VIGILANT

T-Gen2 High Level Interface (HLI) Installation Instructions (FP1143)

1. Description

The FP1143 High Level Interface (HLI) Module provides an electrical interface between the RZDU port in Vigilant MX1, MX4428 or F3200 fire panels or the 4100 Comms of Simplex 4100ESi panels and the T-Gen 60 or T-Gen 120.

This allows the FIP to send zone statuses to the T-Gen2 to activate zone alarms and to receive the T-Gen2 status so that faults can be generated. The FIP can also control the battery charger on the T-Gen2 so that a battery test on the FIP can activate the battery test on the T-Gen2.

For RZDU connections the HLI Module provides a buffered RZDU port to wire to any field RZDU devices so that a short circuit on the field wiring does not stop the T-Gen2 communicating with the FIP.

These instructions cover the fitting and connection of the HLI Module in a T-Gen2 EWS, or a MX1 or Simplex 4100ESi fire alarm panel. The details of any necessary changes to the system configurations or other hardware are not covered here.

The FP1143 HLI Module includes all the required hardware to mount the module on various gear plates, and cabling to wire the module to a T-Gen 60 or T-Gen 120. It is supplied on a metal bracket that allows it to be mounted on various gear plates using two MX Loop Card M4 mounting holes, spaced at 150mm vertical centres.

To mount the HLI Module in a Simplex 4100ESi fire panel PDI equipment bay an FP1120 100V module mounting bracket will also be required.

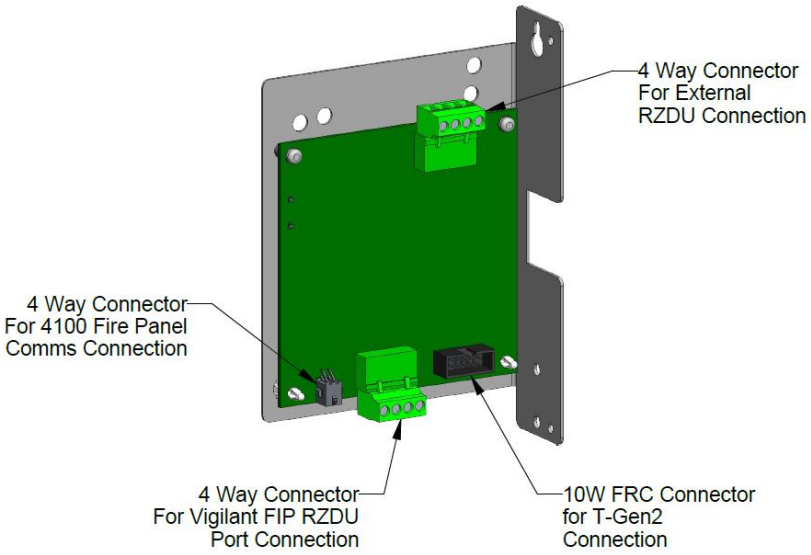


Figure 1 – HLI Module

2. Checking the Kit

Before installing a HLI Module, check that all items in the kit are present and undamaged.

Qty	Description
1	HLI Module mounted on bracket
2	FA2016 M3 x 10 Barrel Nuts
2	WA0005 M3 Flat Washers
4	HW0052, Plastic double barb PCB stand-off
1	LM0084, 10W FRC Loom, 350mm long (for wiring to a T-Gen 60/120)
1	734-008, 4 Way Loom, 0.6m long, (for wiring in 4100 Panels)
2	SC0176, M4 X 10 Screw, (for mounting the module)
1	LT0691, Install Instructions, (these instructions)

3. Mounting the HLI Module

Mounting in a 15U Grade 2 EWS Panel

The HLI Module can be mounted in one of up to 10 positions on the 15U Grade 2 EWS gear plate of FP1129/ FP1130 – see Figure 2 for gear plate locations (there are two positions not shown under the T-Gen 120 that is fitted). Note all of these are where T-Gen2 or 100V Switching/Splitter modules can also be fitted.

Fit one of the M4 screws from the kit in the top fastening point but do not tighten it. Remove the HLI Module from its ESD protection and hang it on this screw using the "keyhole" mounting hole in the rear of bracket. Fit the other M4 screw in the bottom fastening point and tighten both screws.

This is the recommended mounting method.

