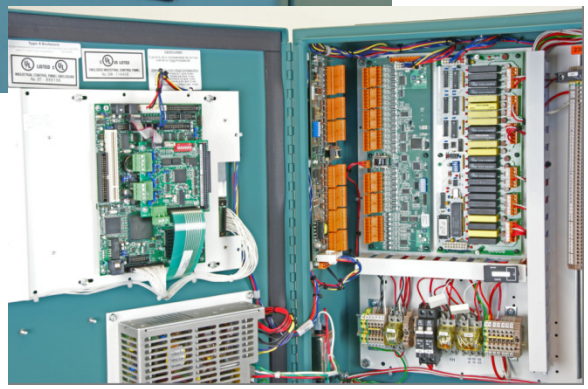
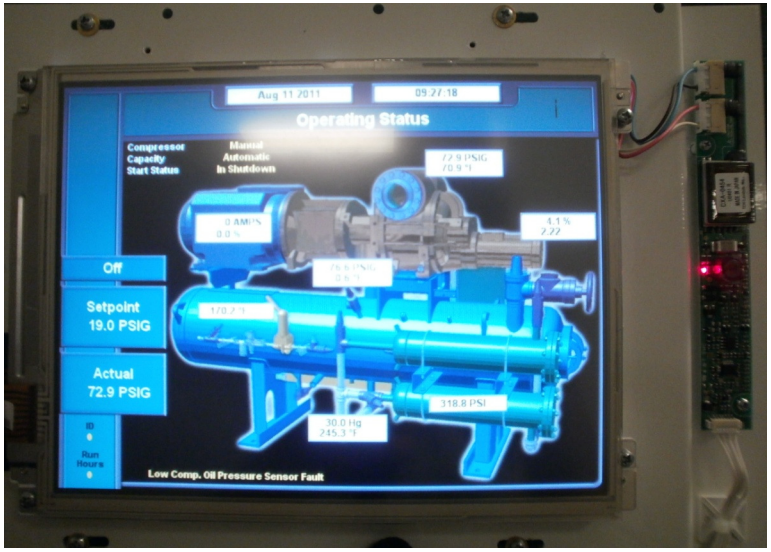
Quantum LX
Display Testing

Frick®
BY JOHNSON CONTROLS

Johnson Controls

Quantum LX
Display Testing





The Quantum LX Sharp LCD display assembly is the operator's visual interface with the Quantum LX Control Panel.

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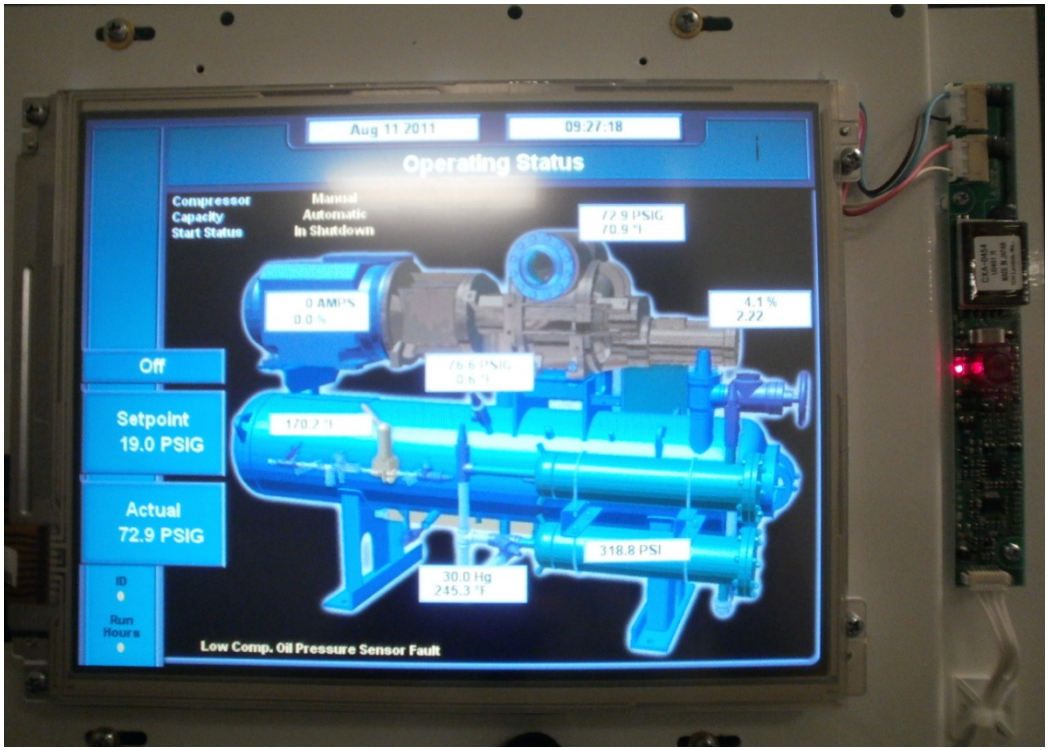

The Display assembly consists of a Sharp LCD screen (model LQ104V1DG61), two fluorescent backlight tubes, a dual backlight inverter module and a wiring harness. The LCD display and the backlight inverter module are controlled by the Quantum 4 processor board.

