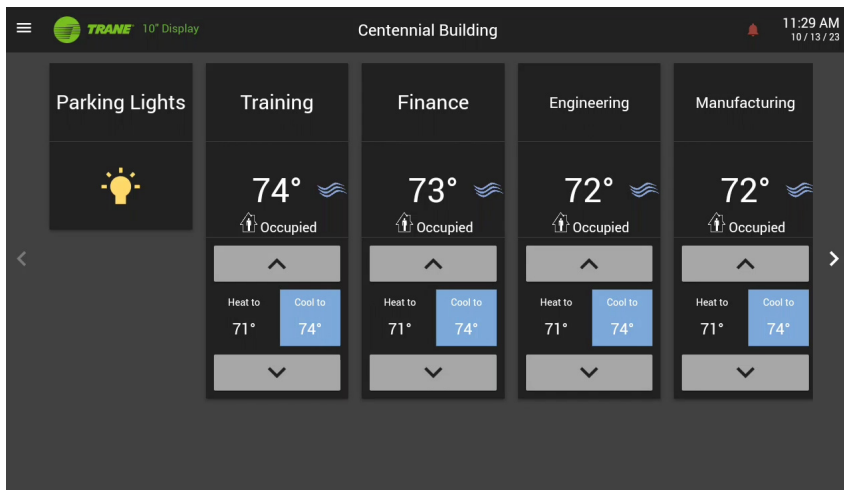




Installation Instructions

Tracer Concierge[®] System for Small Buildings

Pre-Packaged Control Panel and Display



Model Numbers: BMTc015ABC012000 BMTc030ABC000000
 BMTc030ABC012000 BMTc030ABC002100
 BMTc060ABC012000 BMTc060ABC002100

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.



Introduction

Read this manual thoroughly before operating or servicing this unit.

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.

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/national electrical codes.

⚠ 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.**

⚠ 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.

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Revision History

- Updated the image and model number information on the front cover.
- Updated Packaged contents table and Internal View image in Step 1: Verify Package Contents.
- Updated Step 2: Install Symbio™ 700.
- Added Universal inputs and Analog outputs tables in Step 3: Install the Symbio™ 500 RTU/HP and Air-Fi® Wireless for Non-Trane RTUs.
- Updated Setup Wizard image in Step 9: Display Setup.



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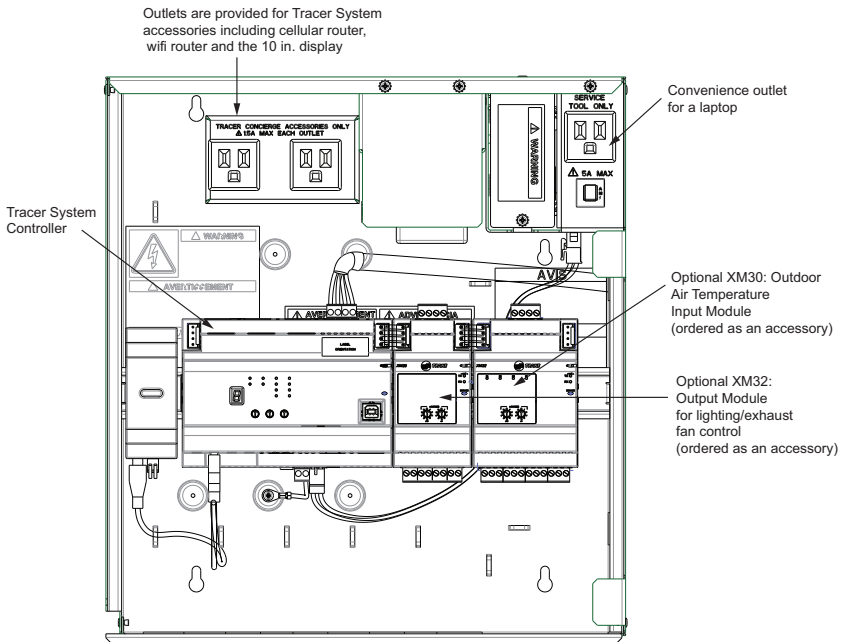
- Step 1: Verify Package Contents 5
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Step 1: Verify Package Contents

Table 1. Packaged contents

Part Number	Packaged Contents
BMTC030ABC000000	System Controller with 15 device license, no enclosure or WCI.
BMTC015ABC012000	System Controller with 15 device license, with enclosure and WCI.
BMTC030ABC012000	System Controller with 30 device license, with enclosure and WCI.
BMTC060ABC012000	System Controller with 60 device license, with enclosure and WCI.
BMTC030ABC002100	System Controller with 30 device license, with enclosure and VRF license, no WCI.
BMTC060ABC002100	System Controller with 60 device license, with enclosure and VRF license, no WCI.

