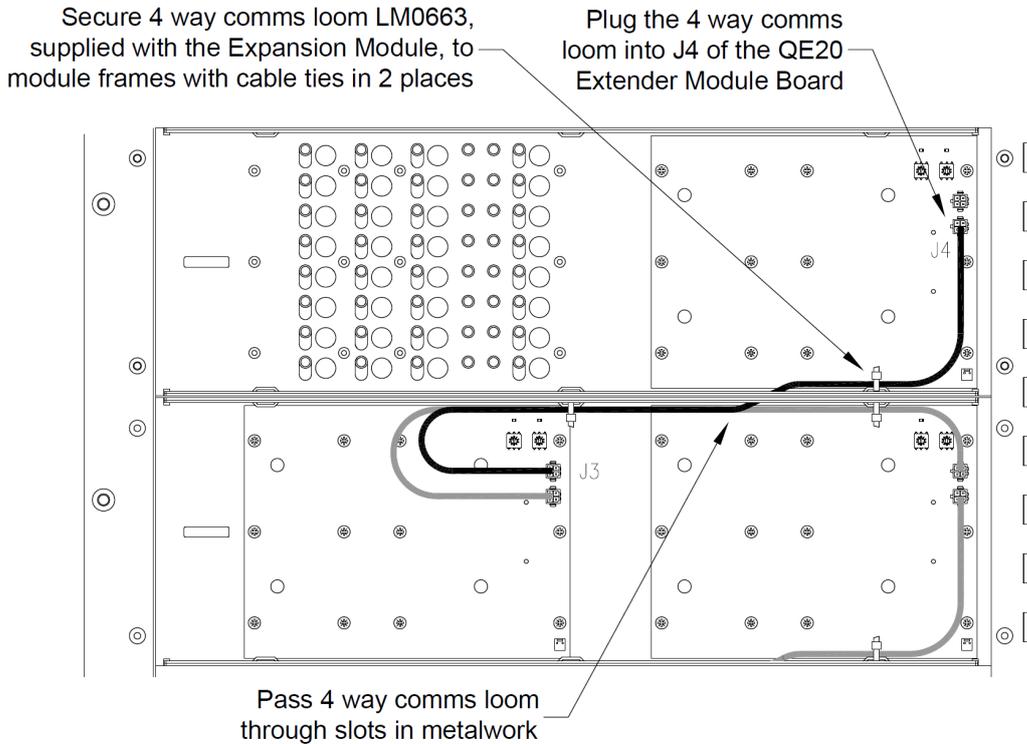


Figure 6 – QE20 Extender User Interface Internal Wiring To Previous Extender

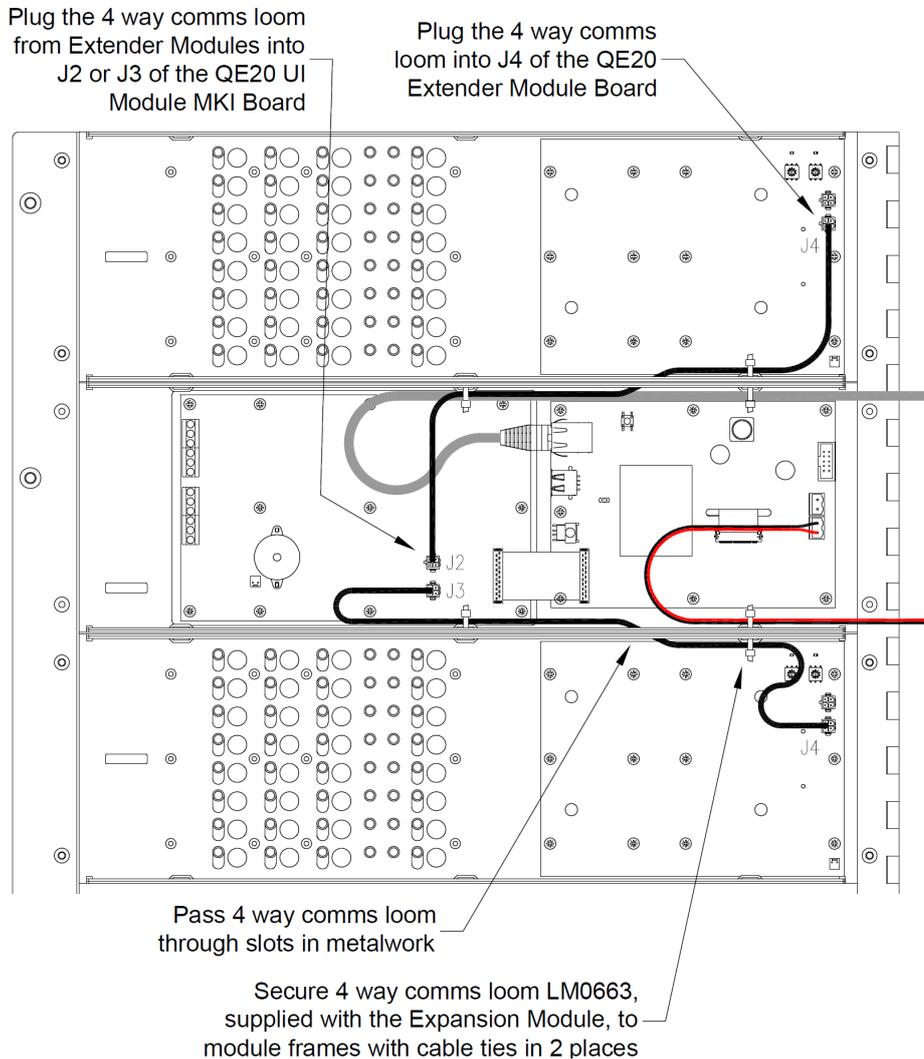


Figure 7 – QE20 Extender User Interface Internal Wiring To Master UI

7. LED Indications

There are two LED indicators on the rear of each PCB of the Extender Module.

LED Name	Colour	Description
POWER/ LINK	Green	OFF – no power applied. On, flashing off briefly every 1 - 15 seconds as Master User Interface communicates with the PCB. Steady On – not communicating with the Master User Interface, or faulty.
SYSTEM FAULT	Yellow	OFF – no fault present. Flashing – fault present When a System Fault is present the SYSTEM FAULT LED shows a sequence of 8 flashes followed by a pause, with each flash short (250msec) if that fault is not present and long (750msec) if that fault is present. The system faults are indicated in this order: <ol style="list-style-type: none"> 1. PCB not communicating with the Master User Interface. This will occur when the QE20 is starting up, until the Master User Interface is operational. Otherwise check the 4-way Power/Comms connection to the previous Extender or Master User Interface, the QE20 site configuration, the Address Rotary switch setting on the PCB of the Extender User Interface, or for a fault Extender. 2. Invalid Address (Not 01...99). Try rotating the address rotary switches and then put back to the desired address. If cannot be fixed, replace the PCB. 3. Firmware CRC Incorrect. Replace the PCB. 4. Software Fault. Will not occur. 5. Unexpected restart occurred. Something happened to cause the User Interface microprocessor to restart. Clears once status sent to the Master User Interface. If does not clear, even after power down/up, replace the PCB. 6. No Configuration Data. Will occur on start up until the QE20 Controller has sent the necessary configuration data to the Master User Interface. 7. Will not occur. 8. Hardware mismatch. Replace the PCB.

