NOTE:
Follow the installation instructions and regulatory requirements in this document if you are installing TX-I/O™ products purchased through Siemens North America. This Installation Instruction is packaged with device providing power to TX-I/O Bus. All installation must conform to national and local codes and regulations (NEC, CE, etc.).

Product Description
TX-I/O™ is a range of I/O modules, with associated power and communication modules. The I/O modules communicate between the field panel controller and the related devices in the building services plant.

Product Numbers
TXM1.8D Eight Digital Input points may be used as pulse counters up to 10 Hz.
TXM1.16D 16 Digital Input points, 8 of the 16 points may be used as pulse counters up to 10 Hz.
TXM1.6R Six Digital Output points, Class 1 relay.
TXM1.6R-M TXM1.6R-M includes manual override switches.
TXM1.4D3R Four Digital Input points may be used as pulse counters up to 10Hz and 3 Digital Output points Class 1 relay.
TXM1.8U Eight points, which can be individually configured as Analog Input, Analog Output, or Digital Input. Distributes 24 Vac to power actuators. TXM1.8U-ML includes local override buttons and an LCD signal display.
TXM1.8U-ML
TXM1.8X Eight points, which can be individually configured as Analog Input, Analog Output, or Digital Input. Distributes 24 Vac to power actuators and 24 Vdc to power sensors. TXM1.8X-ML includes local override buttons and an LCD signal display.

Figure 1. Module Example (Universal I/O).

Warning/Caution Notations

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” x 0.3” x 0.04” (35 mm x 7.5 mm x 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.
- TX-I/O™ Power Supply, Bus Connection Module or Bus Interface Devices.
- If mounting in an enclosure:
  - Enclosure is installed, DIN rail included.
  - 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.
- The plug-in I/O modules are either removed from or parked in the terminal bases.

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.

General Installation Requirements

CAUTION
All devices not isolated by an Island Bus Expansion module (TXA1.IBE) must be connected to the same grounding point.

CAUTION
TX-I/O components require a system neutral with single point earth ground. Do not connect these components to a floating system neutral.

I/O Module Insertion Required for Proper Grounding

All measuring/neutral terminals are connected in the plug-in I/O module, not in the terminal base. When the plug-in I/O module is removed, these terminals are not connected.

WARNING
Install external supply line fusing in series with relay contacts and controlled device. Fuse type and value should be the lowest required by control relay datasheet or controlled device datasheet. Failure to install fuse may result in damage to relay or device.
Class 1 Relay Current Interrupt
Install External supply line protection: Slow-blow fuse max. 6 A or Circuit breaker max. 10 A Characteristic B, C, D according to EN 60898.

Installation

WARNING
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 TX-I/O Power Supply, Bus Connection Module or Bus Interface Device.
- Male bus connector supplies I/O modules with fuse protected 24 Vac distribution, 24 Vdc power and TX-I/O communication. Analog I/O modules detect loss of 24 Vac.
- Female bus connector where provided shares 24 Vdc power and TX-I/O communication but does not connect 24 Vac.

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

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 female bus connector of an I/O module with a male bus connector, 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.

Figure 2: Connecting Devices to the TX-I/O Island Bus.

Point Wiring
See the Wiring Guidelines for TX-I/O point wiring information.
Completing the TX-I/O Module Installation

1. Fully seat each TX-I/O module in its Terminal Base.

2. Remove the address keys from the strip, and then insert as shown.

   NOTE: The TX-I/O address keys must be correctly seated and closed in order to function. Make sure the top of the address key is flush with the top of the module.

   - Insert the TX-I/O Module labels.
     - Tear out and fold the labels.
     - Match each label to the address key and slide the label into the detachable label holder.

The installation is now complete.