

# PowerLogic™ HDPM6000 HMI Display

## User Guide

ZL0190-0A  
04/2020



# Legal Information

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Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

As standards, specifications and designs change from time to time, please ask for confirmation of the information given in this publication.

# Safety Information

## Important information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service or maintain it. The following special messages may appear throughout this bulletin or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

### **⚠ DANGER**

**DANGER** indicates an hazardous situation which, if not avoided, **will result in** death or serious injury.

### **⚠ WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

### **⚠ CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

### **NOTICE**

Notice is used to address practices not related to physical injury.

## Please note

Electrical equipment should be installed, operated, serviced and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

## Mounting the Display

Both the 7" and 4.3" HMI displays include hardware to be front-mounted to a panel. Detailed instructions for installation can be found in the Setup Manual included with the display.

## Wiring Instructions

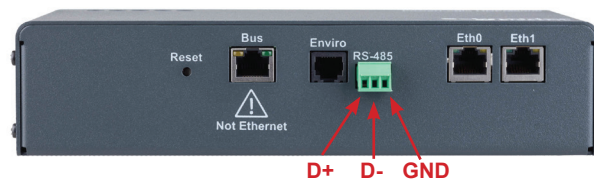
### NOTICE

#### POWER REQUIREMENTS

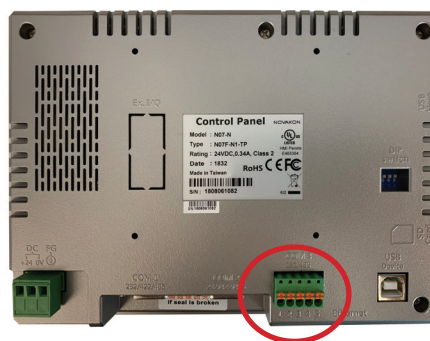
- Use Class 2 rated 24VDC, 0.34A power supply .

**Failure to follow this instruction can result in equipment damage.**

1. Connect a communications cable between the HDPM6000 head unit's RS-485 port and the HMI using Belden 3106A cable or equivalent.



- a. Connect the orange/white stripe conductor to the D+ output of the HDPM6000 RS485 port (left terminal), the white/orange stripe conductor to the D- output (middle terminal), and the blue/white stripe conductor to the GND terminal (right).
- b. For a 7" HMI display, the other end of the communications cable connects to the COM3 terminal block on the rear of the display. Connect D+ (orange/white stripe) to position 1, D- (white/orange stripe) to position 4, and GND (blue/white stripe) to position 5.

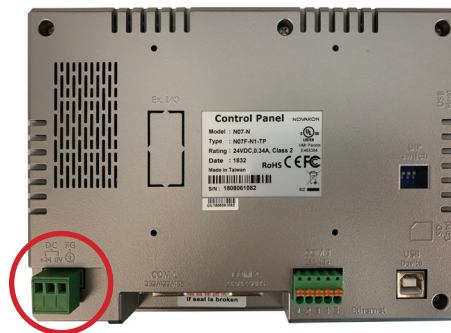


## Wiring Instructions (cont.)

- c. For a 4.3" HMI display, the other end of the communications cable connects to the COM1 serial port using the DB9 terminal block adapter included with the display.

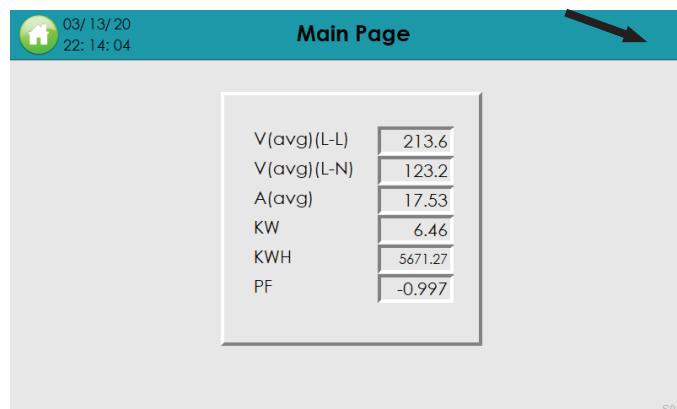


- i. Open the DB9 terminal block adapter and connect D+ (orange/white stripe) of the communications cable to position 1, D- (white/orange stripe) to position 6, and GND (blue/white stripe) to position 5.
  - ii. Close the adapter cover and connect to the COM1 port, tightening the thumb screws.
2. Connect 24VDC to the HMI power terminal plug using 28-12AWG solid or 30-12AWG stranded wire. Strip insulation 7-8mm, insert conductors according to the marking on the display (from left to right, +24V, 0V, ground). Tighten terminal screws to 4.5 lb-inch (0.5084 Nm) of torque.



