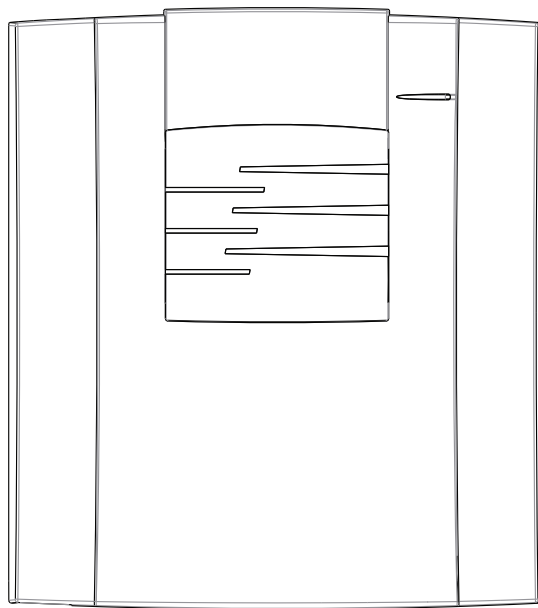**TRANE®**

Installation Instructions

Tracer® Concierge™ System

Model Numbers: BMTC015ABC012000, BMTC015CAC012000
BMTC030ABC012000, BMTC045CBC012000
BMTC015CBC012000, BMTC060CBC012000
BMTC030CBC012000, BMTC030CAC012000

⚠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.

TRANE®

Introduction

Warnings, Cautions, and Notices

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 practices.
NOTICE	Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs and HCFCs such as saturated or unsaturated HFCs and HCFCs.

Important Responsible Refrigerant Practices

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

⚠ WARNING

Proper Field Wiring and Grounding Required!

Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state electrical codes. Failure to follow code could result in death or serious injury.

<div style="border:1px solid black">

⚠ WARNING

Personal Protective Equipment (PPE) Required!

Failure to wear proper PPE for the job being undertaken could result in death or serious injury. Technicians, in order to protect themselves from potential electrical, mechanical, and chemical hazards, MUST follow precautions in this manual and on the tags, stickers, and labels, as well as the instructions below:

• **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**

• **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**

• **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

</div>

<div style="border:1px solid black">

⚠ WARNING

Follow EHS Policies!

Failure to follow instructions below could result in death or serious injury.

• **All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.**

• **Non-Trane personnel should always follow local regulations.**

</div>

Copyright

This document and the information in it are the property of Trane, and may not be used or reproduced in whole or in part without written permission. Trane reserves the right to revise this publication at any time, and to make changes to its content without obligation to notify any person of such revision or change.

Trademarks

All trademarks referenced in this document are the trademarks of their respective owners.

Table of Contents

Installation

Step 1: Verify Package Content

Table 1.   Packaged contents

Part Number	Package Contents
BMTC015ABC012000	Concierge Controller with 15 device license, Air-Fi® Wireless Communication Interface (WCI), mounting kit (4 anchors/4 screws)
BMTC030ABC012000	Concierge Controller with 30 device license, Air-Fi® Wireless Communication Interface (WCI), mounting kit (4 anchors/4 screws)
BMTC015CBC012000	Concierge Controller with 15 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), enclosure with mounting kit (4 anchors/4 screws)
BMTC030CBC012000	Concierge Controller with 30 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), enclosure with mounting kit (4 anchors/4 screws)
BMTC045CBC012000	Concierge Controller with 45 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), enclosure with mounting kit (4 anchors/4 screws)
BMTC060CBC012000	Concierge Controller with 60 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), enclosure with mounting kit (4 anchors/4 screws)
BMTC015CAC012000	Concierge Controller with 15 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), LON Module, enclosure with mounting kit (4 anchors/4 screws)
BMTC030CAC012000	Concierge Controller with 30 device license, XM30 Module, XM32 Module, Air-Fi® Wireless Communication Interface (WCI), LON Module, enclosure with mounting kit (4 anchors/4 screws)

Before proceeding with installing the Tracer Concierge Panel, set up the unit controllers as required, such as BCI-R and Air-Fi® Wireless (Step 2), UC400 and Air-Fi® Wireless (Step 3), and UC210 and Air-Fi® Wireless (Step 4).

Step 2: Install BCI-R and Air-Fi® Wireless (Optional)

If required for this site, install the BCI-R and Air-Fi® Wireless. Use the wiring harness provided with the BCI-R to wire from the RTRM(J-4, 5-pin connector) to BCI-R(J-1, 4-pin connector).For more information see Installation guide BACnet™ Communication Interface for ReliaTel™ Controllers (BCI-R) For use with Voyager,™ Odyssey,™ and Precedent™ rooftop units Ordering Number: KIT15864 (RF-SVN03A-EN). Set the BCI-R and WCI rotary address switch appropriately per the submittal.

Important: *Before plugging in the Air-Fi® card, power down the rooftop controller, per instructions in the installation instructions RF-SVN03A-EN. Then power the controller and Air-Fi® card together.*

Install the Air-Fi® Wireless Interface, per the instructions, with the wire harness provided. When using the Air-Fi® with the BCI-R, set the BCI-R link switch as shown in the following figure. See Integration Guide BACnet Communications Interface for ReliaTel Controllers (BCI-R) (BAS-SVO09D-EN) for more information.