Figure 1. Internal View



Before proceeding with installing the Tracer System Panel, set up the unit controllers as required, such as Symbio™ 700 (requires advanced board) and Air-Fi® Wireless [Step 2](#), Symbio 500 and Air-Fi Wireless [Step 3](#), and Symbio 210 and Air-Fi Wireless [Step 4](#).

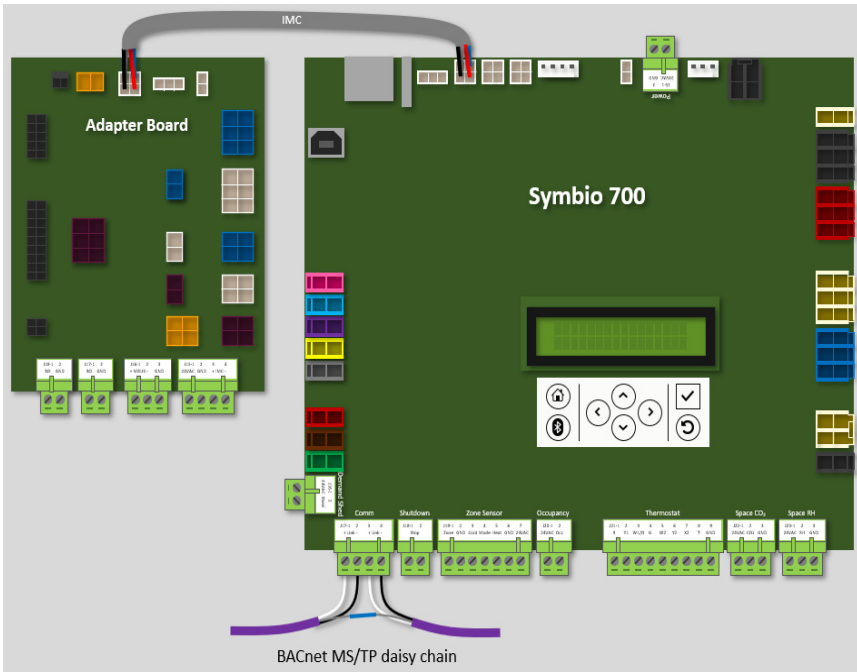
Step 2: Install Symbio™ 700

Step 2: Install Symbio™ 700

If applicable to this site, install the Symbio™ 700 rooftop / split system equipment and controls and either BACnet MS/TP or Air-Fi® Wireless. In all cases, the Symbio 700 is factory installed in the equipment along with the applicable adapter board. The connection between the Symbio 700 and adapter board is also completed in the factory. Use the screw terminals provided on the Symbio 700 controller for BACnet MS/TP connection(s). Use the screw terminals provided on the adapter board for connection to the Air-Fi® Wireless WCI for communicating applications.

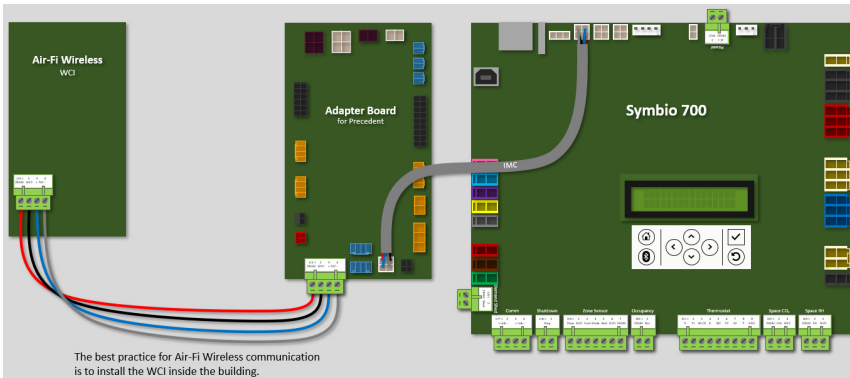
Important: Communication is enabled with the advanced version of the controller, including BACnet and Air-Fi Wireless communication.