The HLI module can alternatively be mounted on two M3 studs on the RHS wall of the 15U cabinet. Use two M3 barrel nuts and flat washers to secure it in place.

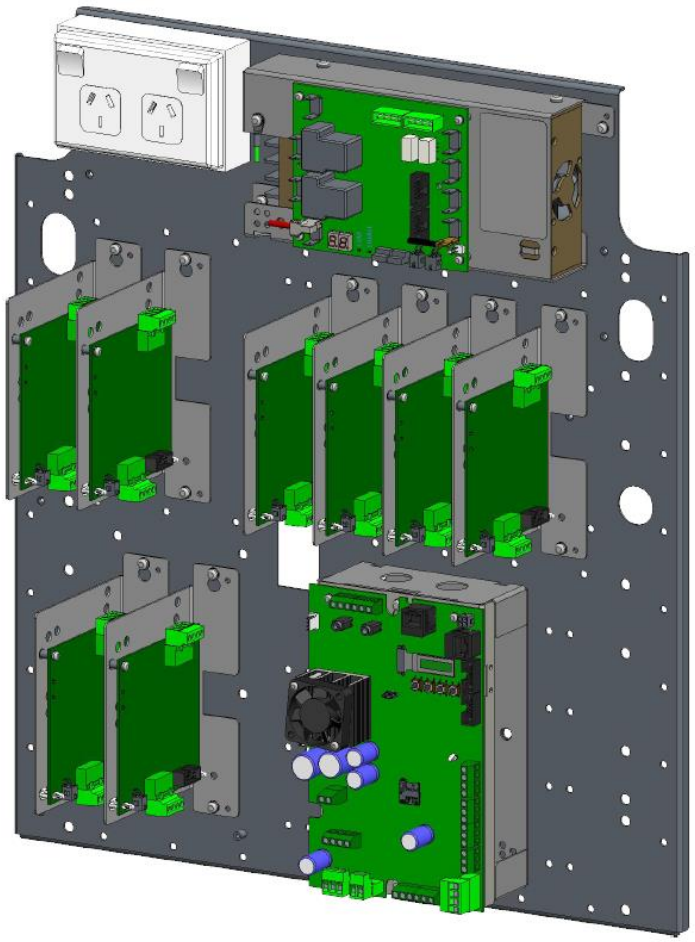


Figure 2 – HLI Module Positions on 15U T-Gen2 Gear Plate

Mounting HLI Module flat on Gear Plates

The HLI Module can be mounted flat on various gear plates where there are four Ø4.8 holes at 90mm square centres available.

Fit four plastic PCB stand-offs (HW0052) in the Ø4.8 holes of the chosen position. Remove the HLI Module from its ESD protection. Undo the two screws and release the two plastic clips holding the HLI Board to the metal bracket.

Place the HLI Board carefully on the four standoffs on the gear plate and press it home.

Earth the HLI Board to the gear plate using a suitable loom from connector J9.

Mounting HLI Module on other Gear Plates (MX1)

The HLI Module can be mounted on other gear plates (e.g., MX1) where there are two M4 holes at 150mm vertical centres available. The mounting method is the same as the T-Gen2 EWS gear plate above.

Mounting in FP1144 8U BOWS or FP1134 15U BOWS

The HLI Module can be mounted on the gear plate of an 8U BOWS (3 positions) or 15U BOWS (6 positions). The mounting method is the same as T-Gen2 gear plate above.

Mounting in 15U Panels, using the RS485 Card Mounting Stud Pattern

The HLI Module can be mounted on two of the RS485 Card M3 mounting studs on the right hand inside wall of a 15U panel. Fasten the HLI Module on a pair of studs using two M3 barrel nuts (FA2016) and washers (WA0005) provided.

NOTE: Some 15U Panels have a gear plate side fold that will prevent the use of the RS485 Card mounting studs.
WARNING: do not over-tighten the barrel nuts, otherwise the studs may snap.

Mounting in a 15U Compact 4100ESi Panel and Expansion Cabinet

A HLI Module can be mounted on a 15U 4100ESi gear plate, in the bottom RH corner to the right of the LPS, where there are two M4 holes at 150mm vertical centres available. The mounting method is the same as T-Gen2 gear plate above.