Figure 1.   BCI-R and Air-Fi® wireless interface
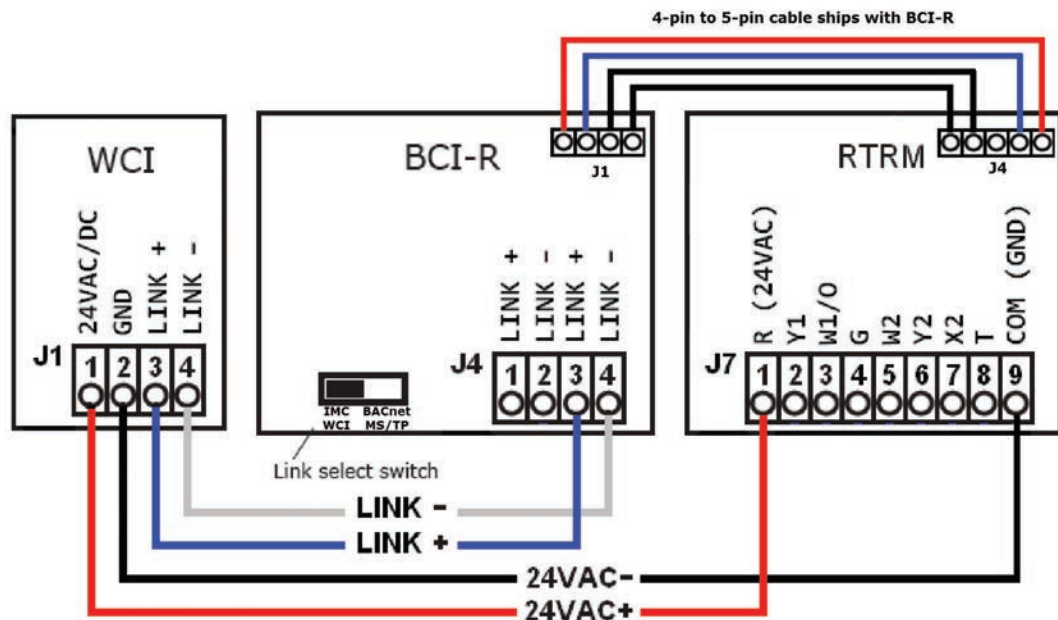
Note: *Ensure Air-Fi® Wireless and zone sensors are addressed per the submittal.*

Step 3: Install the UC400 2H/2C and Air-Fi® Wireless for Non-Trane RTUs

If required for this site, install the UC400 2H/2C and Air-Fi® Wireless on non-Trane equipment. For more information, see Tracer UC400 Pre-programmed for RTU or Heat Pump (X39641251-01B). The point list below is for your convenience.

Table 2.   Tracer® UC400 2H/2C RTU controller inputs and outputs

Inputs and Outputs		Label	Functions	Descriptions
Analog Inputs		AI1	Space Temperature Sensor	10kΩ Thermistor
		AI2	Space Temperature Setpoint	1kΩ Input
		AI3	--	
		AI4	Discharge Air Temperature Sensor	10kΩ Thermistor
		AI5	Outdoor Air Temperature Sensor	10kΩ Thermistor
		P1	--	--
		P2	--	--
Universal Inputs		UI1	--	--
		UI2	Occupancy Input (Binary)	Open = Occupied, Closed = Unoccupied
Binary Inputs		BI1	Condensate Overflow Input	Open = Normal, Closed = Alarm
		BI2	Heat Pump Selection Input	Open = DX, Closed = Heat Pump
		BI3	Supply Fan Status	Open = Off, Closed = On
		BI4	--	--
		BI5	--	--
Analog Outputs		AO1	--	--
		AO2	--	--
Binary Outputs	Relays	BO1	Supply Fan Start Stop Command	--
		BO2	--	--
		BO3	--	--
	24VAC Triacs	BO4	Compressor 1 Command	--
		BO5	Compressor 2 Command	--
		BO6	Heat Stage W1 Command	--
		BO7	Heat Stage W2 Command	--
		BO8	Reversing Valve Command	Off = Cooling, On = Heating
		BO9	Auxiliary Heat Command	--

Note: Ensure Air-Fi® Wireless and zone sensors are addressed per the submittal.

Step 4: Install the UC210 Bypass Damper and Air-Fi® Wireless

If required for this site, install the UC210 Bypass Damper. See the installation documentation. The point list below is for your convenience.

Table 3.   I/O points

Location	Function
Pressure Input	Duct Static Pressure Local
AI3/DAT	Discharge Air Temperature (Optional)
Actuator	Damper Actuator

*Note: Ensure Air-Fi® Wireless and zone sensors are addressed per the submittal.*

Addressing of the Wireless Communication Sensors (WCS) and Wireless Communication Interface (WCI) determines which devices can communicate on an Air-Fi® network. On all WCS and WCI, the **GRP** and **NET** are set at **1** and **1**. When installing, confirm that these remain at 1 and 1.

Figure 2.   Air-Fi® addressing
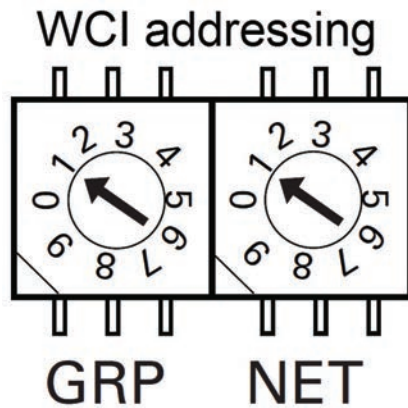
On unit controllers, such as rooftop units, VAV boxes, and bypass dampers, set the rotary address settings to unique numbers. Set the first to 002, and so on. It's helpful to be sequential and not to skip numbers; however, skipping numbers will not cause problems. Duplicate numbers will cause communication problems.