Figure 2. Symbio 700 and BACnet MS/TP wiring terminations



Important: Before applying power to the Air-Fi Wireless WCI (when applicable), power down the Symbio 700 controller and equipment. Once the wiring connections between the WCI and Symbio 700 adapter board are complete, apply power to the Symbio 700 equipment controller and WCI together.

Figure 3. Symbio™ 700 and Air-Fi® wireless interface for precedent rooftop units

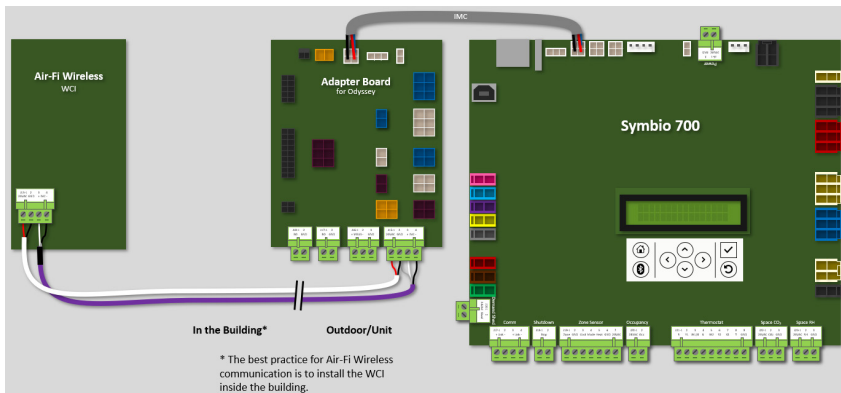


Note: Ensure Air-Fi Wireless and zone sensors are addressed per the submittal.

There are several AHU/condenser pairing scenarios for Odyssey split systems. In some cases, only a Symbio 700 controller and associated adapter board exist in the outdoor condenser. In those cases, connect the Air-Fi Wireless to the adapter board.

Note: The recommended installation for the WCI is indoors. As a result, install the necessary wiring between the WCI and Symbio 700 adapter board. Refer to [Figure 4](#).

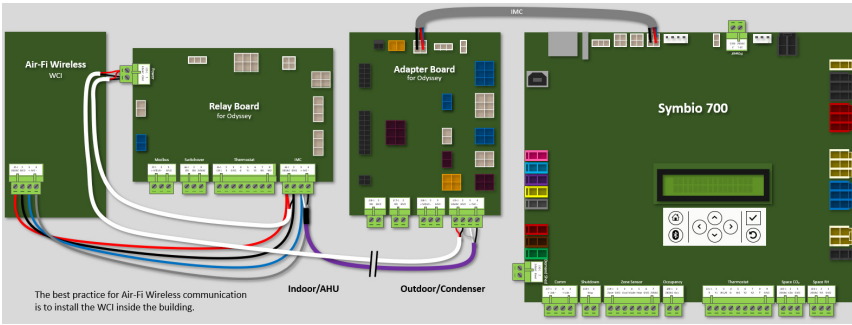
Figure 4. Symbio™ 700 and Air-Fi® wireless interface for odyssey split systems without relay board



In other scenarios, the relay board exists in the indoor AHU. In those cases, connect the Air-Fi Wireless WCI to the relay board. Refer to [Figure 5](#).

Step 2: Install Symbio™ 700

Figure 5. Symbio 700 and Air-Fi wireless interface for odyssey split systems with relay board



Step 3: Install the Symbio™ 500 RTU/HP for Non-Trane RTUs

Step 3: Install the Symbio™ 500 RTU/HP for Non-Trane RTUs

If required for this site, install the Symbio™ 500 RTU/HP and either BACnet MS/TP or Air-Fi® Wireless on Non-Trane equipment. For more information, see Symbio 500 Pre-programmed for RTU or Heat Pump (BMSY500ABA100011). The pre-defined point designations are mentioned below.

Table 2. Analog inputs

Label	Functions	Detail
AI1	Space Temperature Local	10 KΩ @ 77°F (25°C) Thermistor
AI3	Return Air Temperature Local	
AI4	Discharge Air Temperature	
AI5	Outdoor Air Temperature Local	
AI2	Space Temperature Setpoint Local	1 KΩ potentiometer

Table 3. Universal inputs

Label	Functions	Detail
UI1	Outdoor Air Damper Position Feedback	2 to 10 Vdc
UI2	Space CO ₂ Concentration Local	4 to 20 mA

