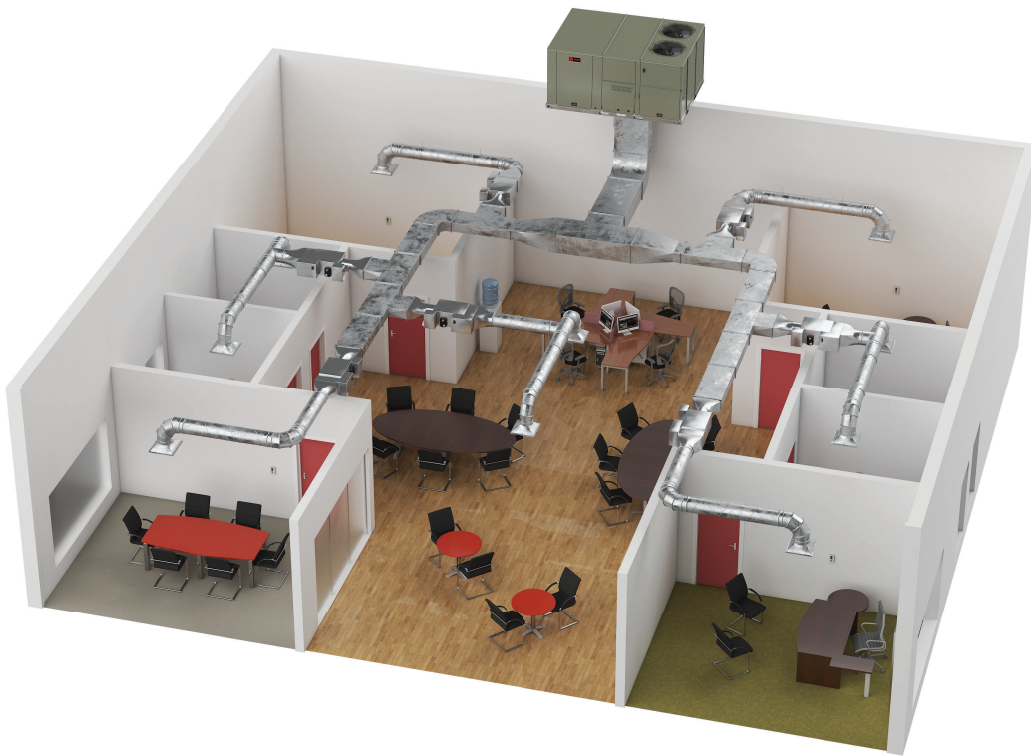




# Installation, Operation, and Maintenance Tracer Concierge® System



## **⚠ 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 2023

**BAS-SVX074E-EN**

**TRANE**  
TECHNOLOGIES™



# 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:



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



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.



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/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 Labelling 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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## Factory Training

Factory training is available through Trane University™ to help you learn more about the operation and maintenance of your equipment. To learn about available training opportunities contact Trane University™.

Online: [www.trane.com/traneuniversity](http://www.trane.com/traneuniversity)

Phone: 855-803-3563

Email: [traneuniversity@trane.com](mailto:traneuniversity@trane.com)



## Revision History

- Added Symbio controller references and content.
- Updates to the Air-Fi Wireless sections.
- Updated the Related Literature list.
- Removed the Appendix section Install BCI-R and Air-Wireless section.





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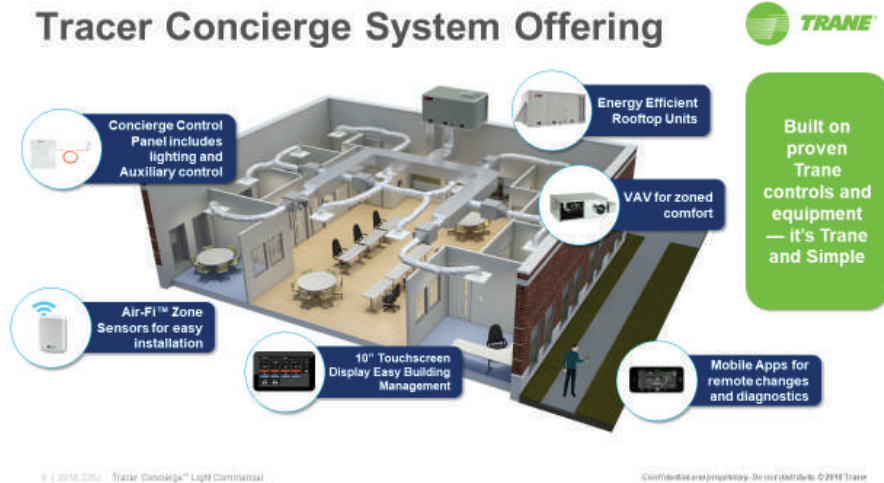
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# Overview

Tracer Concierge System provides BAS-level control for small- to mid-sized buildings with the feature-rich functionality of building automation, without adding complexity, at an affordable cost. Tracer Concierge System is a cost-effective solution that makes day-to-day operation of your HVAC and lighting systems easier. The Tracer 10-inch display allows you to manage your building from a single location. With built-in functionality, including overrides, temperature setpoint changes, and daily monitoring, Tracer Concierge System is flexible and easy to use.

Figure 1. Tracer Concierge System



## Features and Benefits

Tracer Concierge System features and benefits include:

- Bundled system of proven components, designed for specific building needs
- Manages the building the way it is used; schedules lighting and HVAC by areas versus individual rooms
- Accommodates 365 days of scheduling
- Occupants can make simple, limited adjustments using the intuitive interface
- Web-enabled; connects to service providers for easy diagnostics and troubleshooting
- Makes BAS-enabled information and insight available for small and medium-size buildings
- Easy to install, with Trane Air-Fi™ wireless communication between devices
- Supports VAV systems
- Supports Trane/Mitsubishi Electric VRF systems

Figure 2. Tracer Concierge Connectivity





## Installation Overview

Install and setup Tracer Concierge system in the following order:

1. Install unit controllers (if not factory installed) and zone sensors, including addressing.
2. Setup Air-Fi wireless network or install BACnet MS/TP wiring.
3. Install the system control panel and Tracer 10-inch display.
4. Setup systems, schedules, and other settings from the 10-inch display.
5. If the setup includes Trane/Mitsubishi Electric VRF system(s), refer to the setup instructions in the Mitsubishi Electric IOM. This requires specific training for the installer.

## Supported Equipment and Controls

Tracer Concierge supports Trane factory-programmed controls, non-Trane equipment, and existing equipment with the following unit controllers:

- Precedent, Voyager 3, and Odyssey with Symbio™ 700
- Symbio 500 Rooftop/Heat Pump (RTU/HP) controllers
- Symbio 210 VAV controllers
- Symbio 210 Bypass Damper controller

Trane/Mitsubishi Electric VRF systems support:

- Outdoor equipment:
  - Heat recovery (R-2 Series)
  - Air-source outdoor units
  - Water-source outdoor units
  - Branch controllers
  - Heat pump (S-Series or Y-Series)
- Indoor equipment:
  - Wall mounted
  - Ceiling recessed
  - Four-way
  - One-way
  - Ceiling suspended
  - Ceiling concealed
  - Floor mounted
  - Multi-position air handler
  - Hydronic heat exchanger
- Controls architecture:
  - Centralized controller
  - Tracer SC+
  - TW-50A
- Legacy Equipment and Controls:
  - ReliaTel-based equipment
  - UC210 application-specific equipment
  - UC400 pre-programmed 2H2C equipment

---

## Installation Recommendations

- Determine the customer-friendly names for zones that will appear on the display. For example, Lunch room not RTU 3, before arriving on site.
- Factory mount, address, set min/max flows, and name unit controllers when possible.
- If you are going to have remote access, before you visit the installation site determine the IP address for the Tracer system controller.
- The Trane/Mitsubishi Electric VRF system requires equipment addressing for proper installation. The Mitsubishi Electric VRF must be installed and addressed properly by a trained installer.

## Network Security

With web-enabled, connected systems, network security is important. The Tracer System must be protected with a firewall from general traffic, and potential hackers, on the Internet. There are several options available:

- Cellular routers provide remote access with built-in firewalls.
- When there is an IP line dedicated to the system controller, add a firewall to improve security.
- When the system controller will be placed on a customer network, setup access with a VPN. Additionally, best practice is to place the system such on it's own VLAN.
- Trane Connect remote access also provides secure access from a customer network.

Another line of defense to protect from hacking is using complex passwords. If by chance someone later changes the network without understanding the recommendations above, complex passwords provide additional measurable, resistance to hacking. Complex passwords are required for the system controller.

## VRF Licensing

Trane / Mitsubishi Electric VRF is a licensed feature in the Tracer SC+. This license enables the use of Trane / Mitsubishi Electric VRF systems to the Tracer SC+ Core Application License. The SC+ counts each VRF device towards the maximum number of devices. The VRF Remote Controller (Smart ME) does not count for a device license when installed with auto-install template

For assistance with licensing, Trane offers Install Assist. Contact the local Trane Sales Office for more information.



# BACnet® MS/TP

This section describes best practices and procedures for wiring BACnet unit controllers to the system controller.

## BACnet MS/TP Link Wiring

BACnet MS/TP link wiring must be field-supplied and installed in compliance with the National Electric Code (NEC) and local codes.

## BACnet Configuration Requirements

Follow these configuration requirements:

- BACnet wiring must use daisy-chain configuration. Maximum length is 4,000 ft (1219 m).
- BACnet links are polarity sensitive; consistent wiring polarity must be maintained between devices.
- Limit each link to 30 controllers.