## Display Set-Up and Navigation

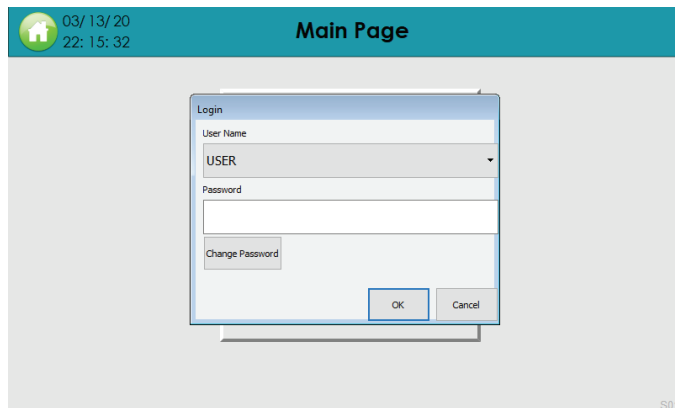
1. Select the hidden button on the Main page (upper right corner in the blue header bar) to log into the Devices Setup page.



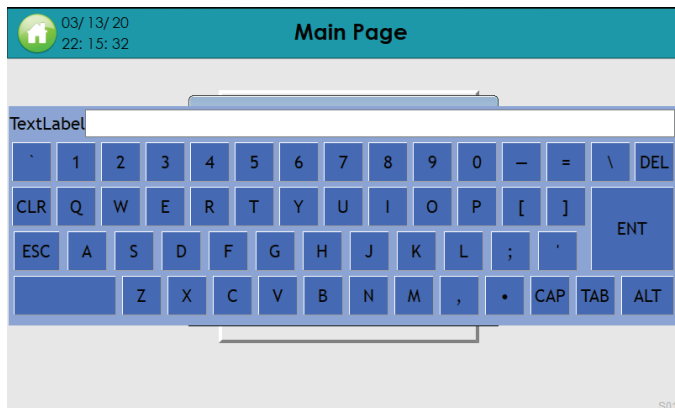
## Display Set-Up and Navigation (cont.)

<b>NOTICE</b>
<p><b>UNAUTHORIZED SYSTEM ACCESS</b></p> <ul style="list-style-type: none"> <li>Default account settings are often the source of unauthorized access by malicious users. If you do not change the default passwords, unauthorized access can occur. Change the default passwords to help reduce this risk.</li> </ul> <p><b>Failure to follow this instruction can result in compromised data.</b></p>

- The screen below will appear. The user name is 'USER'. For first time access, change the default password by selecting the **Change Password** button and entering the default password 'adminpass' and a new complex password.

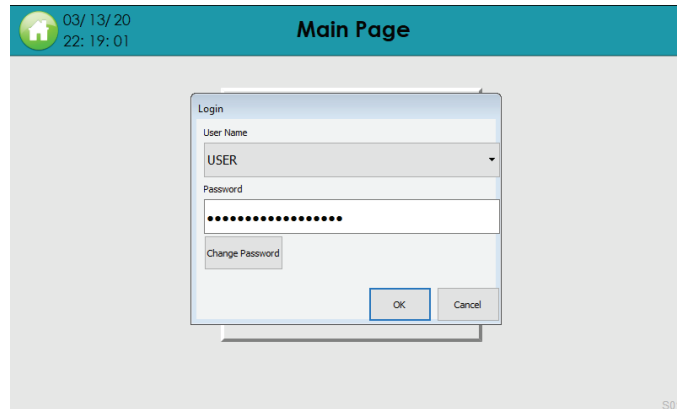


- Touch the **Password** box to enter the password.
- The screen below will appear.
- Select **CAP** for lower case letters. Enter the password and press **ENT**.