If both LEDs are fast flashing at ~8Hz the Module is in Bootloader mode. Change the address from 00 to the required address and power the module down and up again to exit Bootloader mode.

Refer to the QE20 Operator Manual LT0711 for details on the LEDs on the front of the Extender User Interface and operation of the buttons.

8. Power On & Testing

Power up the QE20 system with its site configuration installed. Check for any fault conditions and resolve these.

- Check all the LED indicators work by carrying out an LED Test. Press and hold the **Silence Buzzer** button on the front panel for more than 3 seconds to activate the test. Check all LEDs on all Display Modules turn on.
- For zone extenders, for each allocated zone in turn press the Speech button and then use the microphone to make a speech announcement to the zone's loudspeakers. Check speech is heard in the correct area of the building.
- For WIP extenders, for each allocated WIP in turn press the WIP button and check the correct field WIP rings. Press the WIP button again to stop the WIP ringing.

9. Extender User Interface Specifications

Power Requirements	18V – 32Vdc, 5mA typ @ 24V all LEDs off, each 8 Zone / 8 WIP PCB 32 mA typ @ 24V all LEDs on, each 8 Zone / 8 WIP PCB
Operating Temperature Range	-5°C to +45°C 10% to 93% RH non-condensing
Address	01 – 28 supported
Quantity per QE20	28 x 8-Zone & 28 x 8-WIP Display Boards per QE20 224 Zones

10. End User Licence Agreement, Privacy and Licensed Software

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www.johnsoncontrols.com/techterms