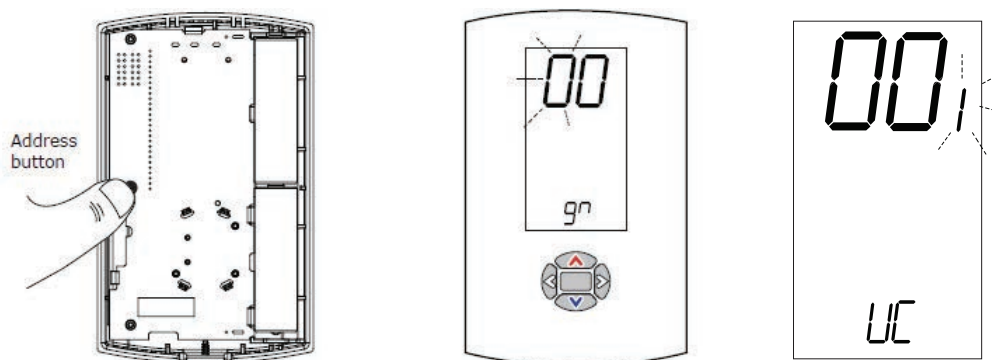**Figure 3**.   **Unit controller rotary addressing**
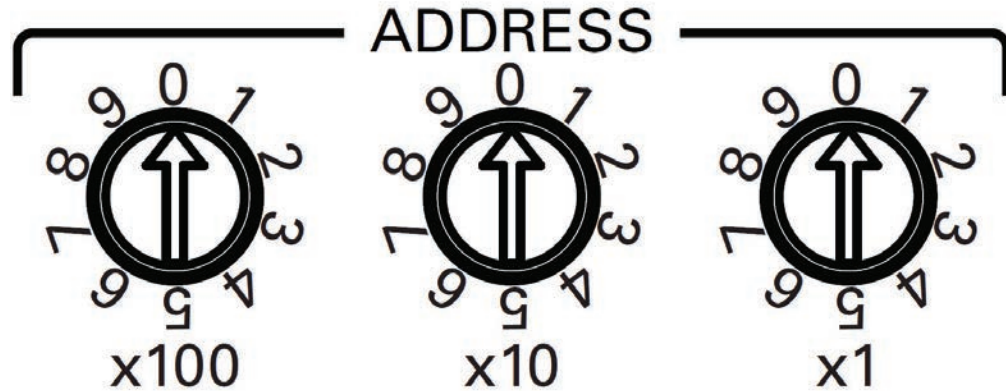
On WCS zone sensors, set:

- GRP and NET to 1 and 1
- Address the WCS to match the corresponding unit controller

To enter the WCS address settings, press and hold the address button for 3 seconds.

Figure 4.   **Press the address button**

For more information, see Air-Fi® Wireless Communication Sensor (WCS) Configuration Instructions, X3964126001 that is shipped with each zone sensor.

Step 5: Install Tracer Concierge Panel

Important: *Do not power the display until instructed to do so in Installation Instructions.*

Dimensions and Clearances

Figure 6, p. 11 shows the internal enclosure dimensions and minimum clearances. Select a mounting location that provides adequate space for the minimum clearance dimensions. Refer to Figure 7, p. 11 for external enclosure dimensions.
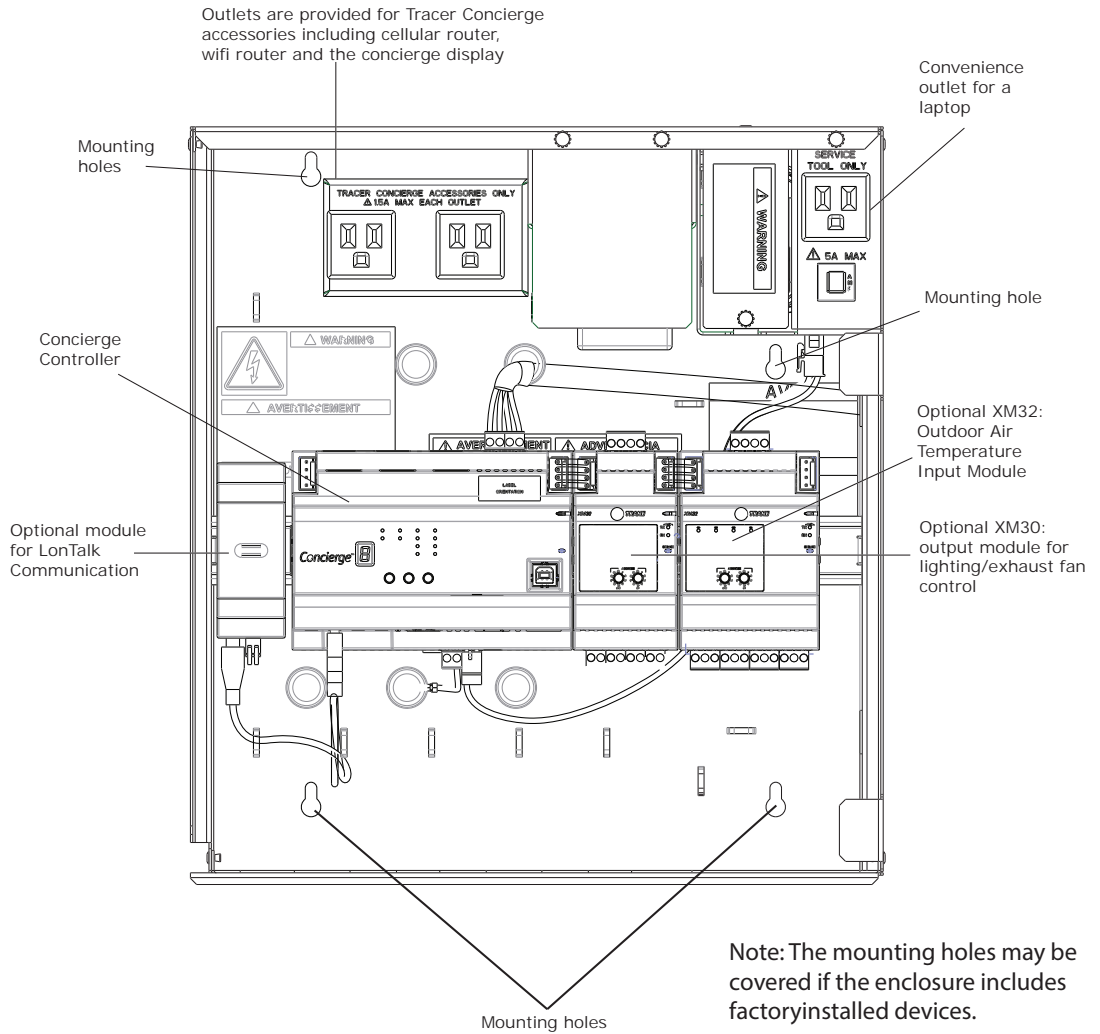
Figure 5. **Internal view**