The LCD display receives video signals from the processor.

The backlight inverter module receives 12 vdc supply power from the processor board. The backlight tubes receive 600 VAC supply power from the inverter module.

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With the Quantum LX power off, confirm that the display and inverter harness is the proper one by part number for the display being used. These cables should have a band around the wires which has the part number written on it. Refer to the Replacement Parts list in the Quantum LX Maintenance manual for the correct part numbers.

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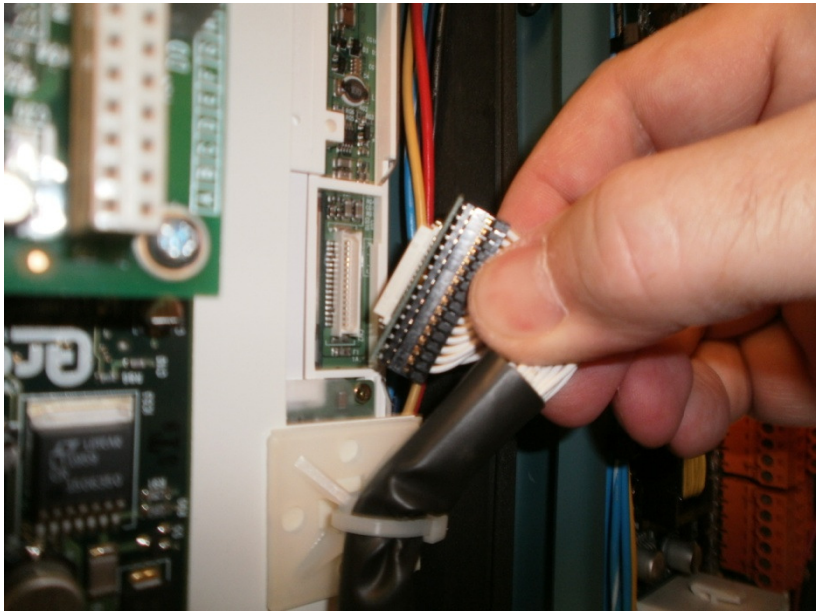
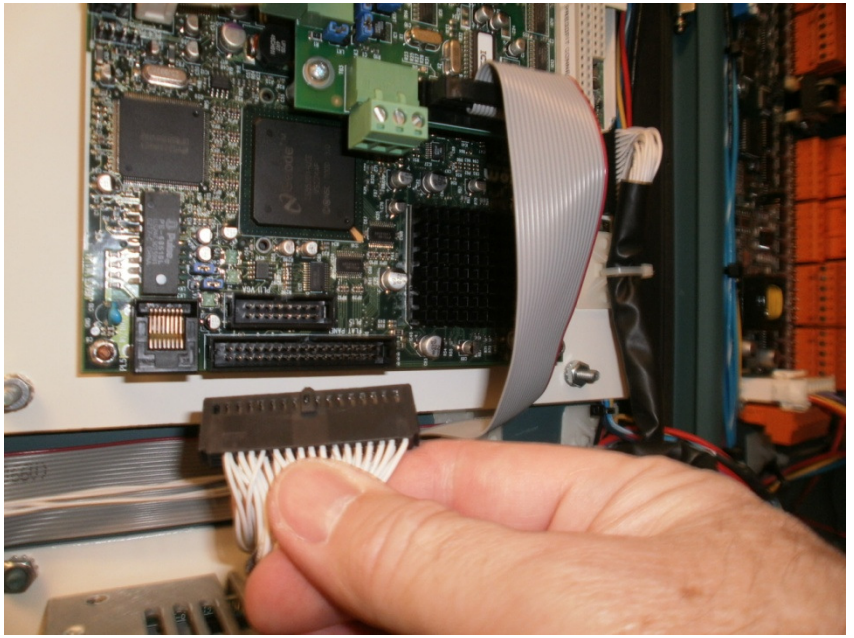


These cables both originate from the same connector, PL15, on the Quantum™ 4 processor board.

Verify that both the LCD display harness and the inverter module harness are firmly seated at each end.