## BACnet Wiring Best Practices

The following wiring practices are recommended:

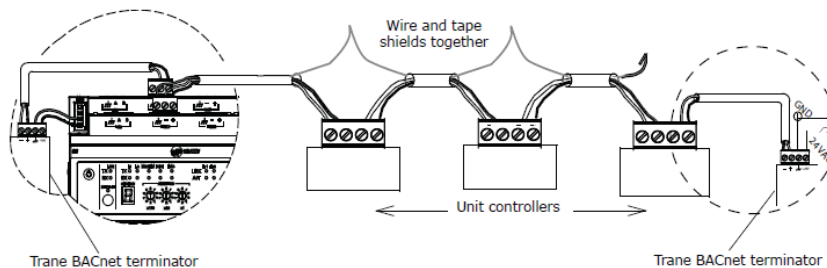
- Use 18 AWG, (24 pF/ft. max.), communication wire (Trane purple wire).
- Strip no more than 2 in. (5 cm) of the outer conductor of shielded wire.
- Avoid sharing 24 Vac power between unit controllers.
- Ensure that 24 Vac power supplies are consistently grounded. If grounds are not maintained, intermittent or failed communication could result.
- Connect the shield portion of the communication wire at the first unit controller in the link.
- Use a Tracer BACnet terminator at each end of the link.

## BACnet Wiring Procedure

Follow these steps to connect communication wiring:

1. Attach the communication link wiring to the system controller at Link 1 or Link 2.  
**Note:** *It is not necessary to place the system controller at the end of the of the communication link.*
2. Attach the wiring from the first unit controller to the first set of communication terminals on the next unit controller.  
**Note:** *Some unit controllers have only one set of communication terminals. In that case, attach the wiring to the same set of terminals.*
3. Wire and tape shields together at each unit controller between the system controller and the BACnet terminator.
4. Repeat steps 1 through 3 for each unit controller on the link.  
**Note:** *For more information about the specific unit controller you are wiring, see the installation guide for the specific controller.*

Figure 3. Daisy-chain Configuration for BACnet Wiring





---

## **BACnet Addressing**

Uniquely address every controller in the system, regardless of the link to which a controller is connected.

Confirm that the system controller is at rotary setting 0-0-1.

## **Trane BACnet Termination for BACnet Links**

For correct termination placement, follow these guidelines:

- All BACnet links must be properly terminated. Use a Tracer BACnet terminator at each end of the link.
- Tape back the shield at each of the BACnet terminators.
- During installation, compile a set of as-built drawings or a map of the communication wire layout. Sketches of the communication layout should feature the BACnet terminators.

## **XM Module Addressing**

Confirm the address of the XM30 and XM32 modules as 0-0-1 and 0-0-2, respectively, when included.

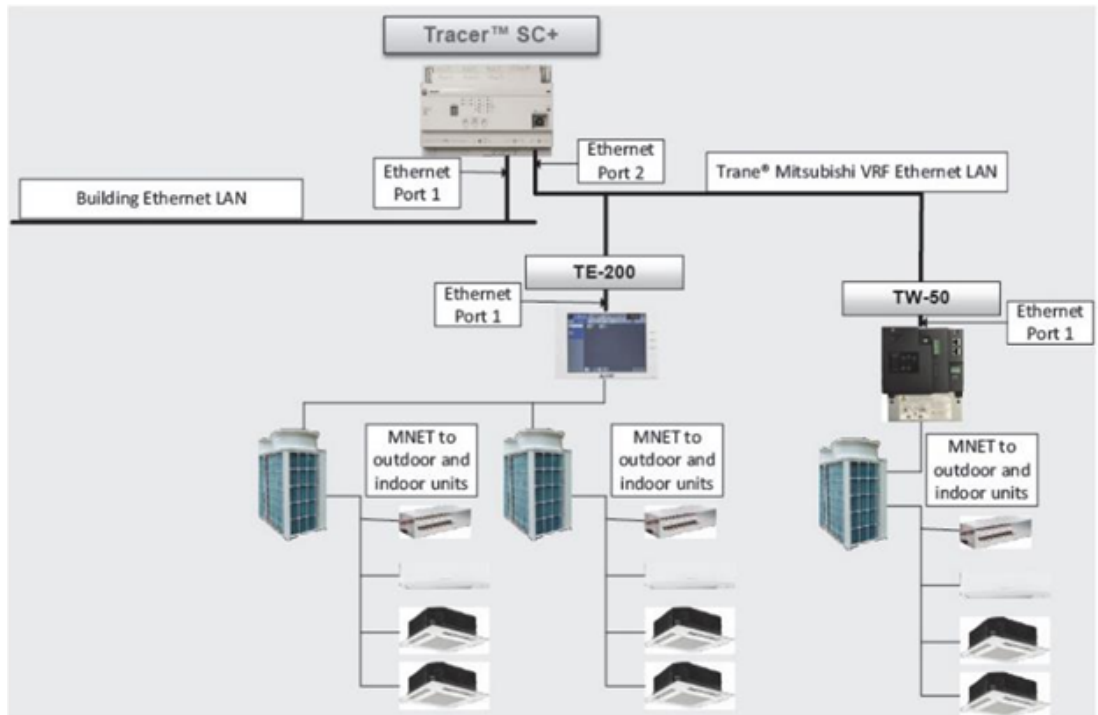
# Ethernet/IP

The Trane / Mitsubishi Electric system controller(s) (TE-200, TE-50, or TW-50) communicates to the Tracer SC+ panel via wired Ethernet over IP on Ethernet port number two of the SC+. Setup is necessary in both the Mitsubishi Electric system controller and the SC+.

Prior to installation, the customer's IT department will need to be involved for IP address and port assignments.

Best practice is to keep the Mitsubishi Electric controller off the network by having it on a private network to the SC+ port number two. Only the SC+ (port number one) will be on the network.

**Figure 4. VRF architecture**





# Air-Fi Wireless Communication and Zone Sensors

Air-Fi® Wireless enables wireless mesh BACnet over Zigbee network for communication between Trane equipment. In addition, it provides sensor wireless communication to controllers. This significantly reduces the need for wires and reduces installation time for the job.

## Air-Fi® Wireless Hardware

Wireless Communications Interface (WCI)

- Multi-purpose
- Compatible with Trane BACnet controllers

## The WCI — A Multi Purpose Device

The WCI will automatically configure itself based upon the type of controller to which it is connected.

When connected to Tracer Concierge system controller:

- It is the WCI Coordinator for a network of devices.
- One WCI Coordinator per network of up to 30 devices.

When connected to an Equipment Controller:

- It is called a WCI Router— connects the equipment to the network.
- Also connects wireless Space Sensors (WCS) to the Air-Fi network and to its unit controller.

When not connected to any Controller:

- It is called a WCI Repeater – used to give a controller or sensor an additional path back to the network.
- Requires 24 Vac or 24 Vdc power.

## Sensor Options – Wireless Communication Sensors (WCS)

- Temperature-only WCS - SB
- Temperature and Display WCS - SD
- Temperature and Occupancy WCS - SO
- Temperature Occupancy and CO<sub>2</sub> WCS - SCO<sub>2</sub>
- Remote Temperature Sensor WCS - SB/R

### Notes:

- *Optional 2% Field Installed RH Module applicable to all models.*
- *Up to 6 sensors per Wireless Communication Interface (WCI).*
- *Lifetime batteries.*

## Use a WCS for Refrigerator / Freezer Monitoring

WCS SB/R with remote sensor

- Range — 25°F to 122°F
- Compatible with 10K type 2 thermistors
- Samples every 30 seconds

## Communication Protocol

Trane Air-Fi® Wireless Communication uses BACnet messages over the Air-Fi® Wireless networks – similar to wired BACnet MSTP communications. Air-Fi conforms to ANSI/ASHRAE Standard 135-2016 (BACnet® / Zigbee®).

Trane Air-Fi® Wireless uses ZigBee mesh network technology – providing multiple paths to increase reliability and range. Trane Air-Fi® Wireless allows up to eight individual networks per Tracer SC+ controller. Each network can have up to 30 WCI devices. Each of the 8 networks will have a unique number (for example, 1-1, 1-2, 1-3.)

## Design and Installation Considerations

Each WCI serves one of three roles in the network. Keep this in mind as you plan your network.

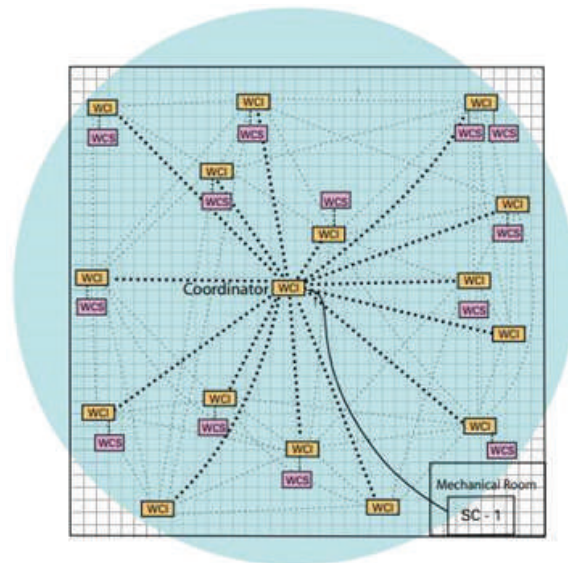
- WCI Coordinator connected to Concierge panel, there is one per network.
- WCI connected to a unit controller, one per unit controller.
- WCI Repeater is not connected to any device. It is used to extend the range of a network. They are seldom necessary.

## Installation Guidelines

### Quantities

- Up to 30 WCI devices per network, up to eight networks per Tracer Concierge panel, no more than 120 WCI devices total.
- An Equipment Controller (for example, rooftop unit or VAV box) with a WCI is considered a device.
- A WCS Space Sensor is NOT considered a device. A network can have up to 30 equipment controllers with WCIs plus 30 or more WCS space sensor.
- A WCI Coordinator (one per Air-Fi® Wireless network) does NOT apply to the 30 WCI device count.
- A WCI Repeater does apply to the 30 WCI device count.