Outlets are provided for Tracer Concierge accessories including cellular router, wifi router and the concierge display

Convenience outlet for a laptop

Mounting holes

Mounting hole

Concierge Controller

Optional module for LonTalk Communication

Optional XM32: Outdoor Air Temperature Input Module

Optional XM30: output module for lighting/exhaust fan control

Mounting holes

Note: The mounting holes may be covered if the enclosure includes factoryinstalled devices.

Figure 6.   Enclosure minimum clearances with cover

12 in.
(305 mm)

36 in.
(914 mm)

24 in.
(610 mm)

12 in.
(305 mm)

12 in. (305 mm)
50 in. (1270 mm)
Recommended
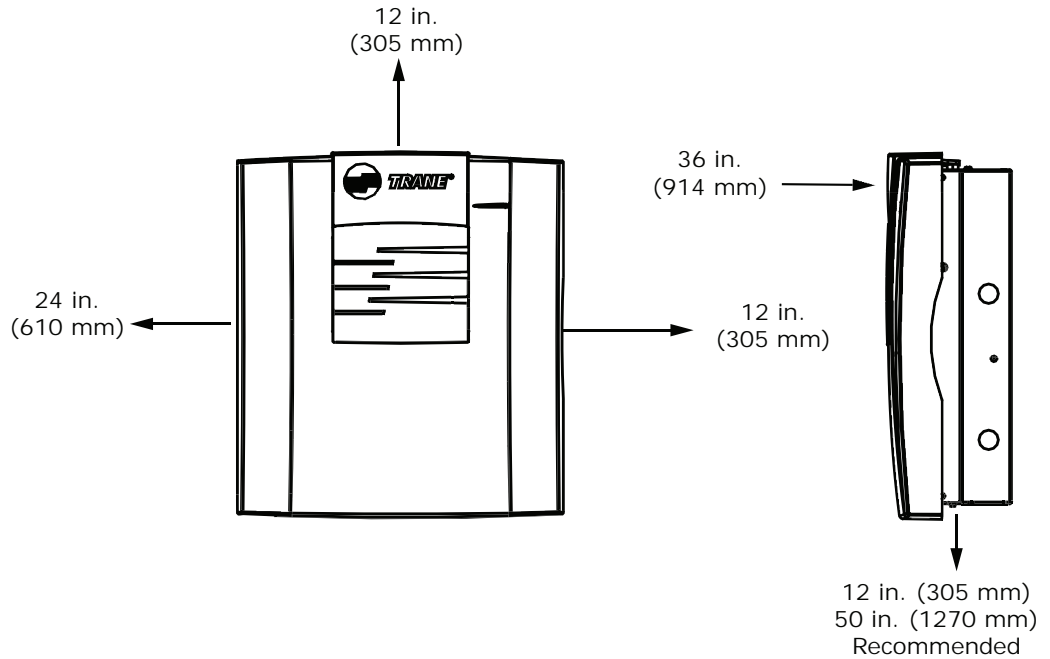
Figure 7.   External dimensions

Knockouts for 1 inch (25 mm) and .75 inch (19 mm) conduit

Knockout for .75 in (19 mm) conduit

Knockout for .50 inch (13 mm)
conduit (for AC wiring)

Knockout for 50 in
(13 mm) conduit

3.125 in (80 mm)

14.75 in
(373 mm)

2.25 in (56 mm)

16.5 in
(418 mm)

15 in
(381 mm)

5.5 in
(140 mm)

13.25 in (337 mm)

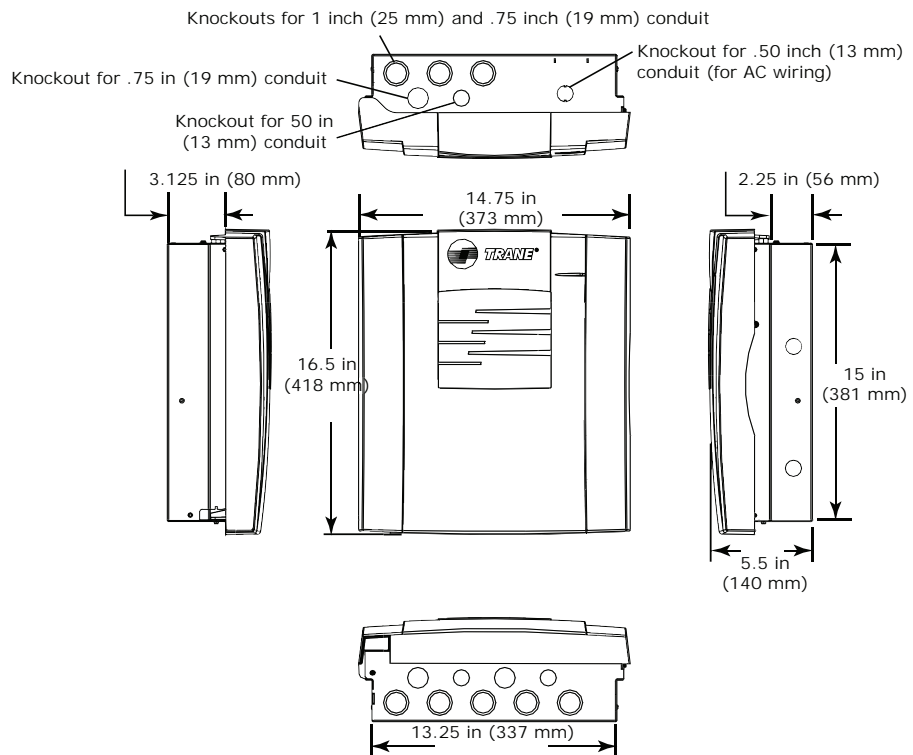## Location and Mounting Guidelines

Location

The location should meet the following operating environment requirements and clearances:

Table 4.   Operating environment specifications

Temperature:	From 32°F to 122°F (0°C to 50°C)
Humidity:	5–95% non-condensing
Power Requirements:	120 Vac: 9A maximum, 1 phase, 60 Hz
Weight:	Mounting surface must be able to support 60 lb. (28 kg)
Dimensions:	16 ½ in. × 14 ¾ in. × 5 ½ in. (418 mm × 373 mm × 140 mm)
Installation:	U.L. 840: Category 3
Pollution:	U.L. 840: Degree 2

Important: *The Tracer Concierge Panel enclosure must be installed indoors.*

Trane recommends locating the enclosure:

- Where service personnel have easy access.

- In areas that restrict public access to minimize tampering or vandalism.

Mounting Instructions

Note: *The internal enclosure panel comes with four (4) mounting holes (refer to the locations in* Figure 5, p. 10*).*

1. Using the enclosure as a template, mark the location of the four (4) mounting holes on the mounting surface to accommodate the supplied #10 screws and/or #10 wall anchors.

2. Set aside the enclosure and drill the marked location holes for the screws.

Note: *Use wall anchors if the mounting surface is dry wall or masonry.*

3. Secure the enclosure to the mounting surface with the enclosed #10 screws and #10 wall anchors.

4. Remove the tie wraps that secure the modules to the DIN rail during shipping.

Wiring High Voltage AC Power

Read all WARNINGS, CAUTIONS, and NOTICES prior to wiring high-voltage AC power.

> ### ⚠ WARNING
>
> ### Hazardous Voltage!
>
> **Failure to disconnect power before servicing could result in death or serious injury.Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Verify that no power is present with a voltmeter.**

> ### ⚠ WARNING
>
> ### Proper Field Wiring and Grounding Required!
>
> **Failure to follow code could result in death or serious injury. All field wiring MUST be performed by qualified personnel. Improperly installed and grounded field wiring poses FIRE and ELECTROCUTION hazards. To avoid these hazards, you MUST follow requirements for field wiring installation and grounding as described in NEC and your local/state/national electrical codes.**

NOTICE

Use Copper Conductors Only!

Failure to use copper conductors could result in equipment damage as the equipment was not designed or qualified to accept other types of conductors.

To ensure proper operation of the controllers, install the power supply circuit in accordance with the following guidelines:

- The panel must receive power from a dedicated power circuit. Failure to comply could cause panel malfunctions.
- A disconnect switch for the dedicated power circuit must be near the panel, within easy reach of the operator, and marked as the disconnecting device for the panel.
- Do not run input or output wires in the same conduit or wire bundle with high voltage wire or 24 Vac wiring. Failure to comply could cause the controller to malfunction due to electrical noise.
- Power wiring must comply with the National Electrical Code™ (NEC) and applicable electrical codes.
- 120 Vac wiring requires three-wire service (**L**ine, **N**eutral, **G**round). Refer to Panel 10 for terminal locations.

Note: The transformer voltage utilization range is 98–132 Vac (120 Vac nominal).

1. Lock open the supply-power disconnect switch.
2. At the top-right corner of the enclosure, remove the knockout for 0.50 inch (13 mm) conduit.
3. Open or remove the enclosure door if it is already installed.
4. Inside of the enclosure at the top-right corner, remove the line voltage area cover plate.
5. Feed the 120 Vac power wire into the enclosure.
6. Using Figure 8, p. 14, connect the line wire to the **'L'** terminal.
7. Connect the neutral wire to the **'N'** terminal.
8. Connect the green ground wire to the chassis ground screw.

Note: The ground wire should be continuous back to the circuit breaker panel.

⚠ WARNING

Hazardous Voltage!

Failure to follow instructions below could result in death or serious injury. Alwaysmake sure to put the cover plate back in place before operating the controller.

9. Replace the cover plate.
10. On a field-supplied label, record the location of the circuit breaker panel and the electrical circuit. Attach the label to the cover plate.

Figure 8.   AC wiring
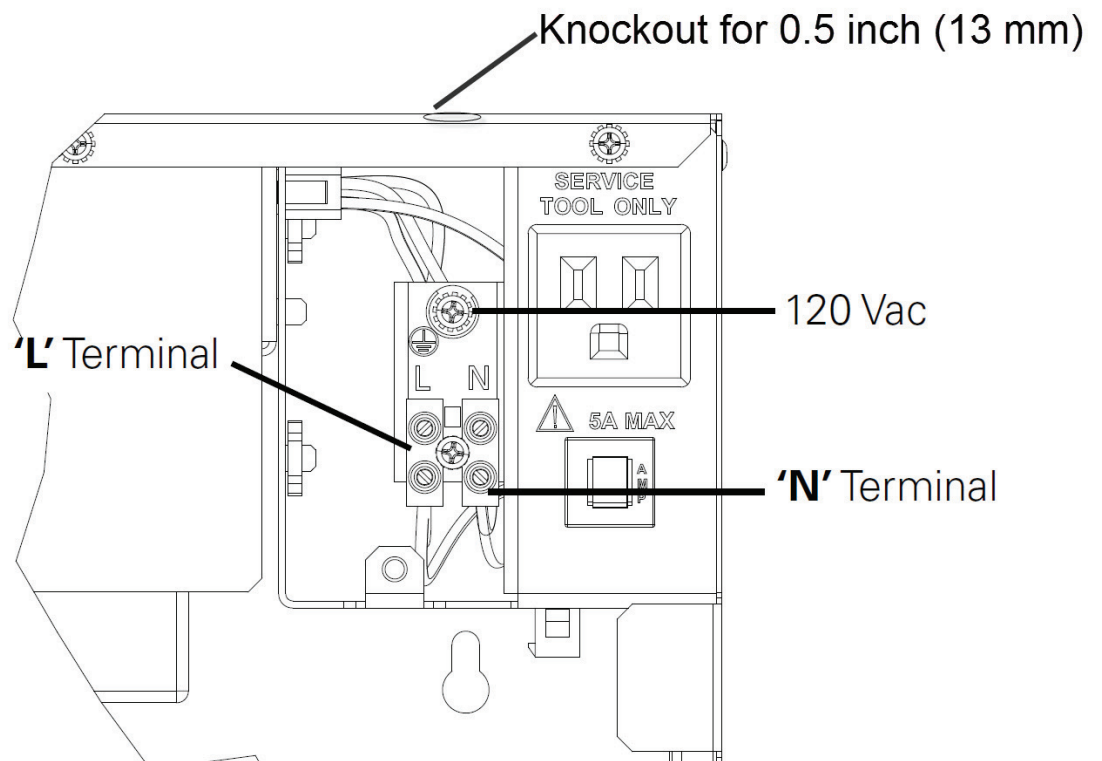
Install Enclosure Door

1. Unpack the door and check for any missing or damaged parts.
2. Position the door at a 90 degree angle from the enclosure, as shown below.

Figure 9. **Installing the enclosure door**
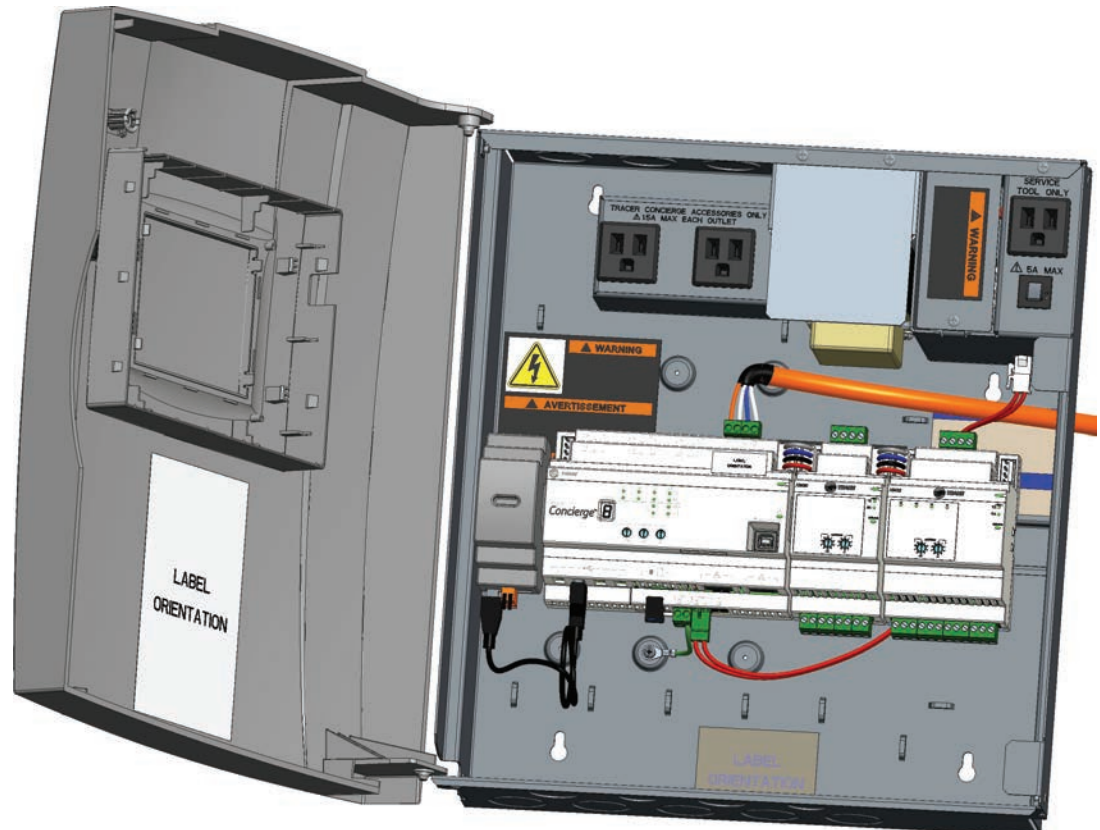
3. Align the hinge pegs on the door with the hinge holes on the enclosure and gently lower the door until it rests securely in the hinge holes.

