

SIEMENS

BACnet PTEC Controller

Extended I/O

Start-up Procedures

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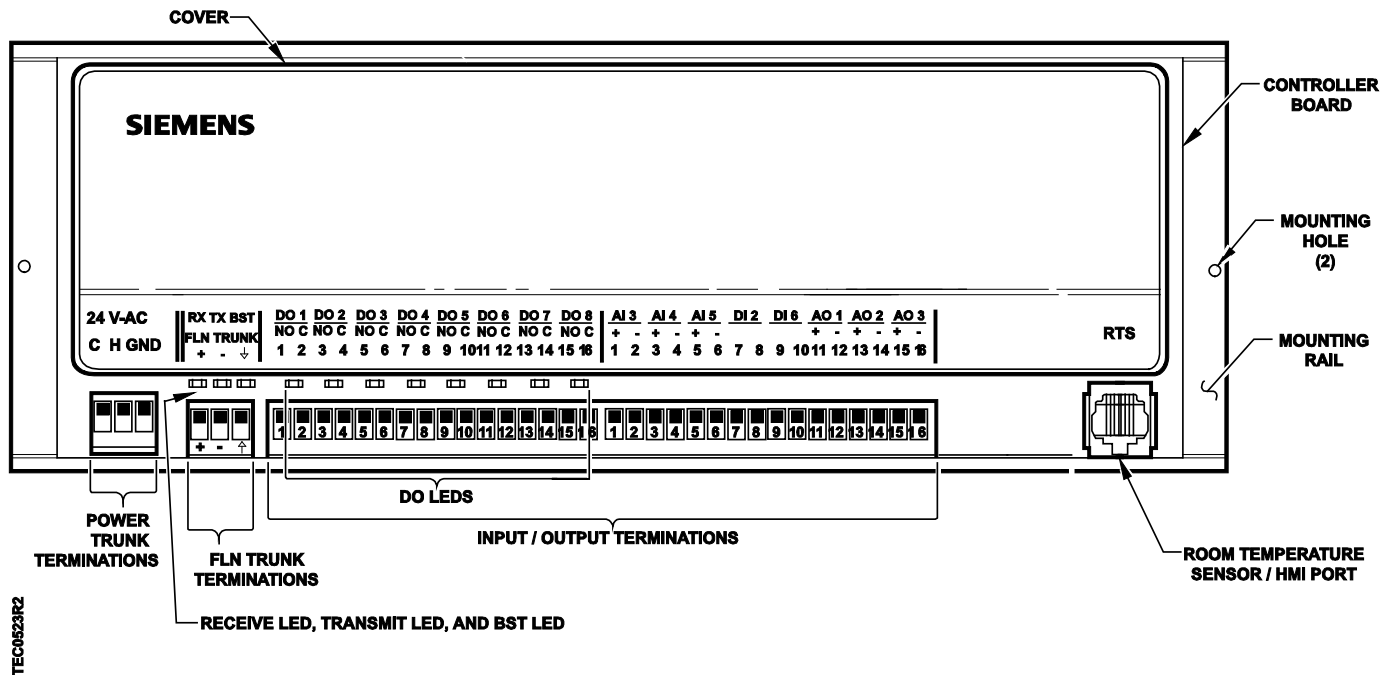
Before You Begin



NOTE:

WCIS version 3.0 or later must be used to configure Siemens BACnet MS/TP Equipment Controllers.

Do not check the Metric check box in the Device Properties dialogue box if the controller is communicating through the MS/TP driver in the field panel. Metric can be checked only if the controller is communicating through a router. If you need metric and the controller is communicating through the MS/TP driver in the field panel, then the Metric check box in the Device Properties dialogue box must be unchecked and the conversion must be handled in the field panel.



Communication and DO Indicators

The Siemens Extended I/O Controller has LEDs to indicate communication (yellow) and DO (digital output) status BST (yellow).

The RX LED will flash for data packets received by the actuator from the MS/TP network. The TX LED will flash for data packets sent by the actuator to the MS/TP network. Each DO has an associated LED located above its termination point. This LED point is on when the associated DO is commanded ON; otherwise, it is OFF. The BACnet PTEC will attempt to communicate with other devices as soon as it powers up. The TX LED will start flashing as it attempts to connect and transfer data.

Setting the Application

Add the TEC to your job database and select Application 6596.

At the start of the calibration cycle, the controller automatically sets CAL AIR to YES. When the cycle is complete, CAL AIR returns to NO.