**Figure 5. WCI count**

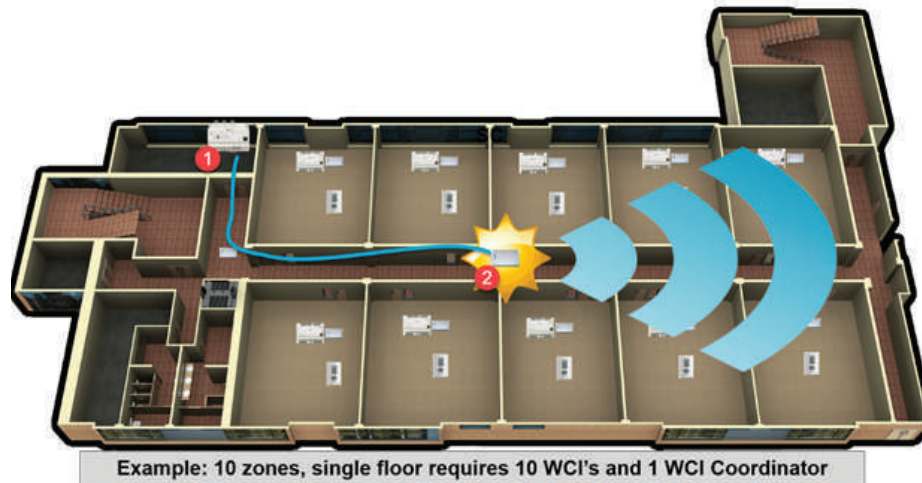


### Locations

- Locate WCI Coordinators above the ceiling and central to their network.
- Design for 200 feet radius to all (or most) devices.
- 656 of total wire for all WCIs. Daisy chain connections required.
- Use 4 wires – 2 for communication and 2 for power.
- Power the WCI Coordinator from the Tracer Concierge panel.
- Multiple floors, need a separate WCI/network for each floor.
- VAV boxes - Factory mounted or field mounted - outside enclosure

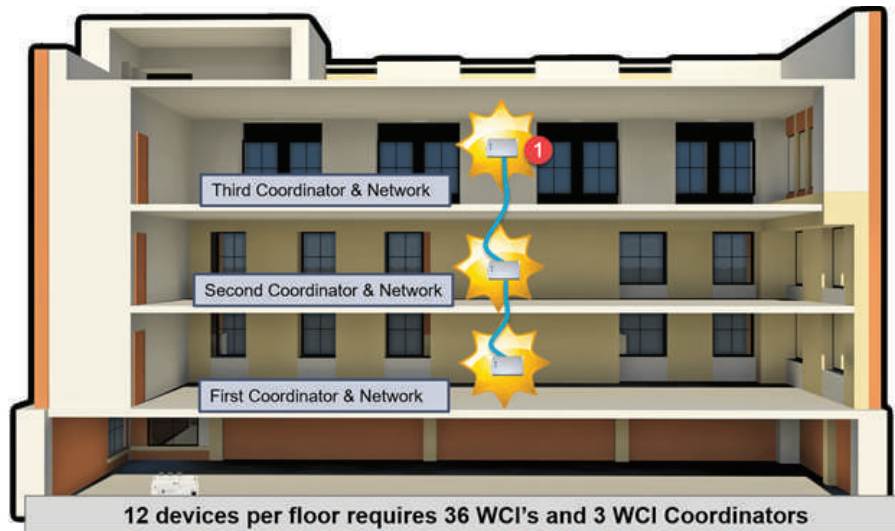
- Rooftops Units
  - WCI in return air section – 100 feet radius – VAV applications only
  - WCI inside the building (below the roof deck). 200 feet radius

**Figure 6. WCI coordinator location**

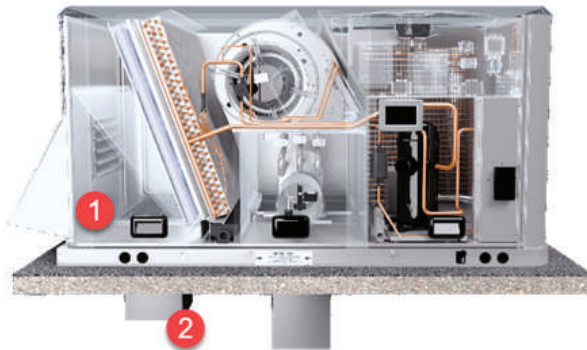


1. The Tracer Concierge System control panel is typically mounted in the electrical closet.
2. The WCI Coordinator should be centrally located by extending the wiring back to the system control panel. The goal is to have all WCIs and WCS sensors within a 200 foot radius of the coordinator.

**Figure 7. Locating WCI coordinators in a multiple floor scenario**



1. In a multiple floor building, you will use one WCI coordinator per floor. Do not create networks that have to penetrate through a floor to get back to the coordinator.

**Figure 8. Locating WCI for rooftop units**


1. For typical VAV applications only, leave the WCI in the factory location in return air section. Be sure the WCI is within 100 feet of the nearest VAV box. However, for ducted supply installations refer to Note 2 below.
2. For all other applications, mount the WCI below the roof deck, which normally expands the range to 200 feet.

**Symbio 210 on VAV Boxes**

The image below shows the factory mounted position of the WCI. If necessary, relocate the top one inch of the WCI to hang below or off the side of the box to extend the effective range.

**Figure 9. Symbio 210 on VAV boxes**


## Installation

- Complete the Addressing Worksheet
- Install all WCIs and set their GRP and NET
- Power the controllers connected to the WCIs
- Open the Setup Wizard (Opens the Air-Fi® network)
- Discover and validate all devices
- Associate the WCSs to their devices (GRP and NET numbers, BACnet Address, and Sensor number)
- Use Tracer TU to view network health (optional)
- Launch Setup Wizard to complete installation

**Note:** *Wiring — Multiple WCI Coordinators can be daisy-chained. Use 4 wires - 2 for power and 2 for communication to system controller (IMC). Use 2 18-gauge twisted pair wires to extend the wiring. Maximum total wire distance is 650 feet (200 meters).*

### Power up the Equipment Controllers

If the equipment controllers are already powered, cycle power to the equipment controllers to cause them to discover and initialize the WCs. This includes the Tracer Concierge System control panel. To cycle power on a Tracer Concierge System control panel you must use the circuit breaker to kill all power to the controller.

### Discover the Air-Fi® Network

To discover an Air-Fi® network, go the Tracer 10-inch Display and launch the Setup Wizard. This will open the Air-Fi® network(s) and start the device discovery and Air-Fi® network setup automatically.

**Note:** *Air-Fi® networks are normally locked and secured to prevent unauthorized access or tampering. The network is automatically “opened” for the discovery process, and will automatically close after 12 hours. Later, if you need to reopen the network launch the setup wizard from the Tracer 10-inch display again.*

Confirm all devices on all networks are found.

Use the Setup Wizard to confirm that you have found all of the devices on each Air-Fi® network. If you do not find all of the devices, refer to the Troubleshooting Steps for assistance with resolving the problems. You can use the “Find More Devices” button in the Setup Wizard to initiate another discovery process when you have more devices available.

### Associate the WCS to the Devices

Once all available devices have been discovered, then associate the WCS sensors to the devices, using the display on the sensors. Most of the sensors have the display located internally and the cover must be removed to access it.

**Note:** *If a device has not yet been discovered by the system control panel, you can associate the sensors, but they will not communicate until the associated device joins the network.*

The WCS association requires setting the 3 following items.

1. Air-Fi® Network GRP and NET number (designated as “gn” on the sensor display)
2. 3-digit BACnet Address matching the associated equipment controller (designated as “UC” on the sensor display)

**Note:** *The 3rd digit is smaller than the first 2 digits.*

3. Sensor number (designated as “Sn” on the sensor display). Typically, with only one sensor per equipment controller, Sn=1. You can have up to 6 WCS sensors per equipment controller, and the sensor values are automatically averaged.

## Complete Installation

After communication to devices is established, you can use the Setup Wizard to complete additional installation steps, such as updating device names, grouping equipment into systems and setting up schedules.

**WCI Status LEDs**
**Figure 10. WCI LED status**

**1 — NWK**

When the green network LED is lit solid, the WCI is a network member. If the LED flashed 10 seconds each 2.5 minutes, the WCI is not a member of a network. The WCI will join a network when the NWK LED is flashing. If there is an open network nearby with the same rotary setting and the WCI joins the network, the NWK LED turns solid and then the OPEN NET LED turns on solid.

**2 — CRD**

The CRD LED is yellow. When it is on solid, it indicated the WCI is the network coordinator.

**3 — TX/RX**

These LEDs flash to indicate data is being transmitted/received.

**4 — DIAG**

The diagnostic LED is red. Off indicates normal operation.

A repeating a 0.5-second on/0.5-second off pattern indicates a hardware failure or failed attempt at re-flashing the WCI radio. The corrective action is to replace the WCI. The triple-flash pattern indicates the WCI failed to join the network. This occurs for 30 seconds after failing to join a network. The blink pattern will continue until the WCI has successfully joined a network. The corrective action is to insure the network is formed and open, and then allow several minutes for the WCI to join the network on its own.

The double-flash pattern is normal for a repeater. It is also an indication that the WCI lost communication with the unit controller, BACnet communication interface or Tracer SC+ controller. The corrective action is to check the IMC bus wiring, and then cycle power to the controller/WCI to establish communication. Lastly, this blink pattern could indicate the WCI was not configured correctly. This could happen if the WCI did not get the BACnet ID from the unit controller, BACnet communication interface or Tracer SC+ controller. Or, the blink pattern could indicate the WCI did not get the rotary address from the connected device. The corrective action is to cycle power to the controller/WCI.

**5 — PWR**

The green power LED is on solid when the WCI has power.

**6 — OPEN**

The yellow OPEN LED is on solid when the network is open for joining. When off, the network is closed for joining.



### WCS Height Requirements

The recommended maximum mounting height is 54 inches from the bottom of the back plate to the floor. If a parallel approach by a person in a wheelchair is required, reduce the maximum height to 48 inches.

