Section 1.7
Uponor Configuration Tool (UCT) Elements

Several features of the Uponor Configuration Tool (UCT) software (A9090000) are helpful not only for setting up a system, but also for testing and troubleshooting. This section describes those features, which include the following:

· Manual Operation

· Commissioned Checkbox

· Trend Logs

· Runtimes

Manual Operation

The UCT can control all standard outputs and many sensors in the Network System. With conventional control systems, a contractor uses a resistor or potentiometer to test a temperature sensor. Similarly, the contractor verifies boiler or pump wiring by using a jumper wire or alligator clips to short a set of terminals. With the Network System, these verifications are much simpler. The installer can complete them without stepping away from the computer. Whenever the Manual Operation icon appears (see **Figure 1.7-1**), the installer can change the associated output or temperature reading.

Figure 1.7-1: Manual Operation Icon

Manual Operation can also ensure a device does not turn on. For example, during the construction and sheet-rocking phases of a project, the installer can lock out the fan, furnace or air-conditioning operation (or manually set them to Off) to keep dust from entering the furnace, filter or duct work.

⚠ **Important:** Whenever the Manual Operation icon displays next to an input or output, it means the input or output has been placed in manual mode, or commanded. The Network System cannot automatically control inputs or outputs that have been commanded.

You can place an analog output, binary output or temperature sensor in manual mode. The following subsections provide instructions for setting each type of output or sensor to Manual Operation as well as instructions for returning them to Auto Operation.

Setting an Analog Output to Manual Operation

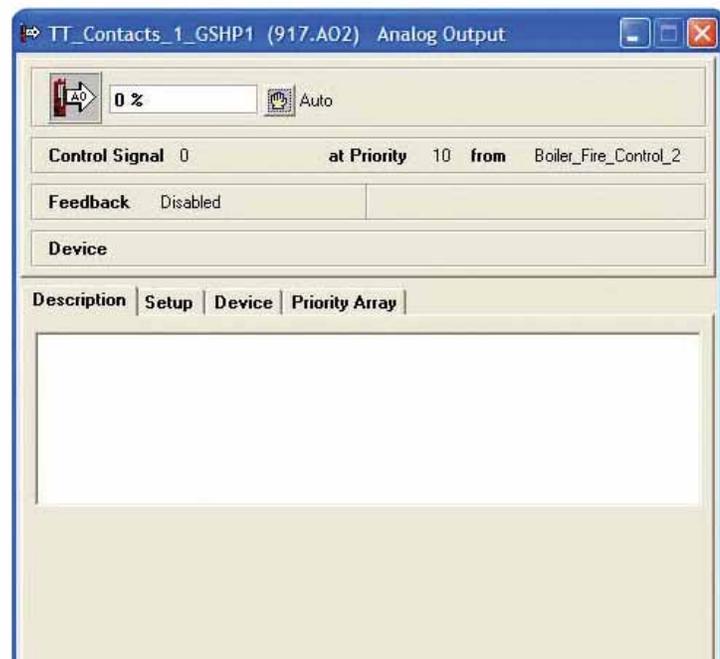1. Click on the Manual Operation icon to open the Analog Output dialog box, shown in **Figure 1.7-2**.

Figure 1.7-2: Analog Output Dialog Box

2. Click on the Auto icon (hand image) at the top of the dialog box. The hand will turn red, and a window will open to the right of it.

3. Enter the new percentage for the output.

4. Click **Apply**.

The output is now in manual mode.

⚠ **Important:** Once an analog output is set to manual, it will remain at the user-defined output level until the percentage is changed or the output is returned to Auto Operation.

Returning an Analog Output to Auto Operation

1. Click on the **Manual Operation** icon to open the Analog Output dialog box, shown in **Figure 1.7-2**.

2. Click on the **Auto** icon (red hand image) shown in **Figure 1.7-3**. The Auto icon will change from red to yellow.

3. Click **Apply**.

The output returns to Auto Operation, and the Network System can control the output.

Note: Devices like modulating boilers, injection pumps and modulating valves can be set at any percentage from 0 to 100%. Other devices, such as zone pumps, secondary pumps and on/off boilers can only be set to 0 (off) or 100% (on) — even though they accept an analog signal. For example, if Boiler 1 with on/off control is set to 57%, the boiler will not turn on as the internal relay in the Boiler Relay (A9012010) will only close at 100%.
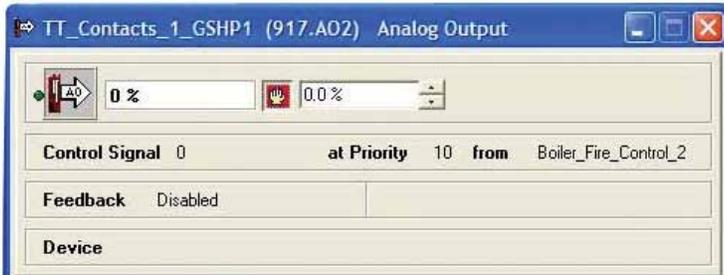

Figure 1.7-3: Analog Output Manual Status

Figure 1.7-5: Binary Output Manual Status

Setting a Binary Output to Manual Operation

1. Click on the **Manual Operation** icon to open the Binary Output dialog box, shown in **Figure 1.7-4**.

2. Click on the **Auto** icon (hand image) at the top of the dialog box. The hand will turn red, and a window will open to the right of it.