Table 4. Binary inputs

Label	Functions	Detail
BI1	Mechanical Heat/Cool Disable Input	Open = Disable, Closed = Normal
BI2	Occupancy Input	Open = Occupied, Closed = Unoccupied
BI3	Supply Fan Status	Open = Off, Closed = On

Table 5. Analog outputs

Label	Functions	Detail
AO1	Supply Fan Speed Command	0 to 10 Vdc
AO2	Outdoor Air Damper Command	2 to 10 Vdc

Table 6. Binary outputs

Label	Functions	T-stat	Detail
BO1	Supply Fan Start Stop Command	G	Binary Output ratings BO1 to BO3 Relay: 0.5A @ 24 Vac pilot duty BO4 to BO9 Triac: 0.5A @ 24 Vac resistive and pilot duty
BO2	Not Used	–	
BO3	Ventilation Relay	–	

Step 4: Install the Symbio™ 210 Bypass Damper

Table 6. Binary outputs (continued)

Label	Functions	T-stat	Detail
BO4	Compressor 1 Command	Y1	
BO5	Compressor 2 Command	Y2	
BO6	Heat stage W1 Command	W1	
BO7	Heat stage W2 Command	W2	
B08	Reversing Valve Command	O	Off = Heating, On = Cooling
B09	Auxiliary Heat Command	X	

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

Step 4: Install the Symbio™ 210 Bypass Damper

If required for this site, install the UC210 Bypass Damper and either BACnet MS/TP or Air-Fi Wireless, as applicable. See the installation documentation. The point list below is for your convenience.

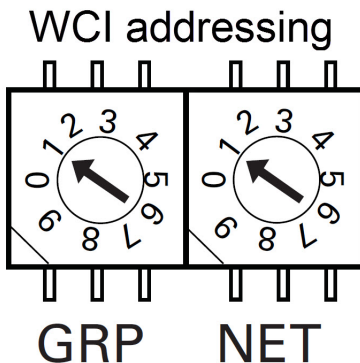
Table 7. I/O points

Location	Function
Pressure Input	Duct Static Pressure Local
A13/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.

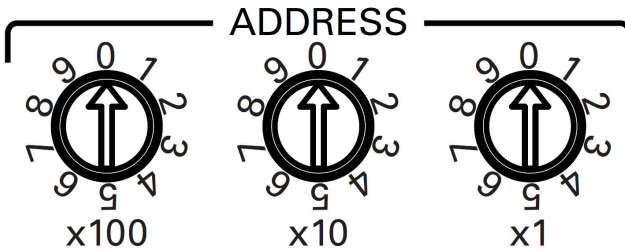
Figure 6. Air-Fi® addressing



Step 5: Install Tracer Concierge System Panel

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 7. Unit controller rotary addressing

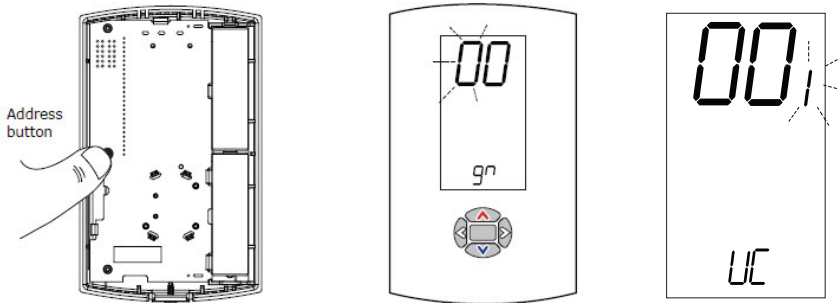


On WCS zone sensors, set:

- 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 8. 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 System Panel

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

Dimensions and Clearances

Figure 1 shows the internal enclosure dimensions and minimum clearances. Select a mounting location that provides adequate space for the minimum clearance dimensions. Refer to Figure 8 for external enclosure dimensions.