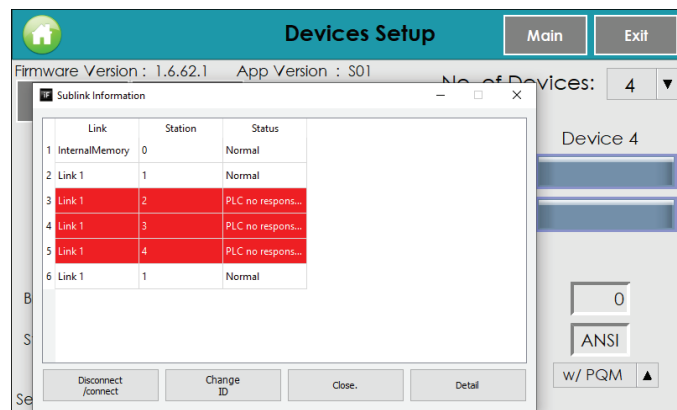


**Display Set-Up and Navigation (cont.)**

6. The screen below will appear after the password has been entered. Select **OK**.



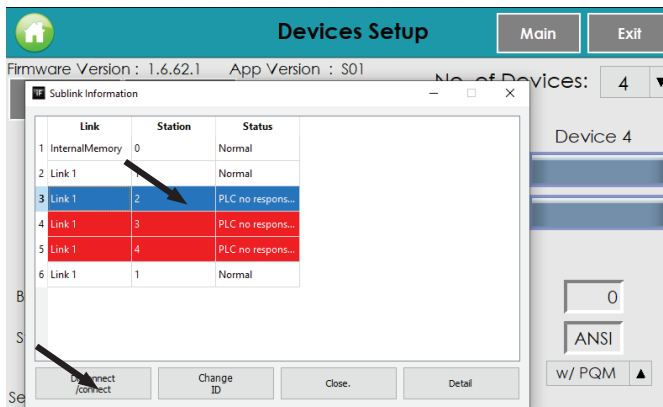
7. The screen below shows other Modbus addresses for additional meters. Up to four meters can communicate to one display. To connect the additional addresses, follow the steps below.

**Notes:**

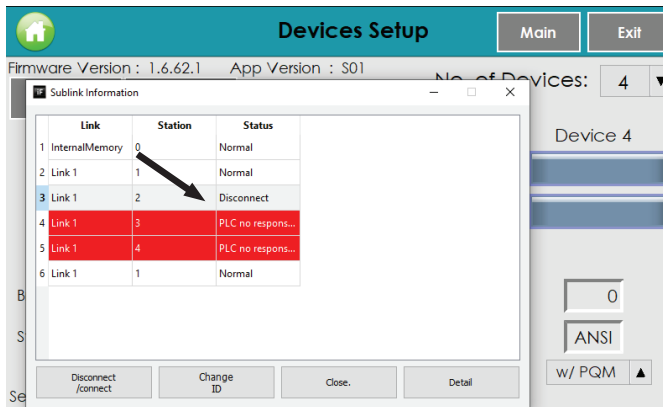
- (1,2,6) Link-1 Station-1 is for Modbus address 1 (first meter)
- (3) Link-1 Station-2 is for Modbus address 2 (second meter)
- (4) Link-1 Station-3 is for Modbus address 3 (third meter)
- (5) Link-1 Station-4 is for Modbus address 5 (fourth meter)

**Display Set-Up and Navigation (cont.)**

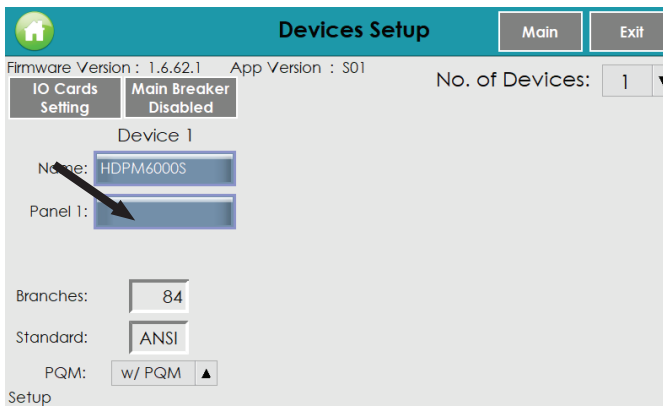
8. To connect or disconnect, touch the line once and wait for the line to change to the blue highlight color. Once the line is blue, select the **Disconnect/Connect** button in the lower left corner (note: select only once).