Mounting in a Simplex 4100ESi fire panel PDI equipment bay

To mount a HLI Module in a Simplex 4100ESi fire panel PDI equipment bay an FP1120 100V module mounting bracket will also be required. A HLI Module can mount on this bracket in two positions, where a 100V module can mount.

On the HLI Module undo the two screws and release the two plastic clips holding the HLI Board to the metal bracket.

Place the HLI Board carefully on two 100V module mounting bracket plastic standoffs of the FP1120 and press it home. Fix the HLI Board on the bracket two metal standoffs with two M3 x 6 screws.

FP1120 contains installation instructions (LT0670) detailing how the 100V module mounting bracket can be mounted in a Simplex 4100ESi equipment bay.

4. Wiring to a Vigilant FIP RZDU Port

The HLI Module is connected as follows:

- The HLI module links Lk1, 2, 3 and 4 must be fitted in the RZDU positions.
- Connect the 10-way FRC (LM0084) from the T-Gen 60/120 “MX1 COMMS IN” (J29), to the HLI Module “TO T-GEN2” 10-way FRC connector (J2).
- From the fire panel RZDU Port run 4 wires (+24V, 0V, TX, RX) to the HLI Module “RZDU TO FIP” 4-way de-mountable connector (J3), using 1.0mm² wire, not provided. Wire +V RZDU to +V, 0V to 0V, Tx to Rx, Rx to Tx.
- Connect any external RZDU devices from the HLI Module “RZDU TO FIELD” 4-way de-mountable connector (J4), using 1.0mm² wire, not provided. The terminals correspond to the same as those on the FIP.

Refer to drawing 1982-71 Sheet 136 later in this manual.

5. Wiring to 4100 Comms in 4100ESi Panels

The HLI Module is connected to:

- The HLI module links Lk1, 2, 3 and 4 must be fitted in the 4100 COMMS positions.
- Connect the 10-way FRC (LM0084) from the T-Gen 60/120 “MX1 COMMS IN” (J29) to the HLI Module “TO T-GEN2” 10-way FRC connector (J2).
- Connect the 4100 Fire Panel CPU Mother Board connector (P4, P5 or P6), or Backplane connector (P1, P2 or P3), to the HLI Module “4100COMMS” 4-way connector (J1), using the 4-way loom 734-008 provided, or a longer version if required.

Refer to drawing 1976-181 Sheet 614 later in this manual.

6. Power On and Testing

The T-Gen2 should be powered up with its required configuration with the appropriate HLI configured. The FIP will also need configuration to support the HLI to the T-Gen2. Refer to the appropriate T-Gen2 or fire panel manual/bulletin for programming details. Check the RXD/TXD LEDs flash every 2 seconds and no faults are present on the T-Gen2. Fix any faults that are present.