Step 5: Install Tracer Concierge System Panel

Figure 9. Enclosure minimum clearances with cover

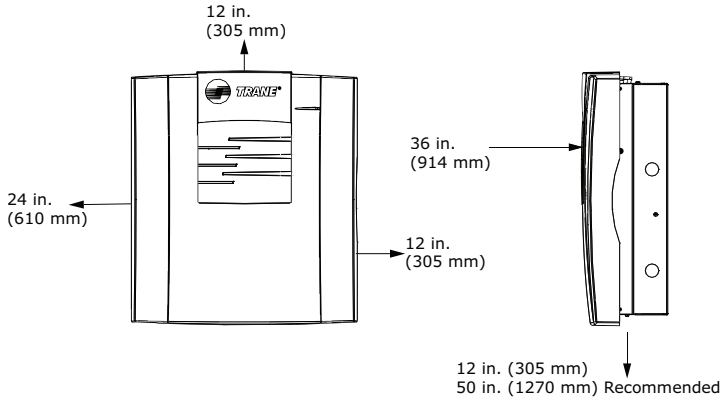
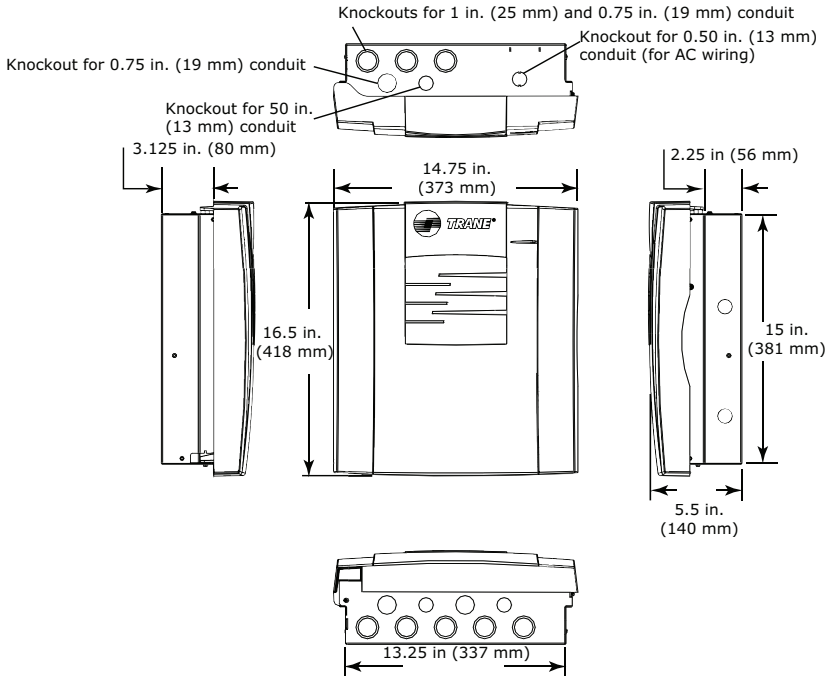


Figure 10. External dimensions



Step 5: Install Tracer Concierge System Panel

Location and Mounting Guidelines

Location

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

Table 8. Operating environment specifications

Temperature	From 32°F to 122°F (0°C to 50°C)
Humidity	5 to 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 System 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.*

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.

Step 5: Install Tracer Concierge System Panel

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 (Line, Neutral, Ground). Refer to Panel 10 for terminal locations.

Note: *The transformer voltage utilization range is 98 to 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 9](#), 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

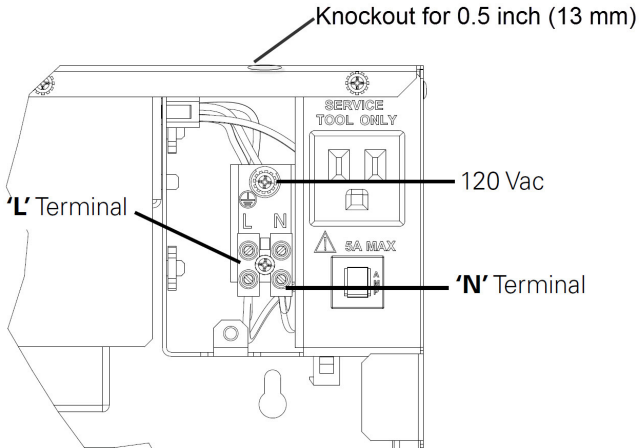
Hazardous Voltage!

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

Step 5: Install Tracer Concierge System Panel

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.

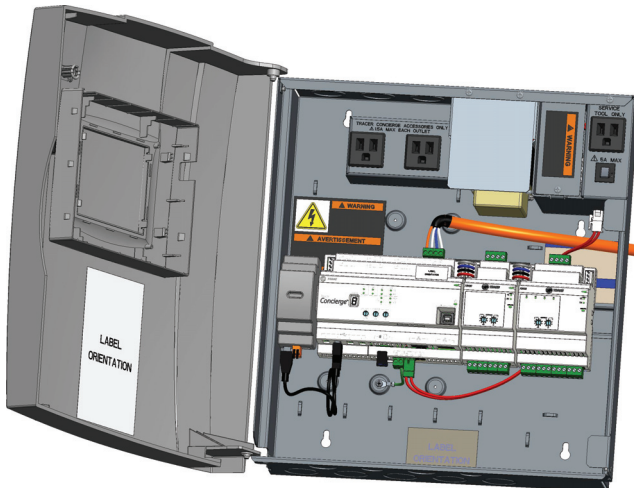
Figure 11. AC wiring



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 12. 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.