3. Change the selection to On or Off.

4. Click **Apply**.

The output is now in manual mode.

⚠ **Important:** Once the output is set to manual mode, it will remain at this output state (On or Off) until it is changed or the output is returned to Auto Operation.

Figure 1.7-4: Binary Output Dialog Box

Returning a Binary Output to Auto Operation

1. Click on the **Manual Operation** icon to open the Binary Output dialog box, shown in **Figure 1.7-4**.

2. Click on the **Auto** icon (red hand image) shown in **Figure 1.7-5**. The icon will change from red to yellow.

3. Click **Apply**.

The output returns to Auto Operation, and the Network System can control the output.

Setting a Sensor to Manual Operation

You can manually set (override) some inputs to the Network System. This functionality is useful when requiring temporary heat or if wiring is not complete. For example, the domestic hot water (DHW) tank cannot run without an outdoor temperature reading. An installer can test the tank before the outdoor temperature sensor is wired by manually setting the outdoor temperature. You can manually set a variety of sensors, including the outdoor temperature DHW, mix and primary-loop sensors.

Refer to the following steps to manually set, or override, a sensor reading.

1. Click on the **Manual Operation** icon to open the Analog Input dialog box, shown in **Figure 1.7-6**.

2. Click on the **Auto** icon (hand image) at the top of the dialog box. The hand will turn red, and a window will open to the right of it.

3. Enter the desired temperature.

4. Click **Apply**.

The input is now set to the specified value.

> ⚠️ **Important:** Once the sensor is set manually, it will remain at this temperature until the value is changed or the sensor is returned to Auto Operation.

Returning a Sensor to Auto Operation

Refer to the following steps to return a sensor to Auto Operation.

1. Click on the **Manual Operation** icon to open the Analog Input dialog box, shown in **Figure 1.7-6**.

2. Click on **Auto** icon (red hand image) shown in **Figure 1.7-7**. The icon will change from red to yellow.

3. Click **Apply**.

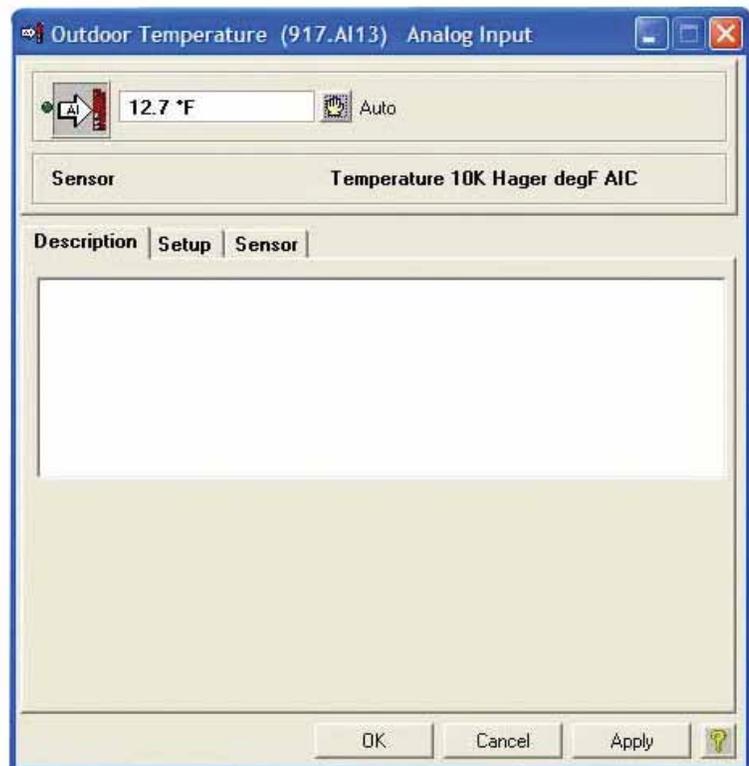The sensor is now returned to Auto Operation, and the Network System can receive the actual sensor input.