**Notes:**

- Consult section 4.27.3 of the 2002 ADA (Americans with Disability Act) guideline, and local building codes, for further details regarding wheelchair requirements.
- Sensors with Occupancy and/or CO<sub>2</sub> may need to be mounted higher.

### WCS Mounting Surfaces

Using the hardware provided, mount the back plate of the sensor to a flat surface such as sheetrock or plaster, or to an electrical junction box. The sensor must be mounted plumb for accurate temperature control and to ensure proper air movement through the sensor.

- If mounting onto sheetrock or plaster, use the plastic threaded anchors (pre-drilling holes is not usually necessary) and the two M3.5 x 20 mm mounting screws.
- For mounting onto an electrical junction box, use the two 6-32 x 3/4 in. screws.

### Air-Fi Addressing

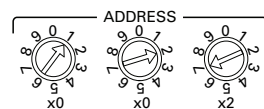
Addressing of WCS and WCI determines which devices can communicate on an Air-Fi network.

**Note:** When configuring a WCS to connect directly to the SC+ controller (not a unit controller), set the WCS address to 000.

On all WCS and WCI, the **GRP and NET** are factory set at **1 and 1**. When installing, confirm that these remain at 1 and 1. For scenarios where additional WCI coordinators are necessary, adjust the GRP and NET settings appropriately (1,2 or 1,3, etc.)

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.

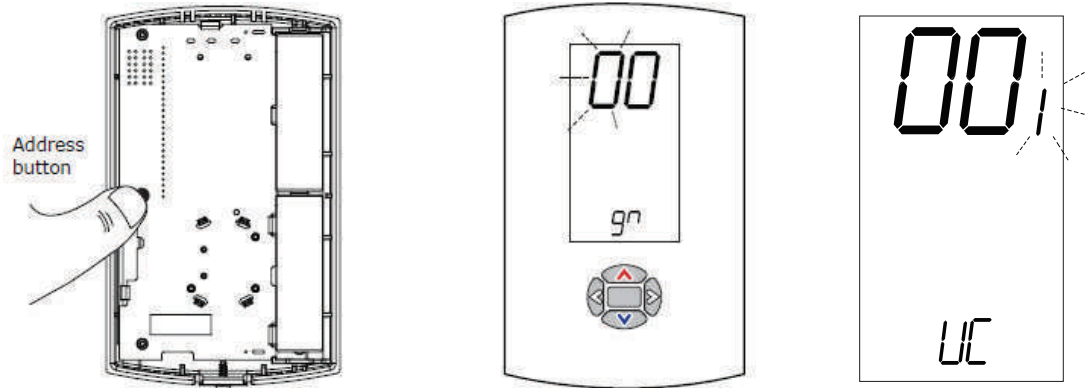
**Figure 11. Unit controller rotary addressing**



On WCS zone sensors, set:

- GRP and NET to 1 and 1 (or other GRP and NET values, as needed for the application of additional WCI coordinators)
- 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 12. Press address button**


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

## Establishing an Air-Fi® Network

When all aspects of hardware installation are complete, you are ready to power up the system and establish the wireless network.

**Best Practice:** Power up all devices in the network at the same time. If you are unable to do this, power them up in the following order:

1. All WCIs.
2. All unit controllers: UC210, UC400, UC600, BCI-I, BCI-R, Symbio™ 210, Symbio 500, Symbio 700.
3. The Tracer SC+ controller.
4. WCSs.

**Note:** If the coordinator WCI is powered up one hour or more before the other devices on the network, then you must open the network manually or with Tracer TU. To manually open the wireless network, press the OPEN\_NET button on the WCI of the Tracer SC+ controller.

## Automatic Network Formation and Sensor Association

A WCI that is connected to a Tracer SC+ controller is auto-assigned as the network coordinator. The coordinator WCI allows all WCIs and WCSs having matching addresses to automatically join the network.

After the network is formed, WCSs automatically associate with their designated controllers.

**Note:** The network must be open for a WCS to join the network, but does not need to be open for the WCS to be manually assigned to a controller.

## WCS: Network Joining and Controller Association

After addresses are set, the WCS will immediately attempt to join the network and associate with the controller.

- Error code E2 will appear on the sensor display until the WCS successfully joins the network. Until network joining is successful, the WCS will repeat its attempt to join every 60 minutes.
- Association between the WCS and the controller will automatically be initiated. The WCS will repeat its attempt to associate every 15 minutes until successful. Error code E1 will be displayed until association is successful.
- You can press the center button of the WCS twice at any time to cause the WCS to re-attempt to join the network and to associate with the WCI.

### Adding Additional WCIs to an Existing Network

1. Press the OPEN\_NET button on the Tracer SC+ controller WCI to open the network for joining for one hour. Every member WCI will indicate that the network is open. Any WCI with a correct rotary address setting that is located within radio range of a network member, will join the network.

**Note:** Pressing the OPEN\_NET button on a member WCI will open only that one WCI.

2. Observe the green NWK LED illuminate on a WCI that joins the network.

### Best Practices

- **Use the same power source for the controller and WCI.** The controller knows to use the wireless connection when the WCI is present. If the WCI is not powered when the controller is powered up, the controller assumes it is wired. This is easily resolved by rebooting the controller.
- **Centrally locate the coordinator** (WCI attached to the Concierge panel). There is an extra 10 feet of cable shipped with the Concierge panel WCI, so that it may be detached from the panel and re-located. By placing the coordinator in the center of the network, the distance is shortened to all devices within that network. This means reduced hops for improved performance and increased redundancy for improved reliability.
- **WCI Placement**
  - Plan how the message can travel without being obstructed. Simply moving the WCI from the side of a metal box to the top or bottom when the signal needs to travel to the opposite side of the box can turn a signal from red to green. Because the WCI is not integrated into the controller, it is relatively easy to move for those locations where it makes sense.
  - Network design range is 200 feet radius.
  - For rooftop units, best practice is to mount the WCI in the return air section, which provides the best overall sensor and communications link quality and is serviceable. Note that design range is limited to 100 feet, tested on both ducted and wild return installations.
- **Open the Installer and review the list of devices.** This opens the network and could resolve the E2 error displayed on the zone sensor.
- **Do a final check of obstructions.** Moving a WCI just a few inches can take very little time but can make a significant improvement to link quality and reliability.
- **Open Tracer TU and review the network health page before you leave a job site.**
  - Key columns to check are signal quality, number of hops, and lost communication (not shown).
  - Red signals, along with communication failures are good indicator that changes should be made before moving on to the next project and may be corrected by a minor move or addition of a repeater.
  - More than three hops means that the zone with three hops will be moderately slow (you may notice, but there is a good chance that a building operator will not). Consider if a modest change can be made reduce the number of hops
  - Do not be concerned when the network does not form as expected. This process is automated using many variables, and the ideal network formation used to provide the best combination of performance and reliability is often not what we expect.



# Field-Installed Controls

## Install the Symbio 500 RTU/HP 2H/2C and Air-Fi Wireless for Non-Trane RTUs

If required for this site, install the Symbio™ 500 RTU/HP 2H/2C and Air-Fi Wireless on non-Trane equipment. For more information, see Symbio 500 Pre-programmed for RTU or Heat Pump (BAS-SVN234\*-EN). The point list below is for your convenience.

**Table 1. Controller inputs/outputs**

RTU/HP Controller						
Analog Inputs	AI1	Space Temperature Local	10kΩ Thermistor			
	AI2	Space Temperature Setpoint Local	1kΩ Input			
	AI3	Return Air Temperature Local	10kΩ Thermistor			
	AI4	Discharge Air Temperature	10kΩ Thermistor			
	AI5	Outdoor Air Temperature Local	10kΩ Thermistor			
	P1	(not used)				
	P2	(not used)				
Universal Inputs	UI1	Outdoor Air Damper Position Feedback	2-10 VDC			
	UI2	Space CO2 Concentration Local	4-20 mA			
Binary Inputs	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			
Analog/Binary Points	AO1/BI4	Supply Fan Speed Command(AO)	0-10 VDC (0-100%)			
	AO2/BI5	Outdoor Air Damper Command (AO)	2-10 VDC			
Binary Outputs	Relays	BO1	Supply Fan Start Stop Command	Thermostat Wiring	G	
		BO2	(not used)		-	
		BO3	Ventilation Relay		-	
	24VAC Triacs	BO4	Compressor 1 Command		Y1	
		BO5	Compressor 2 Command		Y2	
		BO6	Heat Stage W1 Command		W1	
		BO7	Heat Stage W2 Command		W2	
		BO8	Reversing Valve Command		O	Off = Heating, On = Cooling
		BO9	Auxiliary Heat Command		X	
Binary Output Power	A	24 VAC	T'stat	R		
	B	24 VAC Common		C		
<b>Symbio 500 Controller</b>						

## Install the Symbio 210 Bypass Damper and Air-Fi Wireless

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

**Table 2. I/O points**

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

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

## Trane / Mitsubishi Electric VRF

The Trane/Mitsubishi Electric VRF system must be installed and addressed properly by a trained installer. Follow the Mitsubishi Electric installation and addressing instructions. Improper addressing may cause issues and require a reset of the application.

