

TX-I/O P1 Bus Interface Module

Product Description

The P1 Bus Interface Module (P1 BIM) enables communication between a P1 Field Level Network (FLN) and TX-I/O modules. It also provides 14.4 W (0.6A at 24 Vdc) to power the TX-I/O modules and external devices. External devices draw power from the 24 Vdc and ground terminals on the TX-I/O modules.

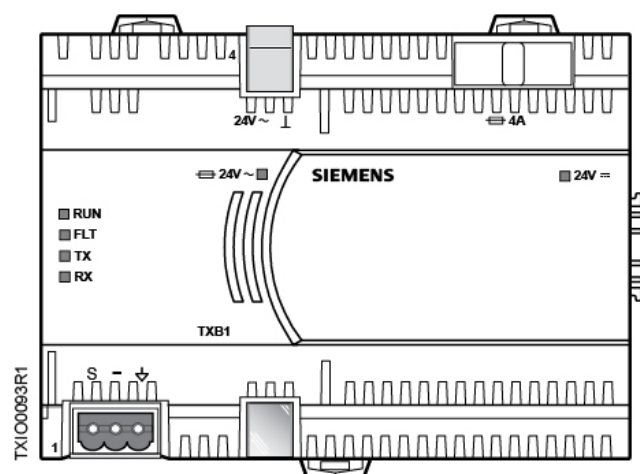




Figure 1. P1 Bus Interface Module Example (TXB1.P1-4).

Product Numbers

TXB1.P1	TX-I/O Bus Interface Module, P1 (10 modules)
TXB1.P1-4	TX-I/O Bus Interface Module, P1 (4 modules)

Warning/Caution Notation

WARNING	 Personal injury or property damage may occur if you do not follow a procedure as specified.
CAUTION:	 Equipment damage or loss of data may occur if you do not follow a procedure as specified.

Required Tools and Materials

- Wire stripper/side cutter
- Small flat blade screwdriver
- Digital multimeter (DMM)

Expected Installation Time

7 minutes

Prerequisites



CAUTION:

No power wiring is connected to the field panel controller or other TX-I/O components at this time.



CAUTION:

The TX-I/O island bus must be mounted on a DIN rail (1.38" × 0.3" × 0.04" (35 mm × 7.5 mm × 1 mm)).

- For energy management installations, NEMA Type 1 or better enclosure with DIN rails and source of 24 Vac.
- For smoke control installations, PX Series enclosures and service boxes. See the *PX Series Service Box Installation Instructions* (553-131).
- If mounting in an enclosure:
 - Enclosure is installed.
 - The power source is installed, as applicable.
 - The power is OFF.
- All necessary wiring is pulled and terminated per the layout drawing.
- Power and communication wiring is terminated to the removable plugs supplied with the devices.

Power Requirements

One of the following power sources is pulled to the enclosure:

- 120 Vac, 60 Hz and terminated at the 115V PX Series Service Box.
- 230 Vac, 50/60 Hz and terminated at the 230V PX Series Service Box.
- 24 Vac, 50/60 Hz Class 1 power limited from a third-party transformer and connected to a terminal block.
- If powering a TX-I/O expansion panel, power wiring is run from the transformer in the primary panel to the expansion panel, if needed.



CAUTION:

For information on extending the TX-I/O island bus outside the enclosure, see the *APOGEE Wiring Guidelines for Field Panels and Equipment Controllers* (125-3002).



NOTE:

Depending on the module types and point configurations used, one service box transformer may have insufficient power for more than two TX-I/O Power Supplies. More power may be required if using a Modular Series with the maximum number of TX-I/O modules.

General Installation Requirements



CAUTION:

All devices not isolated by a Trunk Isolator/Extender (TIE) or isolation transformer must be connected to the same grounding point.



CAUTION:

Do not connect TX-I/O components to a floating system neutral. Otherwise, equipment damage will occur.

- System Neutral (\perp) must be continuous throughout the TX-I/O Bus.
- System Neutral must be connected to building approved earth-ground (\oplus) at a single point only at the 24 Vac transformer.

Installation



CAUTION:

Turn OFF AC power at the ON/OFF switch in the Service Box or transformer enclosure.



CAUTION:

UL Listings require that NEC Class I and Class II wiring be kept separate from each other. Use separate conduit and cable tie bars to separate Class I Digital Output (DO) wires from all other Class II wiring.