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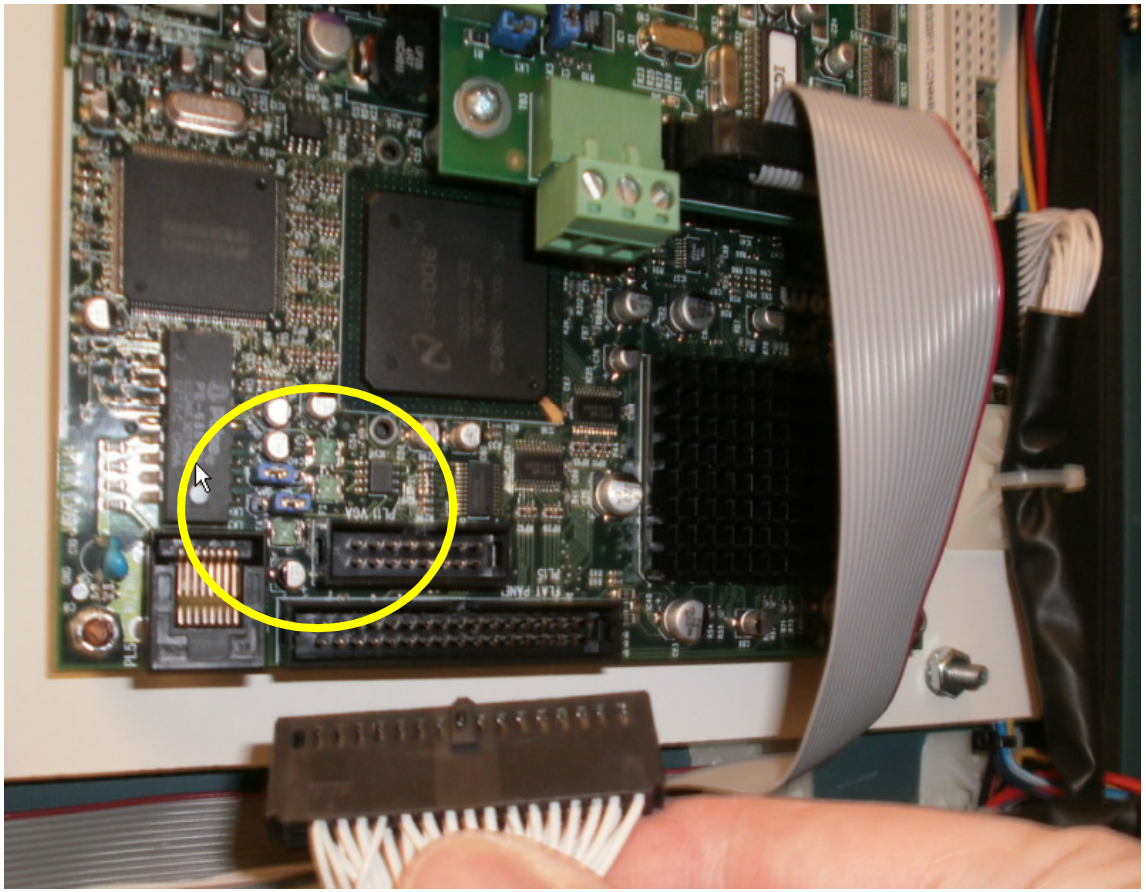

Confirm the proper placement of the backlight voltage jumper LK3 and the display voltage output jumper LK4, on the Quantum™ 4 processor board. Refer to the Quantum™ 4 processor board sections of the Quantum LX Maintenance manual for the proper placement of these jumpers for the LDC display being used.

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With the Quantum LX power on, if the display appears bright with no visible images, or is bright with colored lines, this indicates that the display itself is most likely the defective part, and the backlight and inverter are okay.

With the Quantum LX power on, if the display is black, this would indicate that the backlight tube is off. Verify if there is text and/or graphics displayed on the LCD display. Using a bright flashlight, point the light at an angle to the LCD display and look for any ghost type image of text and/or graphics. If it appears that there is something on the screen but very dark, the problem may be with the backlight inverter module or the backlight tube.

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Verify the cable from the backlight tube to inverter module is firmly seated. The connectors on the LCD display and the inverter module are each a small connector and caution should be observed so that they are not damaged due to excessive force. Unplug and reseat each of these connectors to ensure they are properly connected.

Inspect the harnesses and connectors for possible damage (damaged wires, bent pins, etc.). The display mounting plate will have to be removed from the panel door to gain access to the inverter module.

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To check the inverter, power down the panel and unplug the backlight from the top of the inverter. Turn the control power back on and very carefully measure the AC output voltage (**600 VAC**) from the inverter module on connectors CN2 & CN3 on pins 1 & 3 (of each connector) for the inverter output voltage. You should measure 600 VAC +/- 5%. If this voltage is present (and the display is black), the backlight tube is defective and will need to be replaced.

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If this voltage is not present, confirm the 12 VDC input to the inverter by carefully measuring across the pins 1 & 4 on connector for the 12 Vdc input (pin 1 is 12VDC, pin 4 is GND). If the voltage is present, the inverter will need to be replaced. If the voltage is not present, contact Frick Service before proceeding.