**Figure 13. VRF controls**





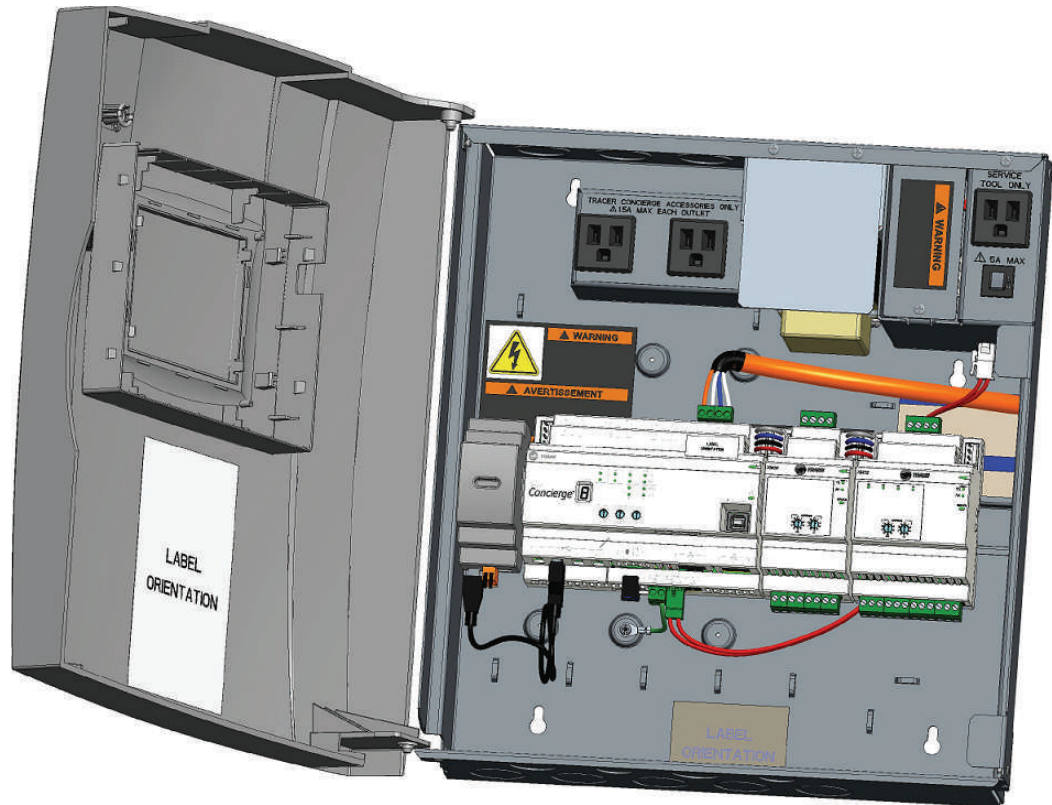
# Install Tracer Concierge Panel and Display

Before installing the Tracer Concierge panel, set up the unit controllers as required, such as Symbio™ 700, Symbio 500, and Symbio 210 with Air-Fi Wireless or wired communications or Trane / Mitsubishi Electric VRF System.

## 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 14. 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.

### Wire I/O

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

Module	Rotary Dial	Terminals	Name	Notes
XM30	1	UI/AO 1	Outside Air Temperature	Thermistor
XM30	1	UI/AO 2	Defined during installation	Generic point
XM30	1	UI/AO 3	Defined during installation	Generic point
XM30	1	UI/AO 4	Defined during installation	Generic point
XM32	2	BO1	XM32 Binary Output 1	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	2	BO2	XM32 Binary Output 2	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	2	BO3	XM32 Binary Output 3	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)
XM32	2	BO4	XM32 Binary Output 4	Must be wired as dry contact; used for lighting output or other (for example, exhaust fan)

### Mount the Tracer 10-inch Display

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

The display mounts to the wall with the back cover, which is part of the display. See the mounting instructions included with the display. Screws and anchors are provided with the display.

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.
  - The display communicates to the system 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 display from the back cover.

**Notes:**

- *Remove the small security screw first, and save it to reinstall it later.*
  - *Use caution when prying the wall plate away from the display to avoid damaging the display. A small screwdriver may be useful.*
3. Install the back coversection onto the wall.
  4. Install the cables (power and Ethernet, if used).
  5. Re-assemble the display to the back cover. Reinstall the small security screw, if desired.
  6. For ease of initial setup, connect an Ethernet cable between the display and system controller. Later, set up a Wi-Fi router or put both the display and system controller on the customer's network.
  7. If mounted near the enclosure, plug the display into the accessory outlet in the enclosure.

### 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 system controller.*
- *If a Trane / Mitsubishi Electric VRF system is used, fully install and commission the VRF system prior to setting up the Trane Concierge System. Failure to install the components in this order will add unnecessary time to the job.*



## Install Tracer Concierge Panel and Display

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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.

### Display Setup

To start the display:

1. Connect the Ethernet cable from the system controller Port 2 to the display Ethernet port.  
**Note:** For installation, the display should be connected via Ethernet cable. After installation, up to three displays can be connected via Wi-Fi

2. Plug the display power adapter into a wall outlet. The display powers up automatically.

3. The display attempts to communicate with the system controller with default username and password via Ethernet cable. Default username is **Installer** and default password is **Tracer**.

**Note:** The default username and password for the Occupant View used by the customer are **Display1** and **Tracer**.

When prompted to enter the numerical password for the Technician Tools, type **4833**.

4. The Setup Wizard of the Tracer 10-inch display Technician Tools prompts you to change the password for the Installer user.
5. The Setup Wizard page appears on the display, and you can begin the Setup Wizard. You can also choose to exit the setup wizard. The Air-Fi network is automatically opened.

## Installing a Tracer Concierge System: Overview of Basic Steps

### Factory Mounted and Configured Controls

1. Find the address table for the job.
2. RTU control installation:
  - a. Address the RTU rotary switch.
  - b. If using wireless, verify the WCI and WCS (WCS only if SZ or CV) have appropriate Group and Network numbers (GRP=1,Net=1 for single network buildings).
  - c. If using a wired connection, connect the Trane purple wire in the daisy chain.
  - d. Cycle power.
3. Install the VAV box control before installing the equipment:
  - a. Verify the VAV box unit tag and compare values of min/max airflow with the mechanical drawings.
  - b. Verify rotary address matches the address table. Verify all unit controllers have a unique rotary address and do not default to 000.
  - c. If using wireless, verify WCI and WCS have appropriate Group and Network numbers (GRP=1, Net=1 for single network buildings).
4. For bypass system, mount the factory configured bypass damper controller to the bypass damper.
5. Physically install the equipment. For the bypass damper, install the bypass temperature sensor and pressure probe.
6. Physically install the Tracer Concierge panel, WCI controller, and the display.
7. Set the address on the Tracer Concierge panel (001, 002, 003). Valid range is 001-419.
8. If system is wired, daisy chain communication to every piece of equipment. (Skip this step if using Air-Fi.)
9. Power on all equipment and the Concierge panel.
10. Plug the display Ethernet cable into port 2 of the system controller.
11. Using Setup Wizard of the Technician Tools on the 10-inch display, begin the system definition.



- a. Make note of the password you created for the **Installer** user. Password recovery is difficult, so ensure that you remember your password.
12. Configure the systems and zones to show on the display for the end user.
  - a. Make note of the password you created for the **Occupant/display** user. Password recovery is difficult, so ensure that you remember your password.
13. Perform air valve check out. Set the sensor to Max as high as it will go or “\*” and Min as low as it will go or “\*\*”.
14. Set up Internet access. Connect the Ethernet cable to from the customer’s network to Port 1 on the system controller.
15. Set up Remote access:
  - a. Connect the USB service tool cable to the computer and the system controller.
  - b. From a Web browser, navigate to 198.80.18.1.
  - c. Enter your **Installer** credentials. Refer to the username and password you defined in Step 10, above.
  - d. From the Installation menu, select **Communications** to find the IP address.
  - e. From the Trane BAS Occupant mobile app, enter the IP address and credentials to set up mobile access.
  - f. Create additional users via the Web UI for mobile access, as needed.

## Non-factory Mounted and Configured Controls

1. Find the address table for the job.
2. RTU control installation:
  - a. Wire the Symbio™ 500 RTU/HP controller.
  - b. Address the RTU rotary switch.
  - c. If using wireless, verify the WCI and WCS (WCS only if SZ or CV) have appropriate Group and Network numbers (GRP=1,Net=1 for single network buildings).
  - d. If using a wired connection, connect the Trane purple wire in the daisy chain.
  - e. Cycle power.
3. Install the VAV box control before installing the equipment.
  - a. Wire the WCI and set appropriate Group and Network numbers (GRP=1,Net=1 for single network buildings).
  - b. Address WSC to appropriate Group and Network numbers (GRP=1,Net=1 for single network buildings).
  - c. Plug USB cable into the VAV controller to power the device.
  - d. Open Tracer TU Standard Edition:
    1. Verify the controller has proper configuration (VAV box).
    2. Name the controller to match the mechanical drawings.
    3. Match rotary switch address to the site address table. Verify numbers are not repeated and do not default to 000.
    4. Configure VAV CFM setpoints according to mechanical drawings.
  - e. Physically install the equipment.
4. Bypass damper installation:
  - a. Load the Symbio 210 controller configuration for the bypass damper.
  - b. Address the rotary switch.
  - c. Physically install the damper.
  - d. Install the bypass temperature sensor and pressure probe.
5. Physically install the Tracer Concierge panel, WCI controller, and the Tracer 10-inch display.



## Install Tracer Concierge Panel and Display

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6. Set the address on the Tracer Concierge panel (001, 002, 003). Valid range is 001-419.
7. If system is wired, daisy chain communication to every piece of equipment. (Skip this step if using Air-Fi.)
8. Power on all equipment and the system controller.
9. Plug the display Ethernet cable into port 2 of the system controller.
10. Using the Setup Wizard of the Technician Tools on the Tracer 10-inch display, begin the system definition.
  - a. Make note of the password you created for the **Installer** user. Password recovery is difficult, so ensure that you remember your password.
11. Configure the systems and zones to show on the display for the end user.
  - a. Make note of the password you created for the **Occupany/display** user. Password recovery is difficult, so ensure that you remember your password.
12. Perform air valve check out. Set the sensor to Max as high as it will go or "\*" and Min as low as it will go or "\*\*\*".
13. Set up Internet access. Connect the Ethernet cable from the customer's network to Port 1 on the system controller.
14. Set up Remote access:
  - a. Connect the USB service tool cable to the computer and the system controller.
  - b. From a Web browser, navigate to 198.80.18.1.
  - c. Enter your installer credentials.
  - d. From the Installation menu, select **Communications** to find the IP address.
  - e. In the Tracer BAS Occupant mobile app, enter the controller IP address and credentials to set up mobile access.
  - f. Create additional users via the Web UI for mobile access, as needed.