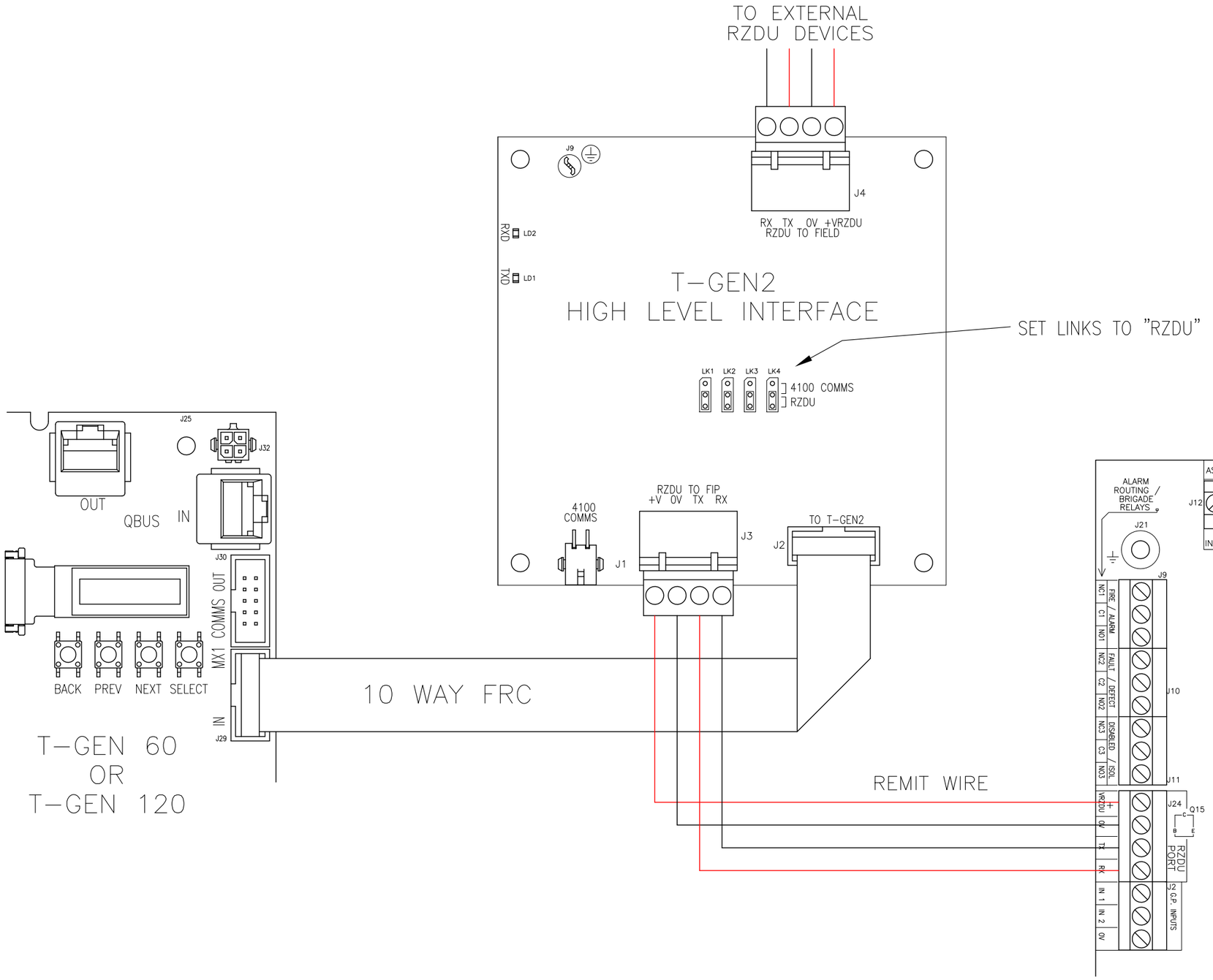
7. Status LEDs

The HLI Module has 2 status LEDs for indication and fault diagnostics:

LED Name	Colour	Description
RXD	Green	OFF – No power applied or no comms from the FIP ON – Fault (cabling fault) Flashing – RZDU/4100 Comms received from FIP
TXD	Red	OFF – No power applied or no transmission from the T-Gen2 ON – Fault (cabling fault) Flashing – The T-Gen2 is sending fault status to the FIP. If not, check the RXD LED to make sure the FIP is sending data, check the FRC is plugged into J29 on the T-Gen2 correctly, and that the T-Gen2 is powered up and configured correctly.

8. HLI Module Specifications

Power requirements	19.2V – 28.8Vdc, 10mA typ @ 24V, 43mA max from +VRZDU
Operating Temperature Range	-5^{o}C to +45^{o}C
Humidity Range	10% to 93% RH non-condensing
Connections	J3 “RZDU TO FIP”: RZDU connection from FIP. Do not connect to any field devices. J1 “4100 COMMS”: 4-way connection to 4100 Comms bus of the 4100ESi panel. J2 “TO T-GEN2”: 10-way FRC connection to “MX1 COMMS IN” connector J29 on Master T-Gen2. J4 “RZDU TO FIELD”: Buffered RZDU connection to field RZDU devices that are to receive RZDU communication from the FIP.
Mechanical	MX Loop Card mounting. 2 x M3 @ 150mm spacing. 160mm H x 36mm W x 108mmD
Electrical Isolation	Provided by Isolated MX1 Comms interface on T-Gen2 Board



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UNLESS OTHERWISE STATED: ALL DIMENSIONS IN MILLIMETRES. DO NOT SCALE. TOLERANCES ARE TO BE: 1 DECIMAL PLACE ±0.5, 2 DECIMAL PLACES ±0.3, 3 DECIMAL PLACES ±0.1

