Installation Instructions - Supplemental

REPLACING THE EOS BTCII USER INTERFACE on TURBOPOWER 96® Water Heaters
For model prefixes 50 through 160

The following instructions are included to assist in the proper replacement of the EOS BTCII User Interface. Refer to the Installation & Maintenance Manual for proper adjustments, settings, startup procedures and safety precautions. Installation and service must be performed by a qualified installer or service agency.

Part Number 145259 KIT, HMI BTCII REPLACEMENT FOR TPX HEATERS is required. Kit includes:

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<th>PART NBR</th>
<th>DESCRIPTION</th>
<th>QTY</th>
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<td>147908</td>
<td>HMI, BTCII #106502 TEKMAR REV102915</td>
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<td>145260</td>
<td>SHEET, INSTRUCTION HMI BTCII REPLACEMENT FOR TPX 50-160</td>
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I. REPLACING THE BTCII DISPLAY BOARD

1. Turn water heater power switch to the OFF position.
2. Shut OFF electrical service to the unit.
3. Remove the lower control cabinet cover using the thumb screw at the top center of cover Remove the 4 screws from the top of the control cabinet The top and front face can rotate out to access the back side of the BTCII touch screen.
4. Unplug the RJ45 patch cable from the back of the BTCII display board.
5. If Building Automation is connected to the 3 screw terminals, mark and disconnect them.
6. There are three spring action metal standoffs that hold the PC board to the panel:
   a. Use a needle-nose plier to pinch each standoff to loosen the PC board.
   b. Lightly press the display face from the front of the panel and separate the BTCII User Interface from the panel. (The edges of the display face may stick slightly to the window in the front panel overlay.)
7. Position the replacement BTCII display board over standoffs and lightly press into place. To prevent bending damage to the board, use a nut driver or similar hand tool to isolate the force around the standoffs.
8. Plug in the RJ45 patch cable. Verify the dipswitch settings on the new board are set the same as the existing board. (Reconnect automation wires if used.)
9. Turn ON electrical service to the unit.
10. Turn water heater power switch to ON position. Note, you may have to cycle power off and on again to fully initialize with the PIM control.

II. BTCII CONTROL PARAMETERS
Replacement controls must be programmed prior to operating the water heater. The parameters and values for each TURBOPOWER 96 model are listed below.
III. ADJUSTING THE CONTROL PARAMETERS

1. To Change The Water Heater **SET POINT** value:
   a. From the normal View Menu, press and hold the **Home Button** for 3 seconds to enter the Control System Menu.
   b. The first menu displayed is the **SETUP** Menu. Press **ENTER** to enter the **SETUP** Menu.
   c. The second parameter is the **SETPOINT**. Use the arrow buttons to adjust the set point value as per the parameter table shown.
   d. To exit and return to normal View Menu, press the **Home Button** 2 times or wait 60 seconds.

2. The remaining parameters require **ACCESS** to be set to **ADV** before you can edit them:
   a. Enter Control System Menu (press and hold the **Home Button** for 3 seconds).
   b. Press **NEXT ITEM** or **ITEM BACK** buttons to navigate to the **TOOL BOX** menu.
   c. Press the **ENTER** button.
   d. The first parameter in the **TOOL BOX** menu is the **ACCESS** level screen.
   e. Adjust the **ACCESS** level using the #4 button to select the **ADV**anced value. If the highest value is **INST**, then press and hold the #4 button for 3 seconds. (If the #4 button does not move to **ADV**anced, try the arrow buttons.)
   f. To exit and return to normal View Menu, press the **Home Button** 2 times or wait 60 seconds.

3. To change the **DIFF**, **OFFSET** or **RANGE** values while in **ADV ACCESS**:
   a. Enter Control System Menu (press and hold the **Home Button** for 3 seconds).
   b. Press the **NEXT ITEM** until you see the **SETUP** menu.
   c. Press **ENTER** to enter the **SETUP** Menu.
   d. Once in the **SETUP** menu, use the **NEXT ITEM** button to move to the **DIFF**, **OFFSET**, and **RANGE** menus. Using the arrow buttons in each parameter, enter the value as per the corresponding parameter for the model heater as per the table shown.
   e. To exit and return to normal View Menu, press the **Home Button** 2 times or wait 60 seconds.

4. To Change the **OPERATOR**, **MIN MOD**, **START MOD**, and **MAX MOD** values:
   a. Enter Control System Menu (press and hold the **Home Button** for 3 seconds).
   b. Press **NEXT ITEM** or **ITEM BACK** buttons to navigate to the **SOURCE** MENU.
   c. Press **ENTER** to enter the **SOURCE** MENU.
   d. Once in the **SOURCE** MENU, use the **NEXT ITEM** button to move to **OPERATOR**.
STAND ALONE OPERATOR ADJUSTMENT. Adjust screw until parameter reading matches the operating set point.

(a) This is adjusted with a small flat head screwdriver on the FENWAL PIM ignition module labeled “OPERATOR SET POINT”. Adjust with screwdriver and note the setting in the display. Do not reference the index printed on the PIM module.

e. Press NEXT ITEM to the MIN MOD, START MOD, and MAX MOD parameters. Using the arrow buttons, enter the values as per the parameter table shown. Note: If the arrow buttons are not be visible, push and hold the #4 button at the bottom right of the screen until the UP and DOWN arrows appear.

f. To exit and return to normal View Menu, press the Home Button 2 times or wait 60 seconds.

5. Return BTCII control to the USER access level (refer previous instructions for setting ACCESS to ADV, but change to USER).

BTC-II will need firmware revision D or later for the TPX to operate properly.

Selecting the single probe thermistor as the control sensor
1. 250 Gallon TPX water heaters use the single probe thermistor installed in the control flange as the control sensor.
2. The number 2 dip switch on the back of the BTC-II must be in the ON position.
3. With the unit not powered, find the dip switch and place it ON position then turn the unit on.

Dip switch panel on back of BTC-II
The number 2 switch should be in the ON position for ONLY 250 Gallon TPX units.
This allows the TPX heater to use the single thermistor as the control sensor instead of the dual sensor which will only be used as a Hi-Limit.