# Setup Wizard

## Overview

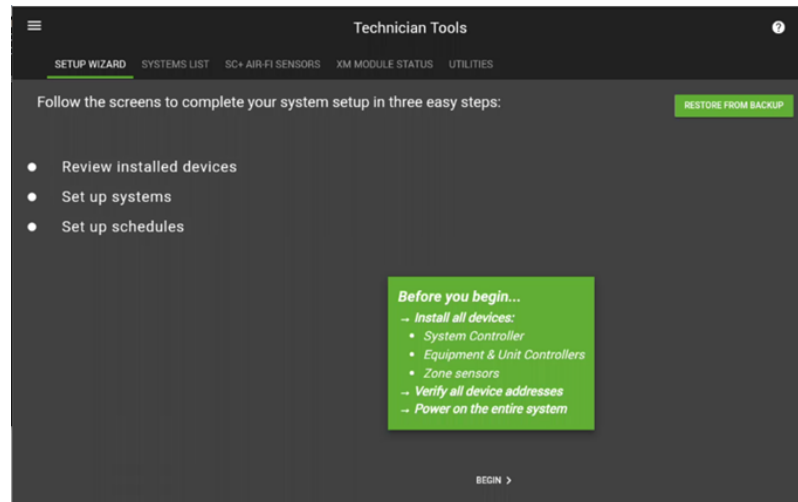
This section walks through the installation wizard using a changeover bypass system as an example. At the end of the section, options for other systems are shown.

**Important:** Before proceeding with the Setup Wizard:

- Understand system types and which devices belong to which system.
- Plan the setup of **binary points**. There are two options:
  - Within a system: lights controlled ON at the same times as the HVAC systems.
  - ..
  - As their own system: such as exterior lights that are ON after normal business hours.

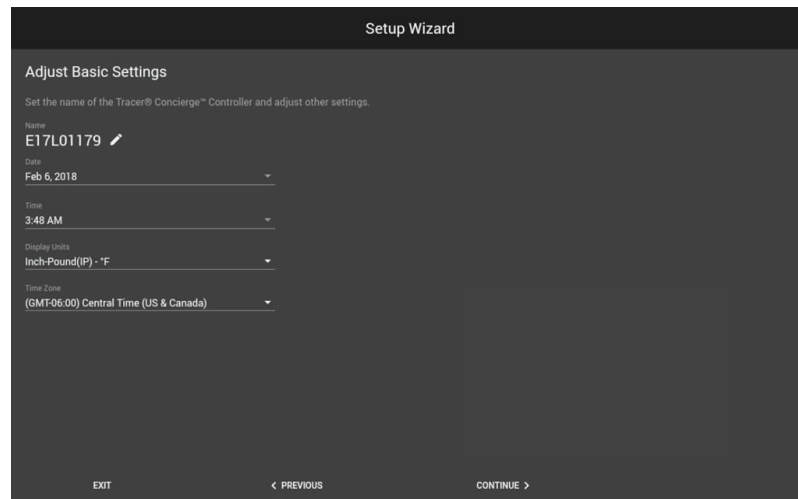
1. Review the information on the Setup Wizard introduction screen and tap **Begin**.

**Figure 15. Setup wizard introduction**



2. On the **Adjust Basic Settings** screen:

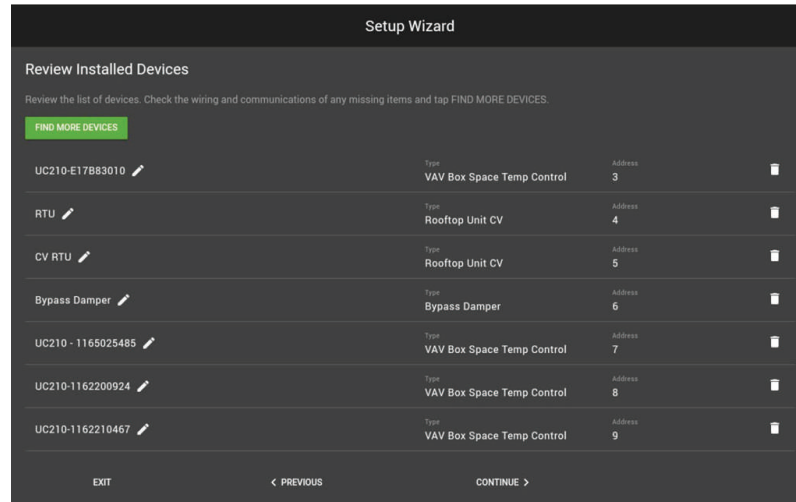
**Figure 16. Adjust basic settings**



a. Tap the pencil to name the building. The default name is the serial number.

- b. Set the date, time, display units, and time zone for the 10-inch display.
- c. Tap **Continue**.
3. On the **Review Installed Devices** screen:

**Figure 17. Review installed devices**



- a. Tap the pencil icon to rename each device, if necessary. Most devices are listed by their configured display name.
- b. If a device does not appear on this page, troubleshoot the communication, check addresses, and then press **Find More Devices**.
- c. Tap **Continue**.
- d. For Trane / Mitsubishi Electric VRF systems, this screen is typically blank. To launch the VRF discovery process, press **Find More Devices**. With **Search Trane VRF (XML/IP)** selected, provide the IP address and Port of your VRF system. Press **Search** to continue.

**Figure 18. Discover VRF devices**



4. As needed, troubleshoot device communication to the system controller. Investigate the wireless network health in the Tracer TU.

**Note:** New wireless networks can take several minutes to form automatically.

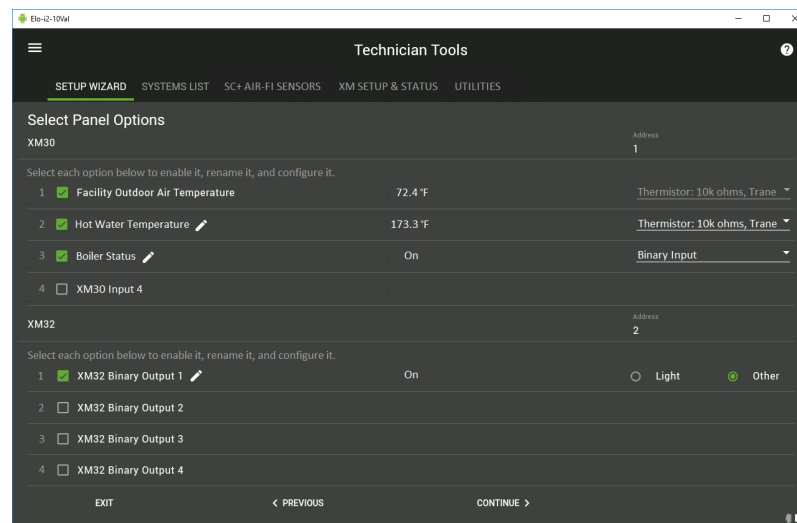
5. On the **Select Panel Options** screen select the items that have been wired in the panel.
  - a. Select which I/Os are to be used.
  - b. Rename each point to a user-friendly name. For example, “Parking Lot Lights.”
  - c. For each item, indicate if it is a Light or Other.
  - d. Tap **Continue**.

**Note:** The Setup Wizard remembers which BOPs (binary output points) are used and what type they are, for use on the next screen. Specifically, if a BOP is a light, then it will be a light on the display.

- e. For VRF systems, it is necessary to enable maintenance data in the centralized controller for a complete installation. The setup wizard of the technician tools automatically enables the maintenance data as part of the discovery and installation process.

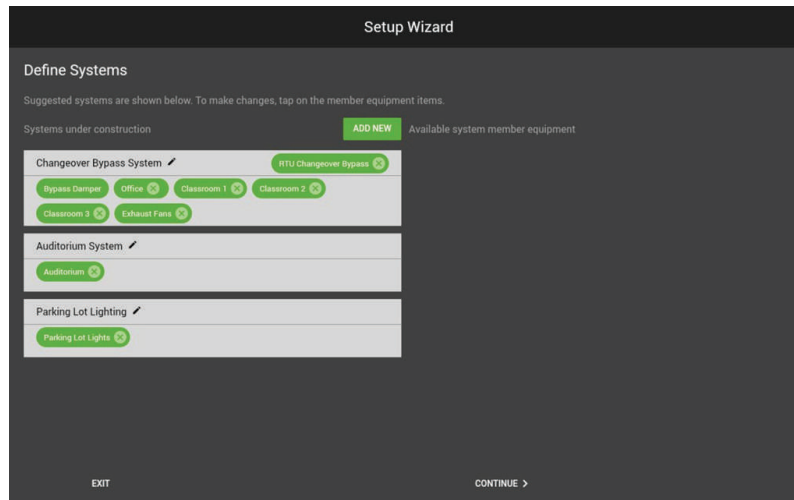
**Important:** Depending on the number of VRF devices, the automated installation process may take up to 20 minutes to complete. The progress bar indicates the installation status, including when the process is complete.

**Figure 19. Select panel options**



6. On the **Define Systems** screen, group appropriate devices into systems. All devices must be in a system to be put on a schedule.

**Figure 20. Define systems**



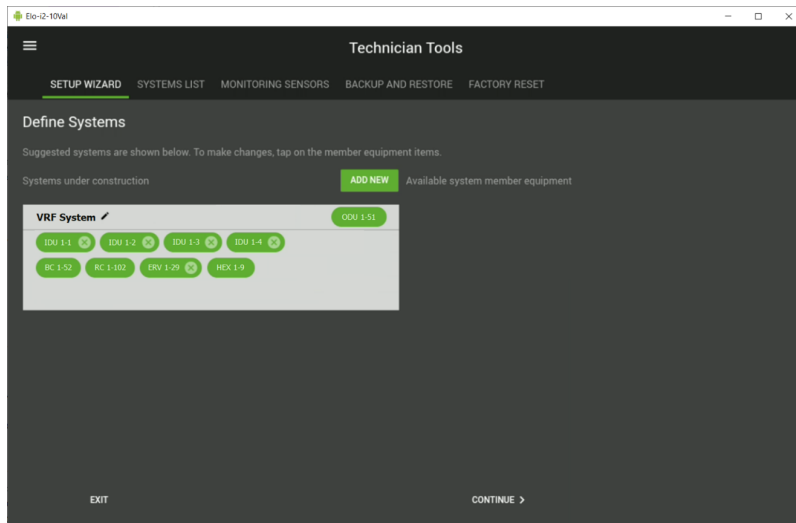
- a. To add a new system, tap **Add New**.
- b. To edit a system name, tap the pencil icon.
- c. To add a device to a system, tap the device name and select which system to assign the device to.