3rd ANGLE PROJECTION

ISS/REV	AMENDMENTS	ECO	DRN	CHKD	AUTH	APVD	DATE
A	ORIGINAL	5140	KJS	RC	RC	DC	30-4-18

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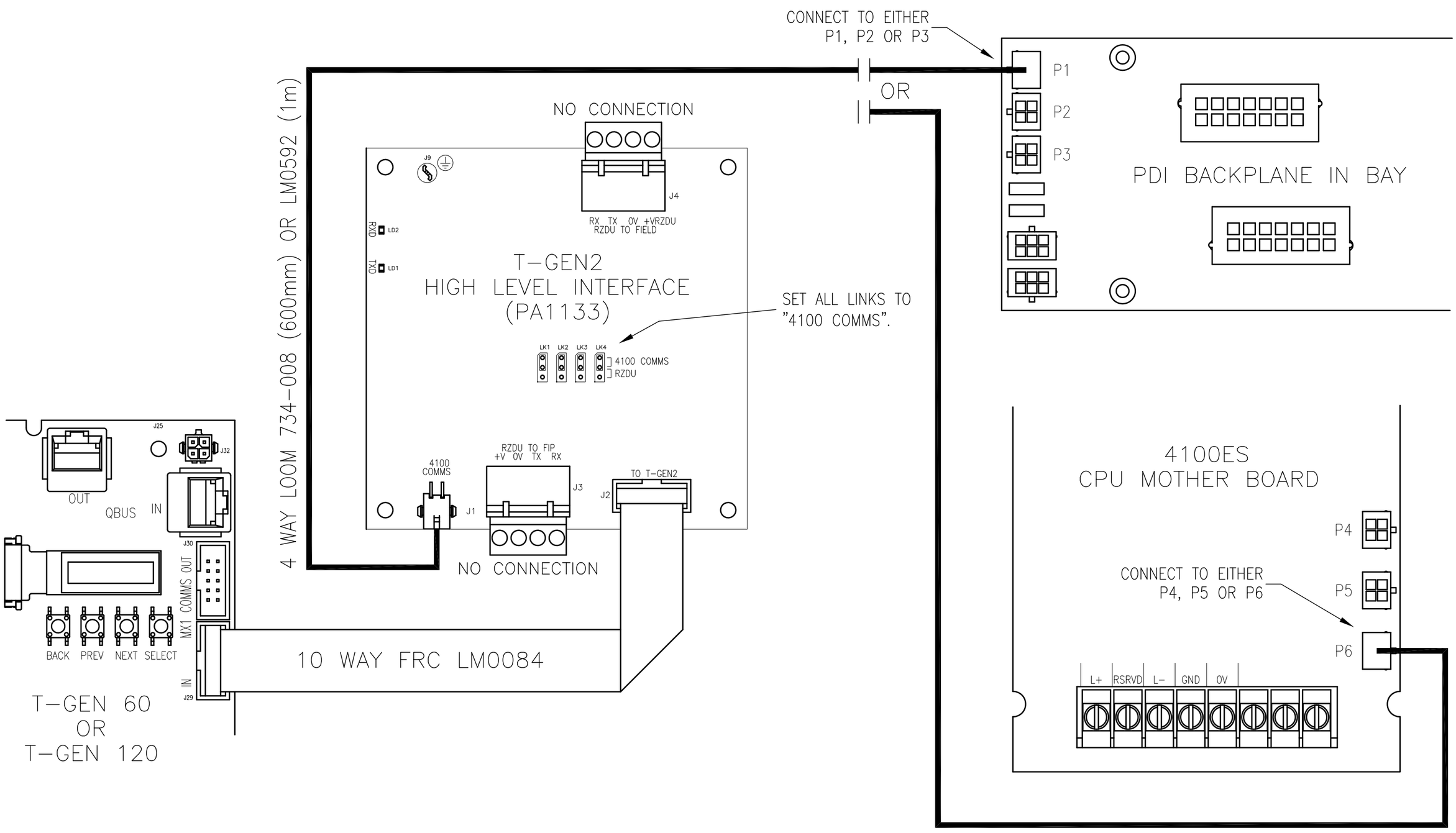
MX1
T-GEN2 HLI MODULE
WIRING DIAGRAM

DRAWING No: 1982-71 SHEET 136 of N

A3 | ISS/REV A | PART No:



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4100ESi
T-GEN2 HLI MODULE WIRING DIAGRAM

DRAWING No: 1976-181 SHEET 614 of N

A3 | ISS/REV A | PART No: