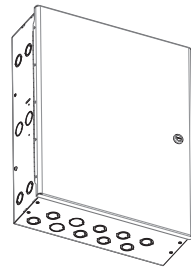## TRANE

Installation Instructions

Tracer Concierge™ System
Part 1 of 2: Hardware Setup

Order Numbers:
BMTC000A0AA (Concierge Hardware)
X13651632010 (Optional Pre-configured Wi-Fi Router)

⚠ 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.

1

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 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 such as HCFCs and HFCs.

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.

2

⚠ 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.

⚠ WARNING

Personal Protective Equipment Required!
Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards. Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate SDS sheets and OSHA guidelines for proper PPE. When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations. If there is a risk of arc or flash, technicians MUST put on all necessary Personal Protective Equipment (PPE) in accordance with NFPA70E for arc/flash protection PRIOR to servicing the unit. Failure to follow recommendations could result in death or serious injury.

⚠ 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.**

3

Step 1: Verify Package Contents

Table 1.   Packaged contents

Item	Quantity
Tracer SC Module	1
PM014 Module	1
UC400	1
BACnet Terminator Module	1
Air-Fi™ Wireless Communication Interface (WCI) Module	1
Terminal Blocks Kit (9 2-position, 8 3-position, and 2 4-position)	1
Mounting Kit (4 Anchors/4 Screws)	1
Installation Instructions	1
Field Provided: Ethernet Cable (Optional, for use with Wi-Fi router)	1

Table 2.   Replacement parts

Description	Mnemonic Part #
16" DIN Rail Enclosure Solid door	DOR04184
Field-installed Enclosure Quarter Turn Latch	LAT00998
16" DIN Rail Enclosure back chassis	MOD02560
16" DIN Rail Enclosure Power section cover	COV04754
Tracer SC	MOD01668
PM014	MOD01702
UC400	MOD02071
TBT	MOD01786

Before proceeding with installing the Tracer Concierge Panel, setup 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 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.

4

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 Figure 1. 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
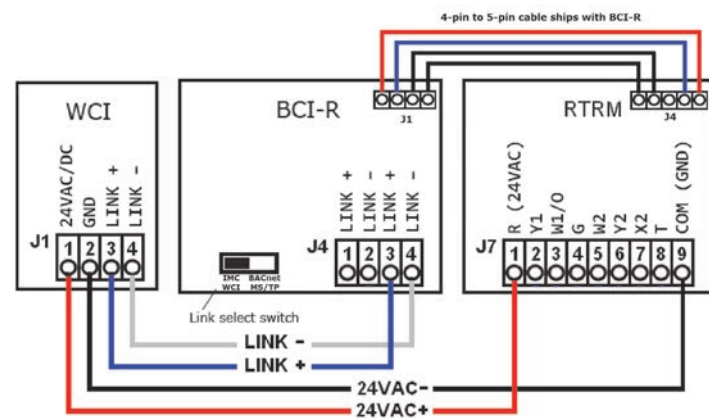
Note: Ensure Air-Fi Wireless and zone sensors are addressed per the submittal.

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.

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Table 3.   Analog inputs

Label	Functions
AI1	Zone Temperature
AI2	Zone Temperature Setpoint
AI4	Discharge Air Temp
AI5	Outdoor Air Temp

Table 4.   Binary inputs

Label	Functions
BI1	Occupancy Input

Table 5.   Binary outputs

Label	Functions
BO1	BO1 Supply Fan
BO4	Cool stage 1 (Y_1)
BO5	Cool stage 2 (Y_2)
BO6	Heat stage 1 (W_1)
BO7	Heat stage 2 (W_2)
BO8	Not Used
BO9	Not Used

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

Step 4: Install the UC210 Bypass Damper and Air-Fi Wireless (Optional)

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

Table 6.   I/O Points

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

6

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

Step 5: Install Tracer Concierge Panel

Important: Do not power the display until instructed to do so in Installation Instructions Part 2 of 2.

Dimensions and Clearances

Figure 2 shows the internal enclosure dimensions and minimum clearances. Select a mounting location that provides adequate space for the minimum clearance dimensions. Refer to Figure 3 for external enclosure dimensions.

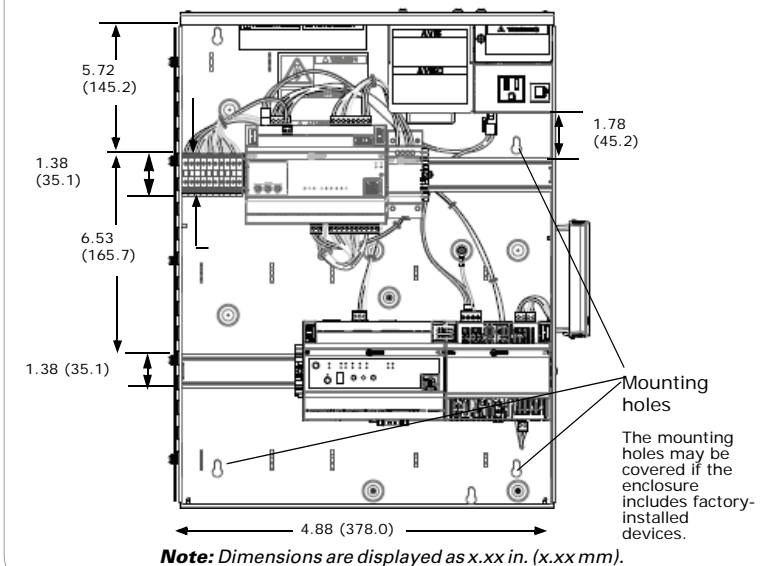**Figure 2.   Internal view and dimensions**

Note: Dimensions are displayed as x.xx in. (x.xx mm).

7

Figure 3.   Enclosure minimum clearances with cover

X13651618010 (Solid Door)

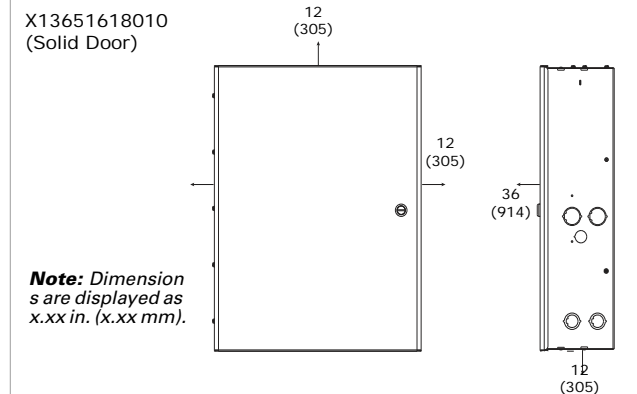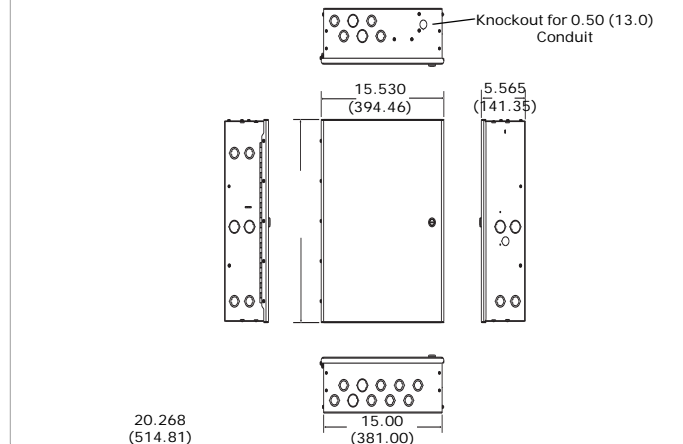*Note: Dimensions are displayed as x.xx in. (x.xx mm).*

Figure 4.   External dimensions

Location and Mounting Guidelines

Location

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

Table 7. Operating environment specifications

Specification	Range/Value
Temperature	From 32°F to 122°F (0°C to 50°C)
Humidity	5–95% non-condensing
Power requirements	120 VAC, 5A maximum, 1 phase, 60 Hz
Weight	Mounting surface must be able to support 75 lb (34 kg)
Dimensions	15 in. x 20 in. x 5.5 in. (38 cm x 51 cm x 14.0 cm)
Installation	U.L. 840: Category 3
Pollution	U.L. 840: Degree 2

Important: The system (enclosure with pre-wired Tracer SC and UC400) 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 seven (7) mounting holes (refer to the locations in Figure 2). It is only required to choose 4 of the 7 locations in order to hold the weight of the enclosure.

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.

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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).

Connecting the 120 VAC Power Wires

1. Lock open the supply power disconnect switch.
2. At the top-right corner of the enclosure, remove the 0.50 inch (13 mm) conduit knockout.
3. If already installed, open or remove the enclosure door.
4. Inside of the enclosure at the top-right corner, remove the line voltage area cover plate and then feed the 120 VAC power wire into the enclosure.
5. Connect the line wire to the **Line** terminal, the neutral wire to the **Neutral** terminal, and the green ground wire to the Chassis **Ground** Screw as shown in Figure 5.

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

> **⚠ WARNING**
>
> **Hazardous Voltage!**
> **Failure to follow instructions below could result in death or serious injury.**
>
> **Always make sure to put the cover plate back in place before operating the controller.**

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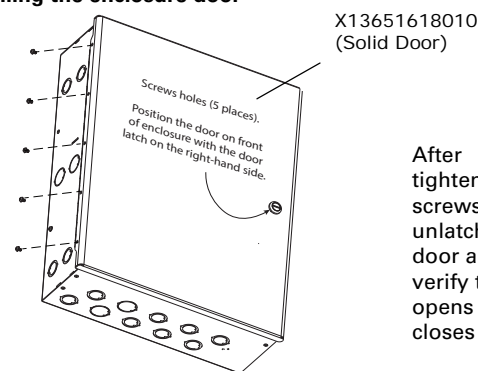

Figure 5. AC wiring for 120 VAC

Neutral Terminal   Chassis Ground Screw
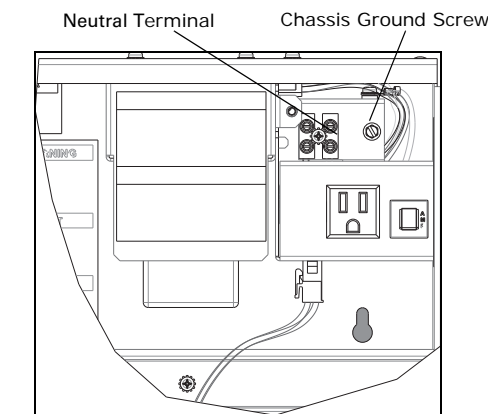
Installing the Enclosure Door

1. Remove packaging from the door and locate the provided five (5) M4 screws.
2. Position the door on the front of the enclosure in its approximate position with the latch on the right-hand side.
3. Latch the enclosure door to assist in holding the door on the enclosure.
4. Align the screw holes with the threaded hardware on the door hinge so the screws can be inserted through the door as shown in Figure 6.
5. Insert the five (5) screws into the aligned holes and only finger tighten all screws at this time.
6. While applying slight upward pressure on the door, use a screwdriver to securely tighten one (1) screw on the upper portion of the door and one (1) screw on the lower portion of the door.
7. Unlatch the door and ensure that it freely opens and closes.
8. Finally, tighten the remaining screws.

Figure 6. Installing the enclosure door

X13651618010
(Solid Door)

Screws holes (5 places).

Position the door on front of enclosure with the door latch on the right-hand side.
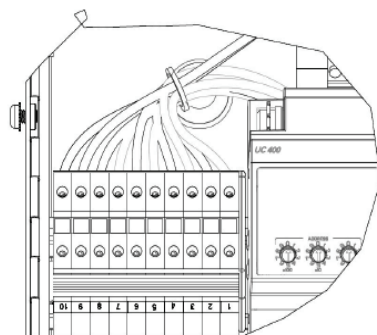
After tightening screws, unlatch the door and verify that it opens and closes freely.

Step 5: Wire I/O

The field I/O wiring is specific for each application. Use the terminal strip for field I/O wiring. Most applications will not use all the pre-wired I/O. See Figure 7.

**Figure 7. Field I/O wiring of the terminal strip**

Step 6: 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 SC.

1. Apply power to the system (enclosure with pre-wired Tracer SC and UC400). Close the supply power disconnect switch that was locked open when connecting the 120 VAC Power Wires.
2. Verify the UC400's main LED is solid green signifying that it has started up successfully.
3. Press the power button on the Tracer SC. Watch the Tracer SC 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 8. Power button

GRP   NET

OPEN NET
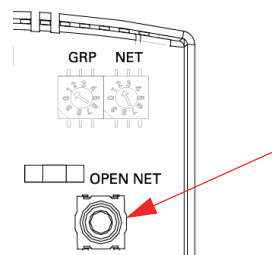
Note: For more details or troubleshooting information, see the

- Tracer SC System Controller Installation and Setup Guide (BAS-SVX31).
- Tracer UC400 Programmable Controller Installation, Operation, and Maintenance Guide (BAS-SVX20).
- Wireless Comm Installation, Operation, and Maintenance (BAS-SVX40).

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

Important: Do not power up the display until instructed to do so in Installation Instructions Part 2 of 2.

Step 7: Installing the Wi-Fi Router

Note: The Tracer SC 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 Tracer SC 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 Tracer SC and the Display to communicate on their own small (2 device) Wi-Fi network.
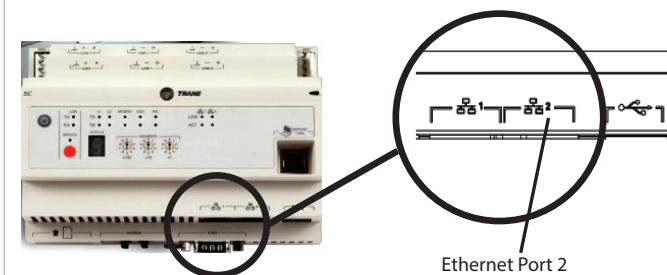
1. Install the router near the pre-wired enclosure containing the Tracer SC.

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

2. Connect the Ethernet cable included with the router to the router on one end and into Tracer SC's Port 2 on the other. See Figure 9.

Figure 9. Tracer SC ethernet ports detail

Ethernet Port 2

3. Connect power to the Wi-Fi router. The pre-wired enclosure containing the Tracer SC also contains a convenience outlet.

Step 8: Project Commissioning Checklist

Verify that hardware installation is complete:

☐ Verify the Tracer SC panel is attached to the wall and power is wired to it.
  ☐ Verify UC400 I/O terminations are wired appropriately per the submittal.
  ☐ Verify Tracer SC 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 Tracer SC 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.

Important: Do not power up the optional Wi-Fi router or display until instructed to do so in the Installation Instructions Part 2 of 2.

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