**Table 3. System types and devices**

System Type	Definition	Corresponding Devices
Changeover Bypass	The system consists of CV RTU, VAV boxes and a bypass damper. The system operates only in cooling or heating mode at a given time, VAV dampers control the air flow to each zone with a zone sensor. A bypass damper is used in case all zone dampers are partially or fully closed to provide an adequate air path for the constant speed fan. Zones vote to control RTU mode.	Need to contain: <ul style="list-style-type: none"> <li>• Bypass dampers</li> <li>• CV RTUs</li> <li>• VAV boxes/dampers</li> </ul>
Changeover VAV	The system consists of a VAV RTU and VAV boxes that operate only in cooling or heating mode at a given time. VAV dampers control the flow to each zone with a zone sensor. Zones vote to control RTU temperature and volume. The RTU supply fan speed normally varies to maintain duct static pressure. The bypass damper may be required with RTU modulating heat, depending on the system flow/design.	Need to contain: <ul style="list-style-type: none"> <li>• VAV RTU with modulating heat</li> <li>• VAV boxes</li> </ul>
VAV	The VAV RTU normally provides VAV boxes both control air flow and provide reheated air to each zone based on the space temperature.	Need to contain: <ul style="list-style-type: none"> <li>• VAV RTU</li> <li>• VAV boxes with reheat</li> </ul>
Single Zone	<p>Constant Volume Single Zone system One or more CV RTU that controls to a single zone sensor setpoint by modulating the supply air temperature to the zone.</p> <p>Single Zone VAV system VAV RTU that controls to a single zone sensor setpoint by varying supply airflow and optionally varying supply air temperature thereafter to the zone.</p>	May contain any of the following: <ul style="list-style-type: none"> <li>• Constant volume RTU</li> <li>• Single Zone VAV RTU</li> <li>• BOP for lighting</li> <li>• BOP other than lighting</li> </ul>
Changeover Hybrid System	The hybrid system consists of a VAV RTU with staged heat and VAV boxes that operate only in cooling or heating mode at a given time. VAV dampers control the flow to each zone with a zone sensor. Zones vote to control RTU temperature and volume. The RTU supply fan speed normally varies to maintain duct static pressure. A bypass damper is required when the RTU includes staged heat. The bypass damper may be required with RTU modulating heat, depending on the system flow/design.	<ul style="list-style-type: none"> <li>• VAV RTU with staged heat</li> <li>• VAV Boxes</li> <li>• Bypass damper, used in heating mode</li> </ul>

d. For VRF Systems, the systems are predefined.

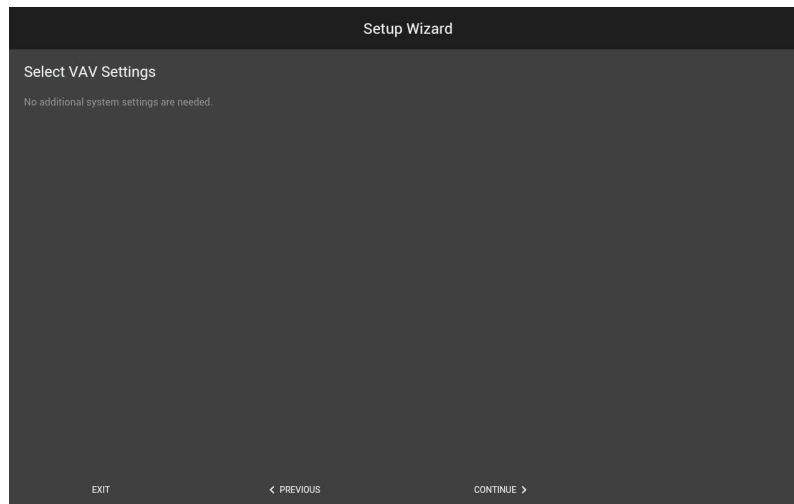
**Figure 21. VRF systems**



e. Tap **Continue**.

7. On the **Select VAV Settings** screen:

**Figure 22. Select VAV settings**



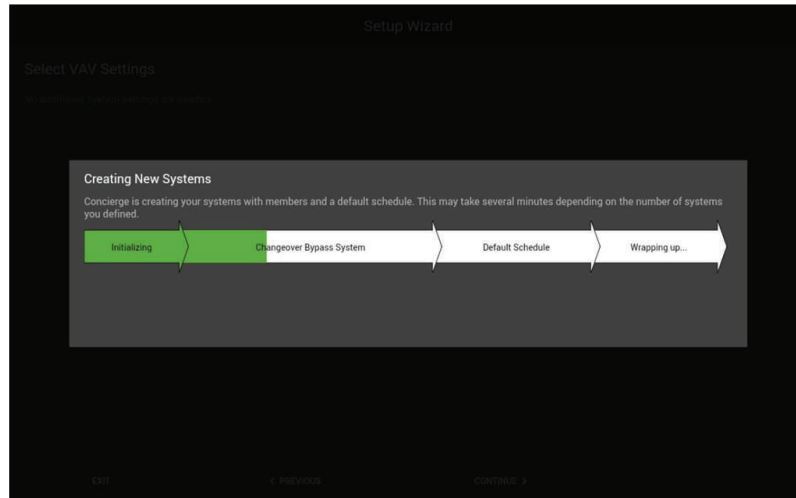
a. If one of the systems is a Changeover VAV or a VAV system, select the appropriate system type . For all other systems types, this page is intentionally left blank.

b. Tap **Continue**.

8. The **Creating New Systems** screen indicates progress as the controller creates the systems and initial schedule.

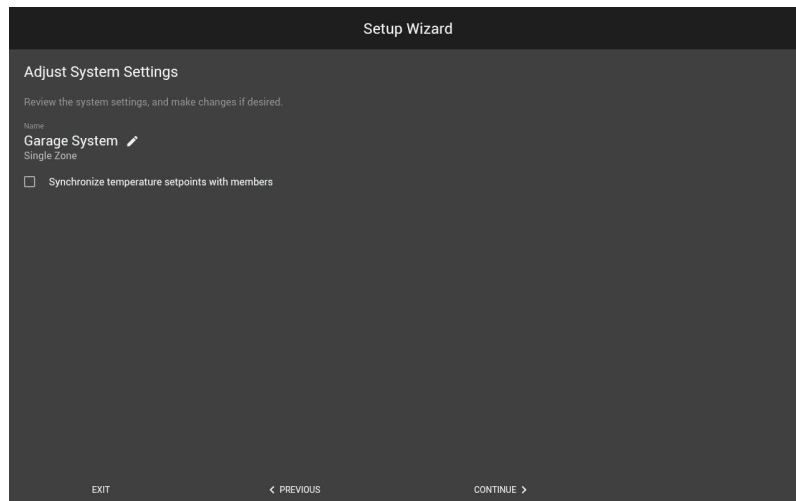


**Figure 23. Creating new systems**



9. On the **Adjust System Settings** screens:

**Figure 24. Adjust system settings**



- a. For each system, configure additional settings.
- b. See the table below for details.

**Table 4. System type and corresponding additional settings**

System Type	Characteristics	Installation Wizard		Other
		VAV Settings	Adjust system available settings	System balance mode available
Single zone system	1 or more RTU controlling one zone Heats or cools the zone	No	1. Synchronize /temp setpoint with member function	No
Changeover bypass system	CV RTU, VAV dampers, bypass damper Control space temperature setpoint	No	1. Synchronize /temp setpoint with member function 2. Bypass Pressure Setpoint	Yes

**Table 4. System type and corresponding additional settings (continued)**

System Type	Characteristics	Installation Wizard		Other
		VAV Settings	Adjust system available settings	System balance mode available
Changeover VAV system	VAV RTU with modulating heat	Yes: Changeover VAV system	<ol style="list-style-type: none"> <li>1. Bypass Pressure Setpoint</li> <li>2. Morning Warmup Setpoint</li> <li>3. Daytime Warmup Setpoint</li> <li>4. Synchronize Temperature Setpoints with members</li> <li>5. Duct Static Pressure Optimization</li> <li>6. Discharge Air Temperature Reset</li> </ol>	No
VAV System	Modulating Cooling RTU VAV boxes have electric or hot water heat	Yes: VAV System	<ol style="list-style-type: none"> <li>1. Synchronize Temperature Setpoints with Members</li> <li>2. Duct Static Pressure Optimization</li> <li>3. Discharge Air Temperature Reset</li> </ol>	No

**Table 5. System settings and definitions**

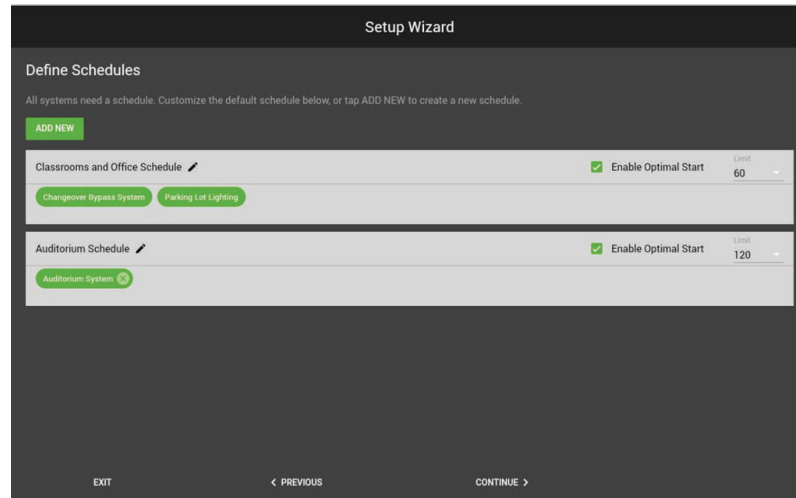
System Setting	Definition
Bypass Pressure Setpoint	The bypass damper modulates to maintain the duct static pressure of a changeover bypass system. The user may edit the duct static pressure setpoint with the Tracer 10-inch display.
Synchronize Temperature Setpoints with Members	When the user enables setpoint synchronization, the Area application of the system controller sends all temperature setpoints to each VAV member. These setpoints include the space temperature setpoint, standby offset, occupied offset, and unoccupied cooling and heating setpoints. With synchronization enabled, the user can manipulate the setpoints for all VAV members from a single location on the 10-inch display. However, individual setpoints adjustment for the zones is not possible with synchronization enabled. If occupants desire individualized setpoint control in their respective spaces, synchronization must remain disabled.
Morning/Daytime Warmup Setpoint	The system controller VAS enables the RTU/AHU heat by automatically manipulating the space temperature to be less than the morning/daytime warm-up setpoint. Consult the factory before editing either value (default = 70° F).