9. The screen below shows Address 3 disconnected.



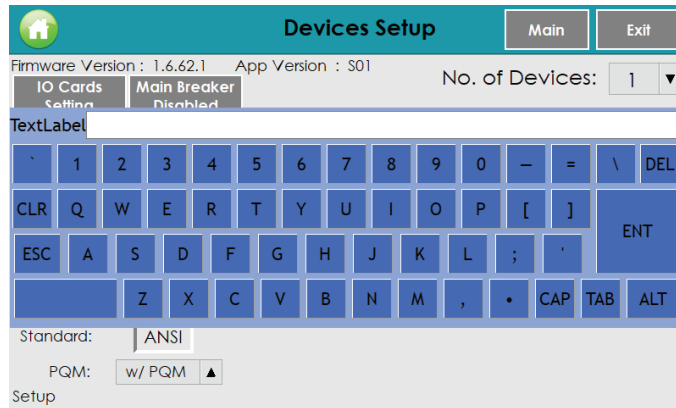
10. Press **Close** to exit the Sublink Information popup.
11. On the Devices Setup screen, you can preset the Device Name and Panel Name that will appear on the main screens.
12. Touch the box to enter the Device Name and/or the Panel Name.





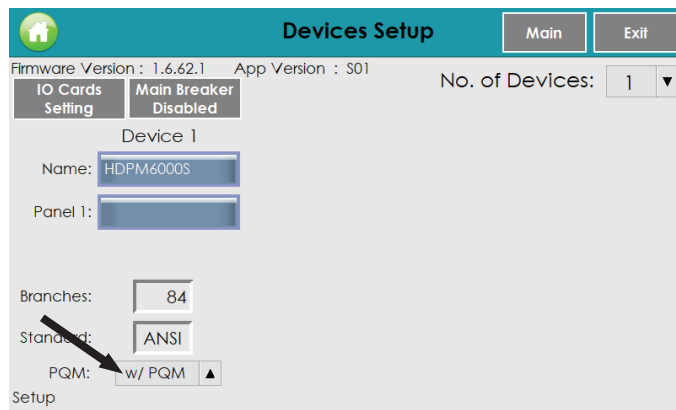
**Display Set-Up and Navigation (cont.)**

13. Enter the Device Name and/or Panel Name and select **ENT**.

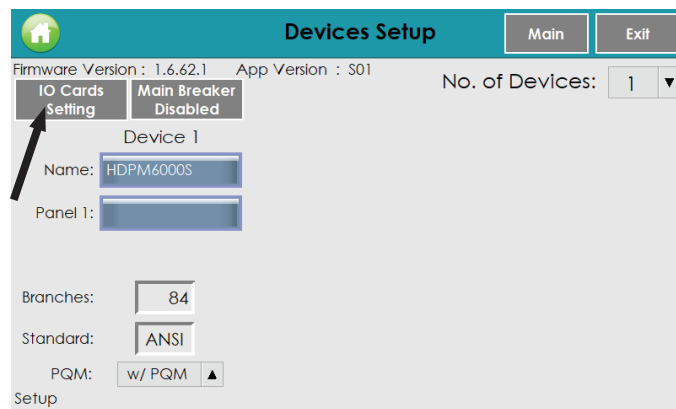


14. Configure whether head unit mains (PQM), branch data or both are displayed using the 'PQM' dropdown.

- w/PQM: Head unit and branches
- No/PQM: Branches only
- PQM Only: Head unit mains only

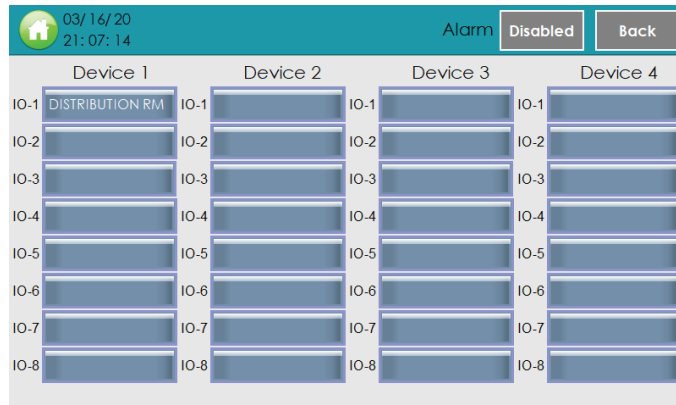


15. Select **IO Cards Setting** to assign names to any I/O modules attached to the head unit bus.

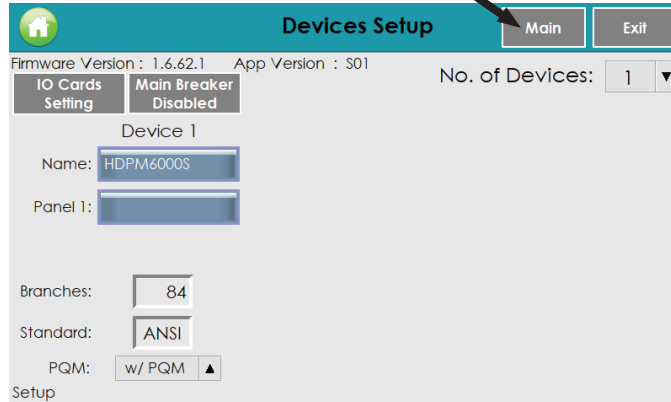


**Display Set-Up and Navigation (cont.)**

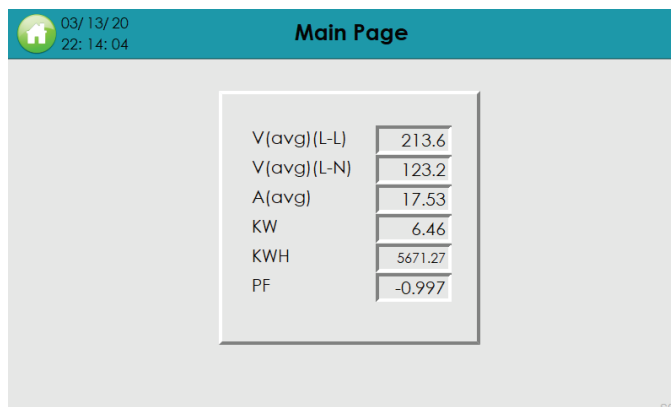
16. Press on the field for each attached I/O module, enter a name in the keyboard and press **ENT**.



17. Select **Main** in the upper right hand corner to return to the Main screen.



18. From the Main screen, touch the center of the screen to view the head unit (PQM) data pages.



**Display Set-Up and Navigation (cont.)**

19. Use the PQM Phases screen to view mains voltage, current, power, energy and power factor.

The screenshot shows the 'PQM Phases' screen with a teal header containing a home icon, 'HDPM6000S', and '6.46 kW'. Below the header is a table with columns for Phase 1, Phase 2, Phase 3, and Neutral. The rows include V(rms)(L-L), V(rms)(L-N), A(rms), KW, KWH, and PF. A navigation bar at the bottom has buttons for 'PQM Phases' (highlighted in red), 'Power Quality', 'PQM Summary', and 'BCM Summary'. An 'IO Status' button is also present.

	Phase 1:	Phase 2:	Phase 3:	Neutral:
V(rms)(L-L)	214.2	214.2	214.2	
V(rms)(L-N)	123.6	123.6	123.6	
A(rms)	17.53	17.45	17.52	0.00
KW	2.15	2.15	2.15	
KWH	1692.50	2200.84	2209.01	
PF	-0.997	-0.997	-0.997	

20. Use the Power Quality screen to view mains apparent power, reactive power, frequency, and voltage and current total harmonic distortion (THD) per phase.

The screenshot shows the 'Power Quality' screen with a teal header containing a home icon, 'HDPM6000S', and '6.46 kW'. Below the header is a table with columns for Phase 1, Phase 2, and Phase 3. The rows include kVA, kVAR, VTHD(%), ITHD(%), and Freq(Hz). A navigation bar at the bottom has buttons for 'PQM Phases', 'Power Quality' (highlighted in red), 'PQM Summary', and 'BCM Summary'. An 'IO Status' button is also present.

	Phase 1:	Phase 2:	Phase 3:
kVA	2.16	2.15	2.16
kVAR	0.17	0.14	0.18
VTHD(%)	3.0	3.0	2.9
ITHD(%)	2.7	2.8	2.8
Freq(Hz)	60.01	60.01	60.02

21. Use the PQM Summary screen to view averages and totals for the mains.

The screenshot shows the 'PQM Summary' screen with a teal header containing a home icon, 'HDPM6000S', '6.46 kW', and a 'Harmonic' button. Below the header is a table with two columns of data. The rows include V(avg)(L-N), A(avg), kVA(tof), kVAR(tof), VTHD(%), ITHD(%), Freq(avg), and PF(avg). A navigation bar at the bottom has buttons for 'PQM Phases', 'Power Quality', 'PQM Summary' (highlighted in red), and 'BCM Summary'. An 'IO Status' button is also present.

V(avg)(L-N)	123.6	VTHD(%)	3.0
A(avg)	17.50	ITHD(%)	2.8
kVA(tof)	6.48	Freq(avg)	60.01
kVAR(tof)	0.50	PF(avg)	-0.996

**Display Set-Up and Navigation (cont.)**

22. Press the **Harmonic** button in the upper right corner to see the voltage harmonic magnitudes for each phase.

Harmonic(%)	V-Phase 1	V-Phase 2	V-Phase 3
1	100.0	100.0	100.0
3	0.7	0.7	0.7
5	2.7	2.7	2.7
7	0.7	0.7	0.7
9	0.3	0.3	0.3
11	0.1	0.1	0.1
13	0.2	0.2	0.2
15	0.1	0.1	0.1
17	0.1	0.1	0.1
19	0.3	0.3	0.3

Voltage Harmonics

23. Current harmonic magnitudes can be shown by pressing the **Amps** button at the top of the Voltage Harmonics view.

Harmonic(%)	A-Phase 1	A-Phase 2	A-Phase 3
1	0.0	0.0	0.0
3	0.0	0.0	0.0
5	0.0	0.0	0.0
7	0.0	0.0	0.0

Amperage Harmonics

24. Use the BCM Summary screen to view branch circuit voltage, current, power, energy and average power factor.  
 25. Touch the center of the screen to view data for each branch channel.

6.43 kW

HDPM6000S	
V(avg)	123.3
A(avg)	8.69
KW	3.21
KWH	1735.21
PF(avg)	-0.998

IO Status

BCM Summary\_P1

PQM Phases
Power Quality
PQM Summary
BCM Summary

**Display Set-Up and Navigation (cont.)**

26. The Branch Channel screen provides voltage, current, power, energy and power factor for each channel. Viewing odd or even number channels can be toggled by pressing the **Odds** and **Evens** buttons at the top of the screen.

Branch	Volts	A(rms)	Watts	PF	kWh
1	122.9	8.68	1063	-0.996	3.676
3	122.9	8.67	1062	-0.997	20.014
5	122.9	8.68	1064	-0.996	7.213
7	0.0	0.00	0	0.000	0.000
9	123.3	0.00	0	0.000	0.000
11	122.9	0.00	0	0.000	0.002
13	123.3	0.00	0	0.000	0.025
15	0.0	0.00	0	0.000	0.000
17	0.0	0.00	0	0.000	0.003
19	0.0	0.00	0	0.000	0.000

Odds

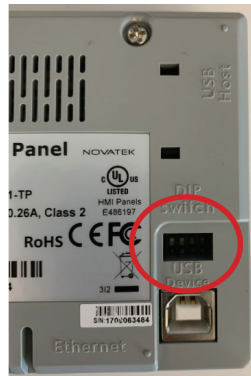
27. From the BCM Summary screen, if any I/O modules are attached, press the IO Status button to view digital input states, output relay status and CT input current.