Step 6: Field wired I/O (optional)

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

Step 6: Field wired I/O (optional)

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)

Tracer Concierge Accessories required for field wired I/O include X13651537010 - XM30 I/O Module (4 UI/AO) and/or X13651537010 - XM32 Module (4 Relays).

Step 7: Mount the Display

Note: *The display is designed for conditioned indoor environments only.*

The Philips display has an attached wall mounting plate as a standard.

Mount the display using the wall mounting plate with three screws, and anchors.

The Philips display also accommodates 75mm VESA bracket.

As part of the installation, connect the display to the Tracer Concierge system controller using either an Ethernet hardwired connection to LAN port 2 on the system controller or through a wireless (Wi-Fi) connection.

Refer to BAS-SVX074*-EN for additional information on setting up the Tracer 10-inch display.

Step 8: System Start-Up

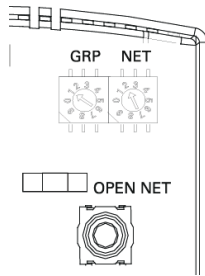
Important: *Ensure all equipment and Air-Fi[®] Wireless are powered and operating before proceeding. This is because the network will be formed on power up of Tracer System Controller.*

Step 9: Display Setup

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 System Controller. Watch the controller go through its LED sequence ending with dancing dashes. See [Figure 14](#) for power button location.

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 13. Power button



Notes: *For more details or troubleshooting information, see the*

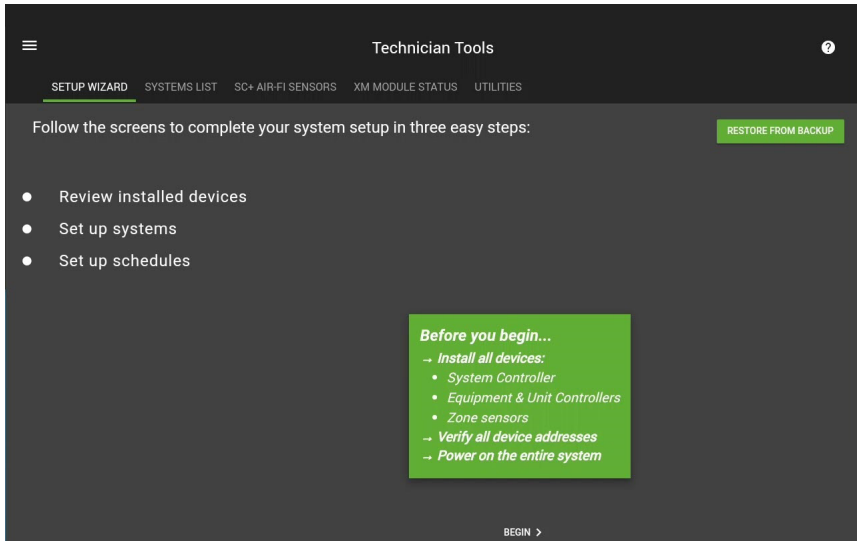
- *Tracer Concierge® System Installation, Operation, and Maintenance (BAS-SVX074*-EN).*
 - *Air-Fi® Wireless System Installation, Operation, and Maintenance (BAS-SVX40*-EN).*
3. Connect the Ethernet cable for customer's network to Ethernet Port 1.

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® System Installation, Operation, and Maintenance (BAS-SVX074*-EN)* for details.

Step 10: Project Commissioning Checklist

Figure 14. Setup wizard



Step 10: Project Commissioning Checklist

Verify that hardware installation is complete:

- Verify the Concierge System Controller panel is attached to the wall and power is wired to it.
- Verify System Controller Air-Fi[®] Wireless is addressed properly per the submittal and/or the *Air-Fi[®] Network Design Installation, Operation, and Maintenance (BAS-SVX55*-EN)*.
- Verify the Ethernet Cable for the customer's network is connected to System 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[®] Network Design Installation, Operation, and Maintenance (BAS-SVX55*-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

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