CAUTION:

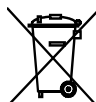
The TX-I/O island bus must extend from the male bus connector of the P1 Bus Interface Module (BIM).

- The P1 BIM only supplies 24 Vac to I/O modules on the male bus connector.
- I/O modules on the female bus connector of the P1 BIM do not receive power and have a fault condition.



CAUTION:

Only insert or remove the field panel controller, TX-I/O Power Supply, and Bus Connection Module when the power is OFF.



This device includes electrical and electronic components and must not be disposed of as domestic waste. Product recovery and disposal must comply with all national and local regulations.



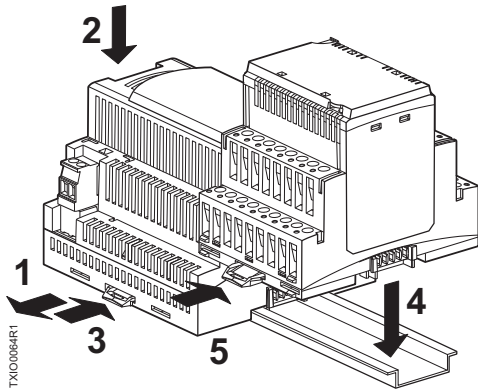
NOTE:

For Smoke Control applications, the field panel controller must be installed in the lower half of the enclosure.

Basic Steps for Connecting Devices to the DIN Rail

The island bus establishes its own connection when TX-I/O devices are plugged into one another on a DIN rail.

1. Slide out the mounting tabs.
2. Align the channel on the back of the device with the DIN rail.
3. Using a flat blade screwdriver, push in each mounting tab until it clips onto the DIN rail.
4. Align an I/O module with the Power Supply or Bus Connection Module, and slide the I/O module down over the TX-I/O island bus connector.
5. Push in each mounting tab until it clips onto the DIN rail.



Connecting Devices to the TX-I/O Island Bus.

Completing the Installation



CAUTION:

For RS-485 ALN or FLN, terminate only one end of the shield wire on the enclosure earth ground.

For a 3-wire system, ⚡ terminal is connected to reference wire. Protective ground terminal may be connected to earth ground.

For a 2-wire system, ⚡ terminal is not connected. Protective ground terminal must be connected to earth ground.

NOTE: Do not connect the power or network communication cable until instructed to do so during start-up.

1. Terminate power wiring to the 24 Vac removable plug.
2. If necessary, terminate wires to the communications terminals (CS and CD).

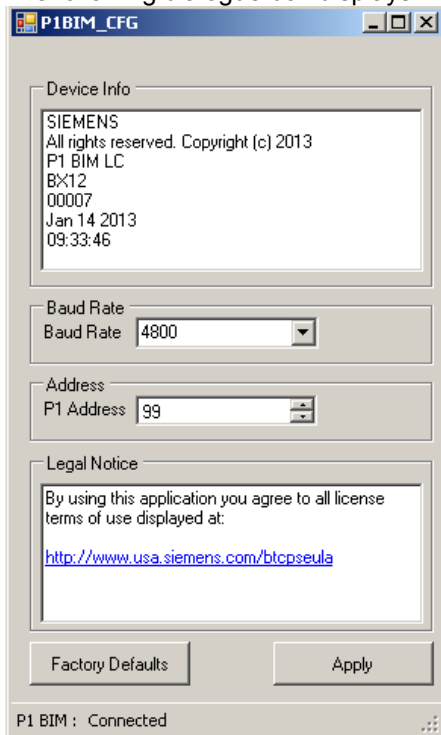
The installation is now complete.

Configuring the 4-Module P1 BIM

1. Power up the P1 BIM.
2. Plug in the USB on both ends (the device side to the P1 BIM; the host side to the computer).

The device will be automatically recognized and installed.
3. Open Windows Explorer.
4. Find the USB device/drive (will say SIEMENS P1BIM Configuration Tool) in the drives list.
5. Open the drive.
6. Double-click **P1BIMCFG.exe** to launch the application.
7. Select the desired Baud Rate from the drop-down menu. (Note: Only 4800 and 38400 are supported rates.)
8. Click **Apply**.
9. Verify that the baud rate you selected is displayed in the **Baud Rate** field.
10. Enter the desired address in the **P1 Address** field. The default address is 99, but the device will not communicate if left at the default address. Valid P1 addresses are 1 through 98.
11. Click **Apply**.
12. Verify that the address you entered is displayed in the P1 Address field.

The following dialogue box displays:



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