Name	Allocated	Present	S/N	DI 0	DI 1	DO	Amps
IO-1 DISTRIBUTION RM	<input type="checkbox"/>	<input type="checkbox"/>	4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-2	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-3	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-4	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-5	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-6	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-7	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00
IO-8	<input type="checkbox"/>	<input type="checkbox"/>	0	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0.00

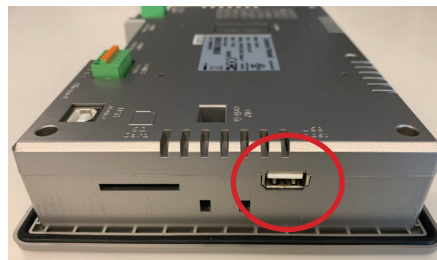
## Display Firmware Installation

Occasionally new firmware versions for the HMI are released with new features and bug fixes. Follow the steps below to update display firmware.

1. Disconnect power from the local display.
2. Place DIP switches 3 and 4 in the OFF position in the location shown below. DIP switches 1 and 2 should be in the upward position and DIP switches 3 and 4 should be in the downward position.



3. Save the new firmware onto a USB drive.
4. The USB port is located on the right side looking at the back of the display.

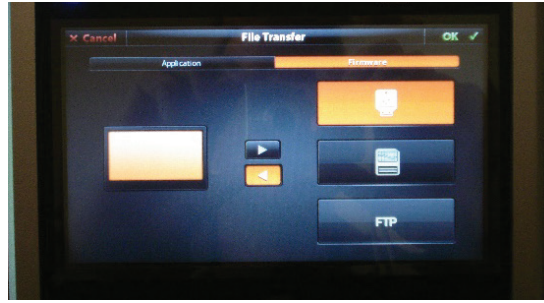


5. Insert the USB drive into the USB port.
6. Restore power to the local display.
7. Once the display initializes, the screen below will appear.
8. Select **File Transfer**.



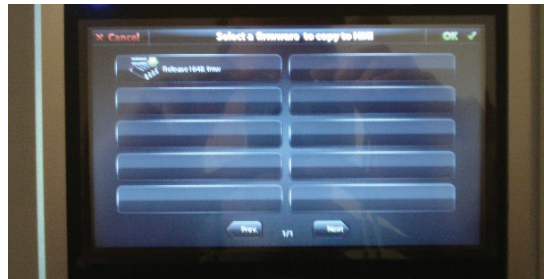
**Display Firmware Installation (cont.)**

9. Select **Firmware** and then select **OK**.



10. Select the new firmware file and press **OK**.

11. A message will appear showing the old and new firmware versions. Select **OK**.

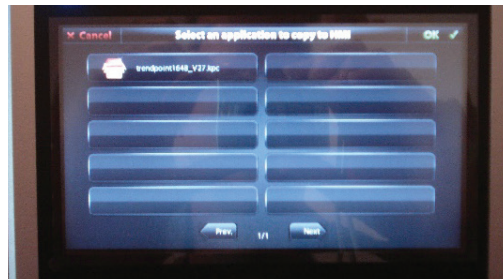


12. Once the firmware is installed, the screen below will appear.



13. Select **Application** and then select **OK**.

14. Select the updated firmware image and press **OK**.



**Display Firmware Installation (cont.)**

15. After the firmware is installed, the screen below will appear.

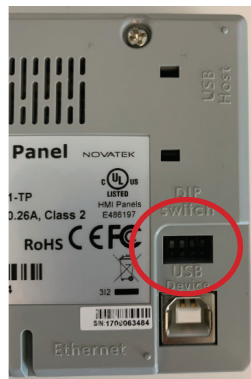


16. Select **Run Application** and validate the application starts correctly.

17. Remove power from the display.

18. Remove the USB drive from the USB port.

19. Place DIP switches 3 and 4 in the ON position. DIP switches 1-4 should be in the upward position in the location shown below.





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