



Installation Instructions

Tracer™ XM32 Expansion Module

Order Number: X13651563010

The Tracer XM32 Expansion Module provides additional points when needed for Tracer UC400 and UC600 applications. Each expansion module has a total of four (4) relay outputs. Use of a PM014 24Vac/24Vdc power supply (Order Number X1365153801) is needed for applications requiring more than two expansion modules.

Packaged Contents

- One (1) XM32 expansion module
- One (1) bag of 3-pin and 4-pin terminal connectors
- One (1) IMC cable harness

Important: Visually inspect contents for obvious defects or damage. All components have been thoroughly inspected before leaving the factory. Any claims for damage incurred during shipment should be filed immediately with the carrier.

X39641174-01

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

June 2020

BAS-SVN084E-EN

© 2020 Trane



1 Required Tools for Mounting and Wiring

A 1/8 inch (3 mm), flat-bladed screwdriver is required to perform functions such as setting rotary addressing switches, tightening or loosening screw terminals, and removing or repositioning the controller on DIN rail.

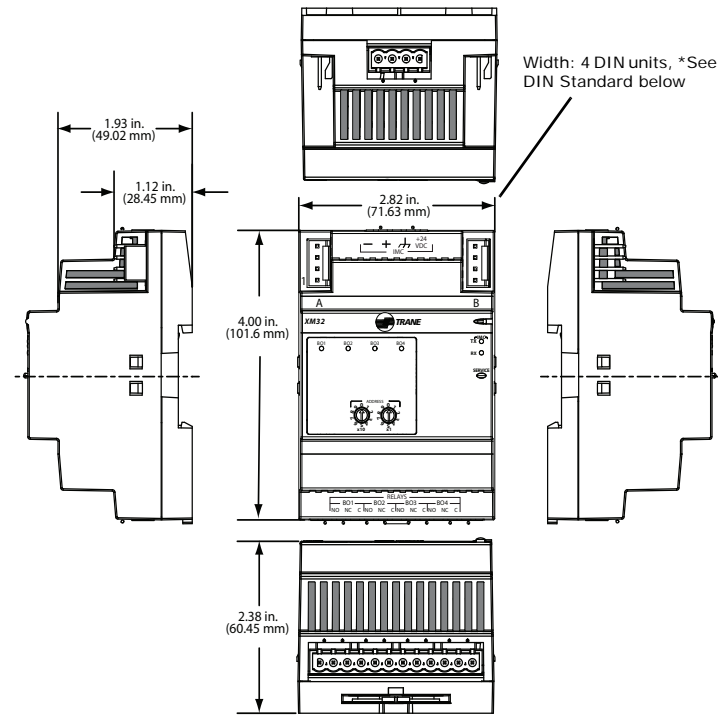
Warnings, Cautions, and Notices

Read this manual thoroughly before operating or servicing this unit. Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

- WARNING** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
- CAUTION** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe equipment or property-damage only accidents.
- NOTICE** Indicates a situation that could result in equipment or property-damage only accidents.

2 XM32 Dimensions



* DIN Standard 43 880, Built-in Equipment for Electrical Installations, Overall Dimensions and Related Mounting Dimensions.

3 Mounting or Removing the XM32

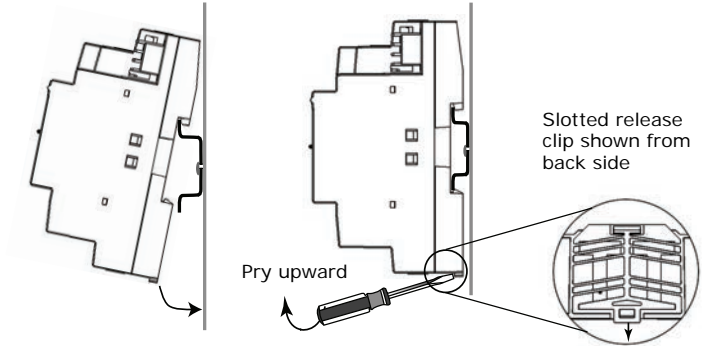
To mount or remove the XM32 from DIN rail, follow the illustrated instructions below.

To mount device:

1. Hook device over top of DIN rail.
2. Gently push on lower half of device in the direction of arrow until the release clip clicks into place.

To remove or reposition device:

1. Disconnect all connectors before removing or repositioning.
2. Insert screwdriver into slotted release clip and gently pry upward on the screwdriver to disengage the clip.
3. While holding tension on the clip, rotate the device away from the DIN rail to remove or reposition.
4. If repositioned, push on the device until the release clip clicks back into place to secure the device to DIN rail.



Important: Follow recommended installation procedures if using other manufacturer's DIN rails and enclosures.