4. Verify that the door swings freely on the hinges and that the magnetic latches hold the door securely when it is closed.

Step 6: Wire I/O

The field I/O wiring is specific for each application.

Module	Rotary Dial	Terminals	Name	Notes
XM30	01	UI/AO 1	Outside Air Temperature	Thermistor
XM30	01	UI/AO 2	N/A	Not used
XM30	01	UI/AO 3	N/A	Not used
XM30	01	UI/AO 4	N/A	Not used
XM32	02	BO1	XM32 Binary Output 1	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	02	BO2	XM32 Binary Output 2	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	02	BO3	XM32 Binary Output 3	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	02	BO4	XM32 Binary Output 4	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)

Step 7: Mount the Display

Note: The display is designed for conditioned indoor environments only. Mount the display where occupants can access it for comfort/setpoint control and minor schedule modifications.

The display mounts to the wall using a VESA mount. The required VESA mounting bracket size is 75 mm x 75 mm. A VESA mount is included with the display, but any standard VESA mount should be acceptable. Brand, tilt, swivel and any other features are acceptable.

1. Select the wall space to mount the display. Mounting constraints are as follows:

    • The display must be powered continuously, so mount it near an electrical outlet or near the enclosure with the accessory outlet.

    • The display communicates to the Concierge Controller using either Wi-Fi or Ethernet cable connection. Use standard Wi-Fi guidelines to select the display location.

    • The display should be accessible for any users that are allowed to make adjustments using the display.

2. Disassemble the VESA mount.

3. Install the wall section onto the wall.

4. Install the display section of the VESA mount onto the display enclosure using the four (4) screws included with the VESA mount.

5. Re-assemble the VESA mount so the display is now on the wall.

6. For ease of initial setup, connect an Ethernet cable between the display and Concierge Controller's Ethernet Port 2. Later, set up a Wi-Fi router or put both the display and Concierge Controller on the customer's network.

7. If mounted near the enclosure, plug the display into the accessory outlet in the enclosure.

**Figure 10. Back of display with ethernet and power connector**

Step 8: System Startup

Important: Ensure all equipment and Air-Fi® Wireless are powered and operating before proceeding. This is because the network will be formed on power up of Tracer Concierge Controller.

1. Apply power to the panel. Close the supply power disconnect switch that was locked open when connecting the 120 VAC Power Wires.

2. Press the power button on the Concierge Controller. Watch the controller go through its LED sequence ending with dancing dashes.

Note: The network automatically stays open 1 hour. After each Air-Fi® Wireless module joins, the 1 hour timer starts over. If time expires, press the OPEN NET button on the Air-Fi® Wireless module to re-open the network.

Figure 11. Power button
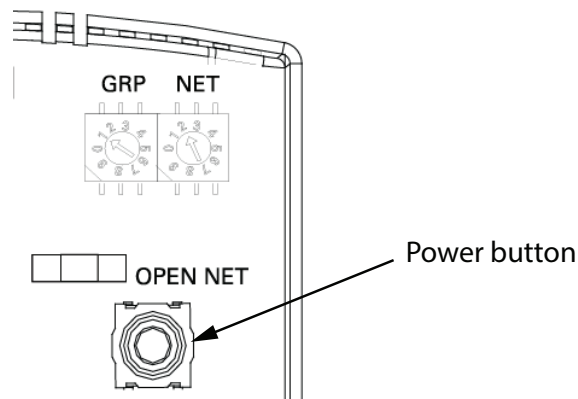
*Note:* For more details or troubleshooting information, see the

- *Tracer Concierge Installation, Operation, and Maintenance Guide (BAS-SVX074).*
- *Wireless Comm Installation, Operation, and Maintenance (BAS-SVX40).*

3. Connect the Ethernet cable for customer's network to Ethernet Port 1.

Step 9: Display Setup

1. Power on the display by pressing the power button on the back of the display.

2. Follow the steps in the Setup Wizard. See the Tracer Concierge Installation, Operation, and Maintenance Guide (BAS-SVX074) for details.