The air velocity sensor calibration cycle begins within three minutes of an application start-up or initialization, depending on the controller's address. After this delay, the calibration cycle takes from 2 to 5 minutes to complete. The air damper closes during calibration.



NOTE:

You can continue the startup procedure while calibration is underway. However, the controller will ignore commands to control end devices (such as the damper) until calibration of the air velocity sensor is finished.

Setting Room Temperature Offset (optional)

When the room has stabilized, take a precision temperature reading over a period of time at the room temperature sensor, record any difference between this reading and the value of ROOM TEMP and set this difference value (to the nearest 0.25°F (0.14°C)) into RMTMP OFFSET.

Example

If the actual room temperature is 72.0°F (22.2°C), and the value of ROOM TEMP is 73.0°F (23.8°C), then the value entered into RMTMP OFFSET is -1.0. In this case, the value of ROOM TEMP would read the raw value 73.0°F (23.8°C), but the value of CTL TEMP would read 72.0°F (22.2°C).

$$\text{CTL TEMP} = \text{ROOM TEMP} + \text{RMTMP OFFSET}$$

Setting STAT SUPV

The point STAT SUPV is used when a digital room unit is used with the PTEC. The value set, allows the temperature, humidity, and CO2 subpoints to read failed when the room unit is not functioning or is disconnected.

If a value is not selected, the points will not fail. If you enable supervision for a feature that is not being used (such as humidity or CO2), that value always displays as failed.

- If a standard room unit (Series 1000 or 2000) is being used, STAT SUPV must be set to a value of 0 (zero).
- If the digital room unit (Series 2200 or 3200) is being used, STAT SUPV must be set to a value greater than 0 (zero).

Configure STAT SUPV using one of the following values:

Value	Description
1	Temperature sensing only
3	Temperature and Relative Humidity (RH) sensing

Value	Description
5	Temperature and CO ₂ sensing ^(a)
7	Temperature and Relative Humidity (RH) and CO ₂ sensing ^(a)

^(a) Currently not available, for future use.

Setting AI4/AI5 OFFSET

AI 5 OFFSET works like RMTMP OFFSET. It can be used to calibrate AI5 aux temp sensor input if necessary. The actual temperature plus AI 5 OFFSET will equal AI5 display temperature.

AI 4 OFFSET works exactly like AI 5 OFFSET.

Setting Controller Address

Set CTLR ADDRESS to the BACnet MS/TP MAC address. (0 through 127 = Master; 128 through 254 = Slave).



NOTE:

Set the controller address and MS/TP network baud rate prior to connecting the controller to the network. See Configuring BACnet Parameters [→ 6].

Configuring BACnet Parameters



NOTE:

WCIS version 3.0 or later must be used to configure Siemens BACnet MS/TP Equipment Controllers.

Do not check the Metric check box in the Device Properties dialogue box if the controller is communicating through the MS/TP driver in the field panel. Metric can be checked only if the controller is communicating through a router. If you need metric and the controller is communicating through the MS/TP driver in the field panel, then the Metric check box in the Device Properties dialogue box must be unchecked and the conversion must be handled in the field panel.

Using WCIS, do the following:

1. From the **Device** menu, select **Device Properties** to configure BACnet parameters.
 - **Object Name** – unique to BACnet network, (12 character limit).
 - **Object ID** – unique to BACnet network (valid values are 0 through 4,194,303).
 - **Description** – description of controller (60 character limit).
 - **Location** – physical location of controller (60 character limit).

- **MSTP Network Baud Rate** – options; 9600, 19200, 38400 or 76800 (default is 19200).
 - 2. Configuring the Room Unit port.
 - If using a sensing only Room Unit, the baud rate can be 1200 to 76800. For optimal use with WCIS use 38400.
 - If using a communicating Room Unit, the baud rate must be set to 1200.
 - 3. Press the **Write** button. The controller accepts the configuration values and then resets.
- ⇒ When the BACnet MS/TP TEC is successfully installed, the RX and TX LEDs flash On/Off rapidly and continuously (indicating proper communication with other devices on the network).

Flashing Controller Firmware

FLT Procedure

Use Firmware Loading Tool (FLT) for this procedure.

1. Connect to RTS port of PTEC.
2. Set Communications to **1200 baud** and **ID**.
 - Click the **Identify** button in FLT.
3. Browse for new firmware.
4. Select **Load**.

WCIS Procedure

1. Connect to device.
2. Select **Load TEC Firmware** from Device pull-down menu.
3. Click the **Browse** button in Load TEC Firmware dialog box.
4. Select the firmware.
5. Select **Load**.