4 XM32 Installation Guidelines and General Information

Installation Environment

Install the XM32 in a location that is:

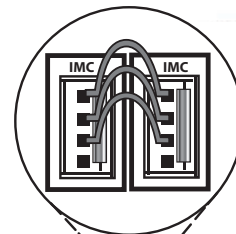
- Protected from weather elements
- Restricted from public access to minimize tampering and vandalism
- Near the controlled equipment to reduce wire usage
- Easily accessible by service technicians

Connection Location

The module can be connected either locally (beside the UC400 or UC600) or remotely from the UC400 or UC600 (not located inside the same enclosure as the UC400 or UC600).

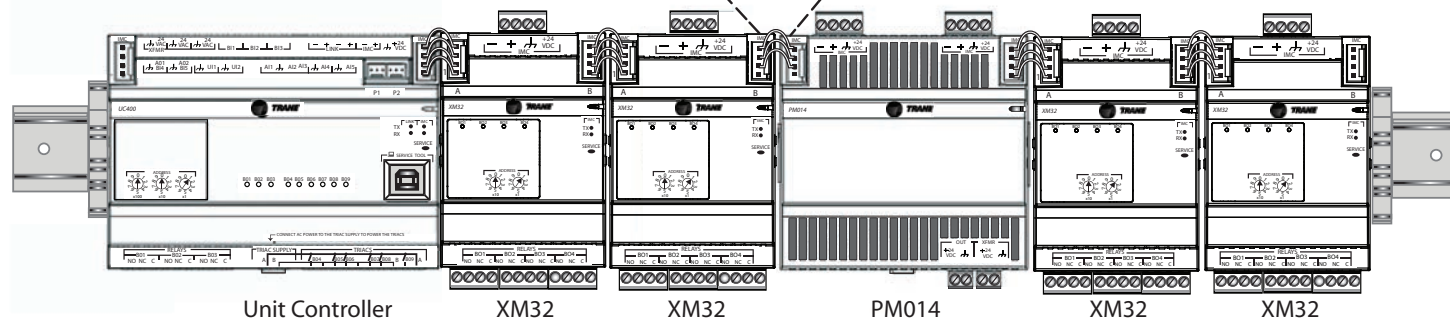
- Local connection—Use IMC cable harness connectors.
- Remote connection—Use screw terminal connectors. (Refer to the illustration on the right.)

Note: 24 Vdc power is supplied by the UC400 or UC600 for up to two (2) expansion modules with a maximum current draw of 200 mA. The use of a PM014 DC power supply is required for applications that require more than two expansion modules (XM32 or XM30). (Refer to the illustration below for wiring instructions.)



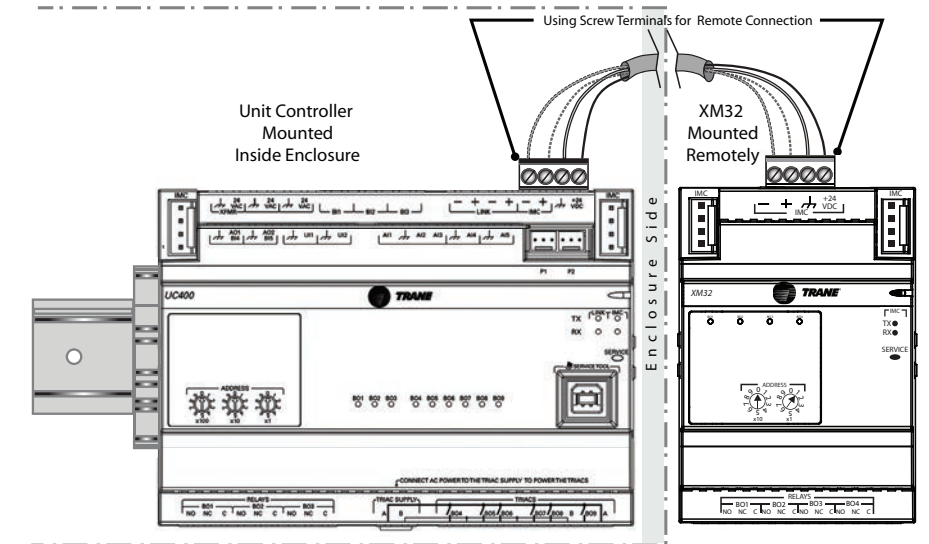
Exploded view showing the 24 Vdc wire on the bottom removed from the IMC harness.

Notice: Avoid Equipment Damage!
Remove the 24 Vdc wire from the IMC harness that connects a unit controller powered XM32 to the PM014 power supply.



General Wiring Requirements and Considerations

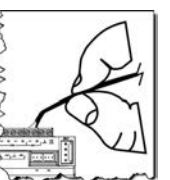
- Maximum draw rating of the XM32 is 100 mA.
- Requires a shielded, twisted-pair cable if installed outside enclosure or if the supplied IMC wiring harness is not used. The shield should be terminated on the ground terminal on the UC400 or UC600. Daisy chain the shield at all of the expansion modules.
- Remote mounting distance from UC400 or UC600 is a maximum of 656 ft (200 m) for communication only. If wiring both power and communication to the remote expansion modules, the maximum distance is 165 ft (50 m).