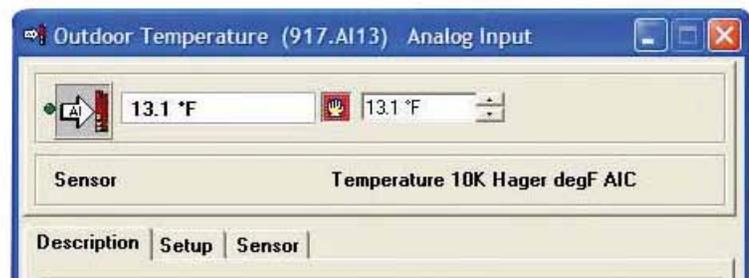Figure 1.7-6: Analog Input Dialog Box

Figure 1.7-7: Analog Input Manual Status

Commissioned Checkbox

The UCT displays a Commissioned checkbox for each output in the Network System. An installer can use the Commissioned checkbox to document verification of a device's wiring and operation and to create reports that show which devices were tested and verified.

Note: If a device has not been commissioned (or if commissioning was not documented), the Noncommissioned icon (shown in **Figure 1.7-8**) will display for the device in the UCT.

Figure 1.7-8: Noncommissioned Icon

Refer to the following steps to commission a device.

1. From any UCT screen, click on the **Manual Operation** icon shown in **Figure 1.7-1**.

2. Test the device, using the appropriate steps from the Manual Operation section.

3. If the device operates correctly, click on the Device tab shown in **Figure 1.7-9**.

4. Click the **Commissioned** checkbox (ensure a check appears in the box).

5. Click **Apply**.

6. Close the window.

Figure 1.7-9 Commissioned Checkbox

Trend Logs

The UCT displays the Trend Log icon, shown in **Figure 1.7-10**, when system operation data is available for review. Standard Trend Logs retain 50 data points. After data points are saved, the system deletes the oldest point to make room in memory for the newest data point. Trend Logs only save data when a value changes. Rather than recording a sensor reading every second or minute when no change is occurring, the system only stores a new value when the temperature rises or falls 1°F (0.5°C) from the last value.

Note: The Network System monitors sensors in real time and is sensitive to 0.1°F (0.05°C). The 1°F (0.5°C) change-of-value threshold is only used for Trend Logs.

To open a Trend Log, click on the Trend Log icon shown in **Figure 1.7-10**.
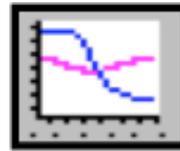

Figure 1.7-10: Trend Log Icon

Runtimes

The Runtime icon, shown in **Figure 1.7-11**, can be used to track how long a device has run, and for some devices, how many times the device has cycled on and off. Device runtime or cycle information can help users diagnose system problems and schedule periodic maintenance.

Figure 1.7-11: Runtime Icon

Viewing Device Runtimes

Refer to the following steps to view the runtime for a device.

1. Click on the **Runtime** icon.

2. In the dialog box that opens, review the total runtime since the last reset. This data will display in one-tenth of an hour increments in the upper, left corner of the window; see the example in **Figure 1.7-12**.

Resetting Runtimes

Refer to the following steps to reset the runtime for a device.

1. With the Runtime dialog box open, click on the **Auto** icon (hand image).

2. The hand will turn red, and a text box will appear to the right of it.

3. Highlight any data in the box and type "0".

4. Click **Apply**.

5. Click on the **Auto** icon to return the Runtime function to Auto Operation.

Note: If Runtime is not reset to Auto Operation, the Network System will not properly capture the amount of time the device operates. The output will turn on and off, but the runtime will remain at 0.0 hours.
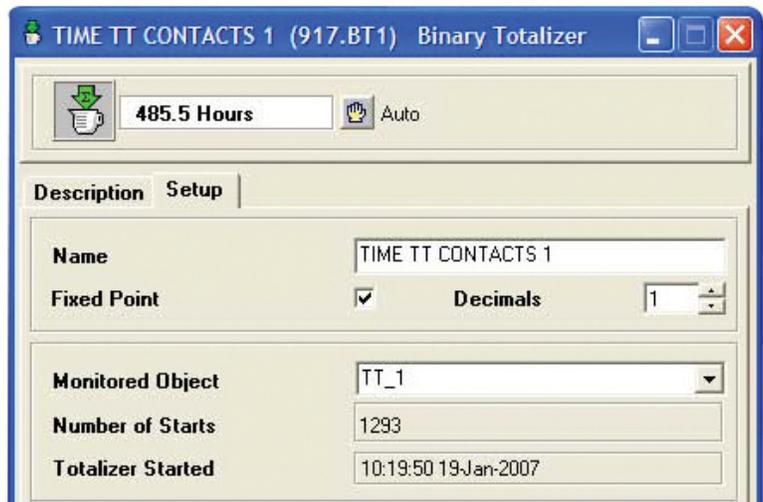

Figure 1.7-12: Runtime Status