Figure 12. Setup wizard
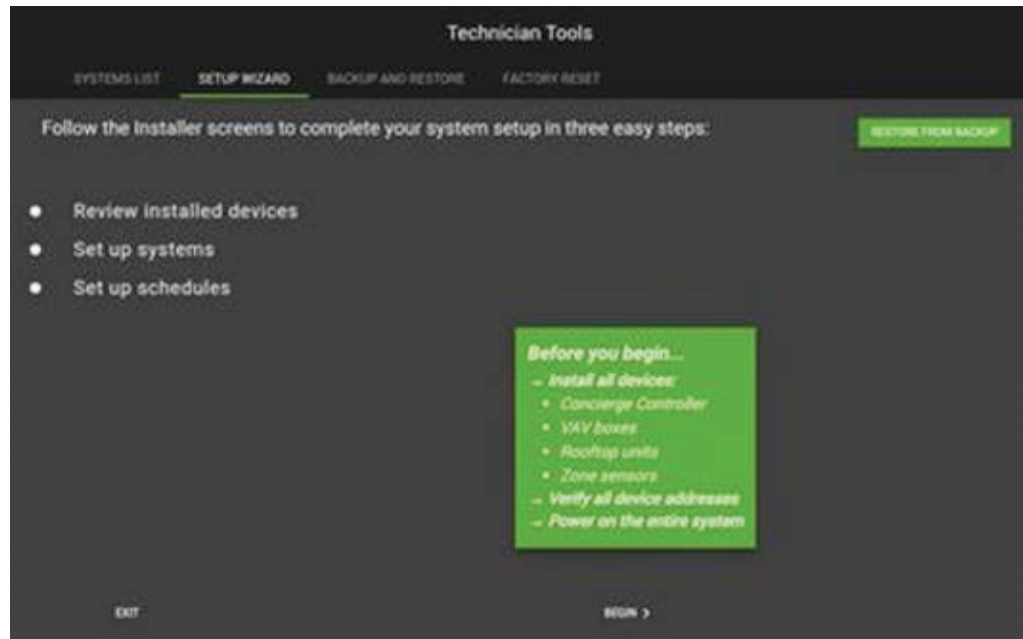
Step 10: Installing the Wi-Fi Router

> *Note:* *The Concierge Controller in its pre-wired enclosure should be operating and communicating to all the equipment before installing the Wi-Fi router.*

The optional Wi-Fi router is used when the Concierge Controller and the Concierge Display cannot both be on the customer's Wi-Fi network.The router (Order Number: X13651632010) is set up to allow the Concierge Controller and the Display to communicate on their own small (2 device) Wi-Fi network.
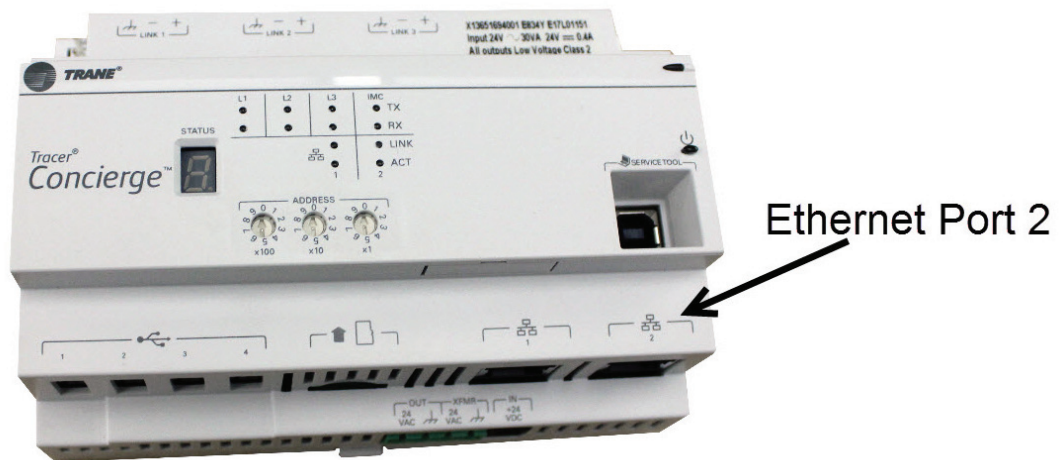
1. Install the router near the pre-wired enclosure containing the Concierge Controller.

2. Plug router into the accessory outlet in the enclosure.

NOTICE
Avoid damage to the contents of the pre-wired enclosure when opening a knockout for the Ethernet cable.
---

3. Connect the Ethernet cable included with the router to the router on one end and into Concierge Controller's Port 2 on the other. See the following figure.

Figure 13. Concierge controller ethernet ports detail

4. Connect power to the Wi-Fi router. The pre-wired enclosure containing the Concierge Controller also contains a convenience outlet.

Step 11: Project Commissioning Checklist

Verify that hardware installation is complete:

☐Verify the Concierge Controller panel is attached to the wall and power is wired to it.

☐Verify Concierge Controller Air-Fi® Wireless is addressed properly per the submittal and/or the Air-Fi® Wireless Network Best Practice guide BAS-SVX55C-EN.

☐Verify the Ethernet Cable for the customer's network is connected to Concierge Controller Ethernet Port 1 (if applicable).

☐Verify that any rooftop units with Air-Fi® Wireless are connected and addressed properly per the submittal and/or the Air-Fi® Wireless Network Best Practice guide BAS-SVX55C-EN.

Agency Listing and Compliance

United States Compliance
(Enclosure and modules are UL Listed separately)
UL Listed — UL 916 Energy Management Accessory
Canadian Compliance
(Enclosure and modules are CUL Listed separately)
CUL Listed — CSA C22.2 No. 205

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.