General Wiring Requirements and Considerations (continued)

- When wiring with terminal connectors, strip the wires to expose 0.28 inch (7 mm) of bare wire. Insert each wire into a terminal connector and tighten the terminal screw. A tug test is recommended after tightening terminal screws to ensure all wires are secure.
- The UC400 or UC600 IMC ports have a current limit of 200 mA.
- Allow for proper ventilation when mounting on DIN rail.

Tug Test



Binary Output Terminal Wiring Requirements

Maximum Wire Lengths
1,000 ft (300 m)
<ul style="list-style-type: none"> All wiring must be in conformance with the specifications for each device and comply with the National Electrical Code™ and local codes. 18–22 AWG stranded copper wire is recommended for binary output wiring. For CE installations, the temperature rating of the fixed wiring should be a minimum of 105°C.

AC Power Warnings, Cautions, and Notices

WARNING

Hazardous Voltage!

Disconnect all electric power, including remote disconnects, before servicing. Follow proper lockout and/or tagout procedures to ensure the power cannot be inadvertently energized. Failure to disconnect power before servicing could result in serious injury or death.

CAUTION

Personal Injury and Equipment Damage!

After installation, make sure to check that the 24 Vac transformer is grounded through the controller. Failure to check could result in personal injury and/or damage to equipment.

Note: Measure voltage between chassis ground and any other ground symbol on the module ($V_{ac} \leq 4.0V$). Voltage must comply with National Electrical Code and local electrical codes.

NOTICE

Equipment Damage!

Complete input/output wiring before applying power to the XM32. Failure to complete this task could cause damage to the controller or power transformer due to inadvertent connections to power circuits.

XM32 Connections

Before connecting the XM32, the following table provides device connection information.

Table 1. Device connections

Connection	Binary output (BO1 to BO4) ⚠CAUTION (See Below)
Quantity	4
Types	General purpose Motor Pilot duty (inductive load) Resistive load
Range	General Purpose (Resistive) 10 A max up to 277 Vac 10 A max up to 30 Vdc Motor Duty (Inductive) 1/3 hp at 125 Vac (7.5 A max) 1/2 hp at 277 Vac (7.5 A max)
Notes	POWER NEEDS TO BE WIRED TO THE BINARY OUTPUT. ALL OUTPUTS ARE ISOLATED FROM EACH OTHER AND FROM GROUND OR POWER. RANGES GIVEN ARE PER CONTACT.

CAUTION

Equipment Damage!

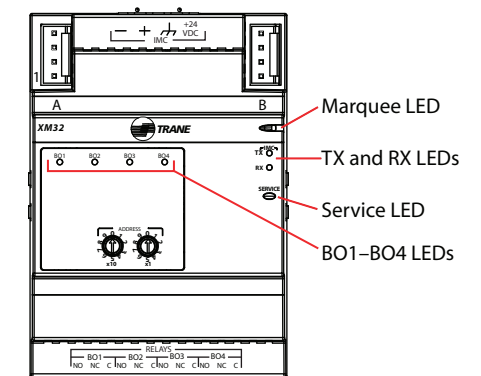
To observe safety precautions, do not mix Class 1 and Class 2 voltages in an enclosure or on a controller without an approved barrier between the wiring.

Connecting, Addressing, and Discovering the XM32

The following steps explain how to connect and configure the XM32 with the unit controller using the Tracer TU service tool:

- Disconnect the power from the UC400 or UC600.
- Set the two rotary dials on the front of XM32 to the desired address of the expansion module. Each expansion module must have a unique address. Use a 1/8 inch (3 mm) flathead screwdriver to set rotary dials. The dial rotates either direction. Valid addresses are 1–99.
- Connect the XM32 and the UC400 or UC600 using either the IMC cable harness provided or by running wire to the IMC/24 Vdc screw terminal connectors. If powering the XM32 from a source other than the UC400 or UC600, the power supply must be locally grounded.
- Power up the UC400 or UC600 and the XM32. The transmitting (TX) and receiving (RX) LEDs blink when communication occurs between the devices. Note the following LED activities on the front of the XM32:
 - Marquee LED:**
 - Green;** If powered, application is running (no faults or alarms).
 - Solid red;** Not running. Caused by low power, malfunction, or malfunctioning processor.
 - Sequencing when powered;** Transitions from red to green.
 - Service LED:**
 - Green;** When pressed. Remains on while latched in service mode.
 - Not lit;** Normal operation.
 - Sequence when powered;** Issues one short green blink on power up during memory test. Stays green if memory test fails. When service is selected, a module continues using its normal node number for communication. However, it communicates as node 0 if given a chance, but this does not affect operation.
 - BO1-BO4 LEDs:**
 - Yellow:** Binary output is On/Energized
 - Not Lit:** Binary output is Off/De-energized

Figure 1. XM32 LEDs



- Open the Tracer TU service tool and then establish a direct connection to the UC400 or UC600 using a USB cable.

Note: Using the Tracer TU Adapter to connect to the unit controller is not allowed for installation and discovery of the XM32 module due to communication conflict on the IMC link. The Tracer TU Adapter may be used for device connection after installation and discovery are complete.
- On the right-hand side of the TU screen, click on the **Controller Settings Utility** tab and then select the **Controller Settings** tab from the top of the screen.
- Open the **Expansion Module** group box and add the expansion modules that will be installed.
- Select the expansion module type, if necessary.
- Verify that the correct address is displayed for each module in the **Address** field. A rotary dial setting of **01 equals 1** in the **Address** field.

10. Click the **Send to Device** button. This action will save the configuration to the controller and initiate a discovery on the IMC link. The XM32 transmitting/receiving (TX/RX) LEDs will blink when communication occurs between the devices. Tracer TU displays **Device Discovery Complete** when the discovery process is complete. The additional expansion module points are now available for configuration with the Tracer TU service tool.

Storage and Operating Environment Specifications

Storage	
Temperature:	-67°F to 203°F (-55°C to 95°C)
Relative Humidity:	5% to 95% (noncondensing)
Operating	
Temperature:	-40°F to 158°F (-40°C to 70°C)
Humidity:	5% to 95% (noncondensing)
Power:	24 Vdc ±10%, 100 mA
<ul style="list-style-type: none"> Mounting weight of controller: Mounting weight with terminal connectors: 	<ul style="list-style-type: none"> Mounting surface must support; .43 lb. (.195 kg) Mounting surface must support; .47 lb. (.213 kg)
Environmental Rating (Enclosure):	NEMA 1
Installation:	U.L. 840: Category 3
Pollution:	U.L. 840: Degree 2

Agency Compliance

- UL916 PAZX- Open Energy Management Equipment
- UL94-5V Flammability
- CE Marked
- FCC Part 15, Subpart B, Class B Limit

Declaration of CE Conformity

Manufacturer name: Trane

Manufacturer address: 3600 Pammel Creek Road
LaCrosse, WI 54601
USA

The manufacturer hereby declares that the product:

Product name: Tracer™ XM32 Quad Relay Module

Model numbers: X13651563-01

Conforms to the following standards or other normative documents:

Electromagnetic Emission:	EN61326-1:2006	Electrical equipment for measurement, control, and laboratory use—EMC requirements, part 1: General Requirements
(by Council Directive 2004/108/EEC)	EN55011:2007 (CISPR 11:2003+A2:2006) Radiated Emissions	Class B Limit (9kHz–400 GHz)
	EN55011:2007 (CISPR 11:2003+A2:2006) Conducted Emissions	Class B Limit (Radiated: 30MHz–6GHz and Conducted: 150kHz–30MHz)
Electromagnetic Immunity for Industrial:	EN61326-1:2006	
(by Council Directive 89/336/EEC)	EN61000-4-2: 1995+A1: 1998+A2:2001 Electrostatic Discharge (ESD)	8 kV air, 4 kV contact
	EN61000-4-3: 2002 Radiated Fields	3 V/m, 80 MHz–1000 MHz and 1400–2700 MHz
	EN61000-4-4: 2004 Electric Fast Transients/Burst Immunity	I/O port, 1 kV
	EN61000-4-5: 1995+A1: 2001 Surge Immunity	AC input ports (L/L), differential mode, 1 kV
	EN61000-4-6: 1996+A1: 2001 Conducted Disturbance	3 V, 0.15 MHz–80 MHz
	EN61000-4-8: 1993+A1: 2001 Power Frequency Magnetic Field	30 A/m, 50 Hz and 60 MHz
	EN61000-4-11: Second Edition: 2004 Voltage Dips and Interruptions	1–300 cycles

Where and When Issued: Electromagnetic Emission June 2010
Electromagnetic Immunity June 2010

Mark of Compliance:



This document validates CE conformity of the Tracer XM32 Quad Relay Module

European Contact
Societe Trane (Epinal, France)
1, rue des Ameriques, B.P. 6
F-88191 Golbey Cedex, France
Phone: (33) 329.31.73.00
Fax: (33) 329.81.24.98

Trane - by Trane Technologies (NYSE: TT), a global climate innovator - creates comfortable, energy efficient indoor environments for commercial and residential applications. For more information, please visit trane.com or tranetechnologies.com.

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice. We are committed to using environmentally conscious print practices.