**Table 5. System settings and definitions (continued)**

System Setting	Definition
Duct Static Pressure Optimization	The user can configure the system controller to automatically adjust the duct static pressure setpoint of a changeover VAV/hybrid system based on the position of the most open VAV box. When enabled, duct static pressure optimization reduces the energy consumption associated with the system fan.
Discharge Air Temperature Reset	When enabled, discharge air temperature reset automatically adjusts the calculated discharge air setpoint of the RTU/AHU based on either the ambient temperature or satisfaction of the spaces (user adjustable). When enabled, discharge air temperature reset reduces the energy consumption of the RTU/AHU by providing slightly more neutral air under certain conditions.

10. On the **Define Schedules** screen displays all schedules. By default, all systems are on one schedule, which would be suitable for a building operating on a single business schedule.

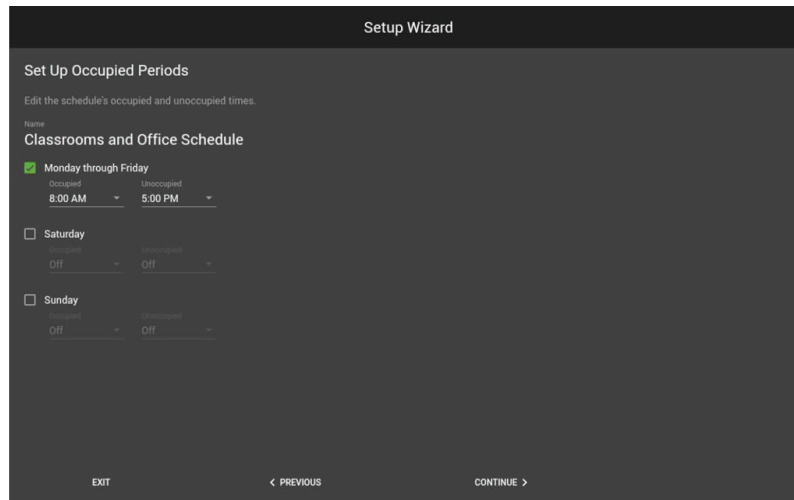
**Figure 25. Define schedules**



- a. To rename a schedule, tap the pencil.
  - b. To add a new schedule, tap **Add New**.
11. On the **Schedule Occupied Periods** screen, set the initial occupied and unoccupied times for Monday through Friday, Saturday, and Sunday.

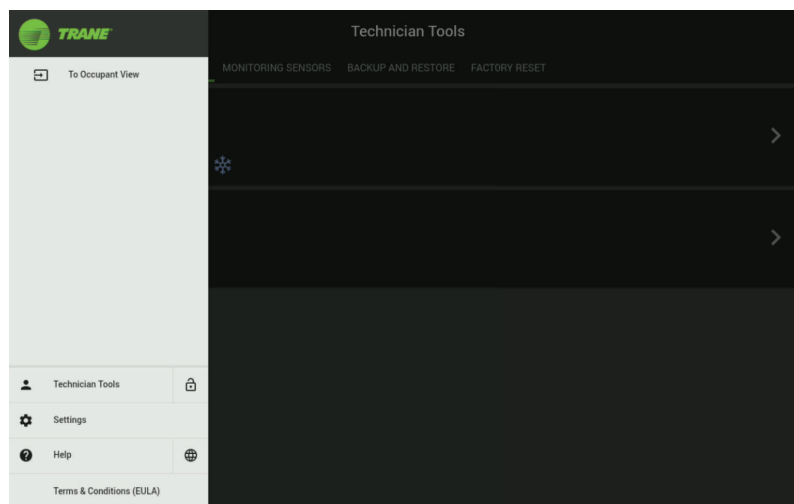
**Note:** This is a one-time setting and does not reappear if the Setup Wizard is run again. Any additional changes to the schedule times must be done from the Occupant View on the same 10-inch display.

**Figure 26. Schedule occupied periods**



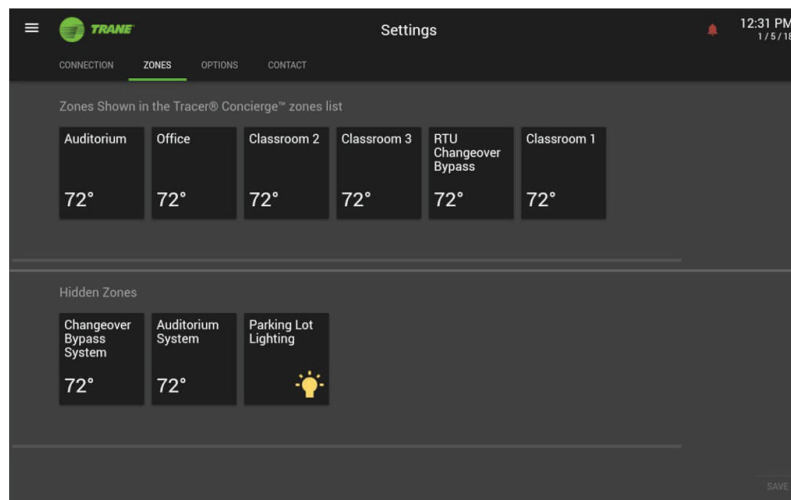
12. From the **Congratulations!** screen, tap System List.
13. From the menu, tap **Occupant View**.

**Figure 27. Select occupant view**



14. Enter a **User Name** and **Password** for the display. Password recovery is difficult, so ensure that you remember your password. The default user name and password for the Occupant View are **Display1** and **Tracer**. The default username and password for the Technician Tools are **Installer** and **Tracer**.
15. Navigate to **Settings | Zones**.

Figure 28. Zones



16. Show and hide zones:

- For single zone systems, Show the Single Zone System rather than its members. The system setpoint will be controlled by the customer. Hide the members of the Single Zone System. This is especially important if the Single Zone is served by multiple units.
- For Binary Output only systems, such as the Parking Lot Lights, show the system for the status of the binary point(s) to be seen on the main screen.
- For multizone systems, show the zones. Hide the RTU and the systems.

17. On the **Options** tab, set the PIN and Setpoint, Limit change the display units and time format, and enable/disable Alerts. Alerts shown are either critical or service required alarms as defined in the notification class in the system controller. Only the most recent six alerts are shown.

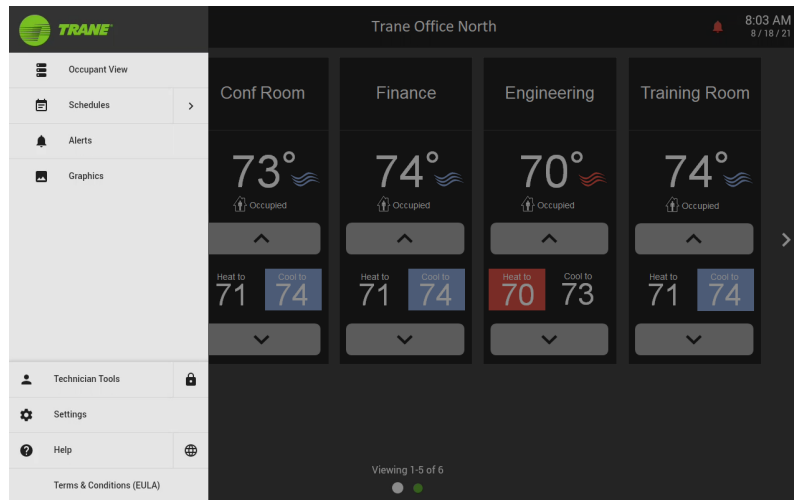
## Options

1. Select the **Options** tab.
2. If desired, enable **Admin PIN Support**. Admin PIN requires users to enter the Admin PIN to view or modify the system controller connection settings, Zone configuration, display options, and contact information. PIN support prevents non-authorized users (new employees or the general public) from changing a setting on the 10-inch display.
3. Tap **Show Alerts** to enable alerting.
4. Setpoint limit defaults to +/-3 degrees. From the Options tab, you can change the setpoint limit from 1-9 or disable it entirely.
5. If desired, change the **Display Units**. If you adjust this setting, the display will restart.
6. If desired, change the Display Time Format. You can select AM/PM (default) or 24-hour format.

## Return to the Setup Wizard from the Occupant View

1. From the menu, tap **Technician Tools**.

**Figure 29. Technician tools**



2. When prompted for a PIN, enter **4833**.
3. Select the **Setup Wizard** tab.

**Note:** When using the Setup Wizard after the initial setup, all existing settings and systems are shown.



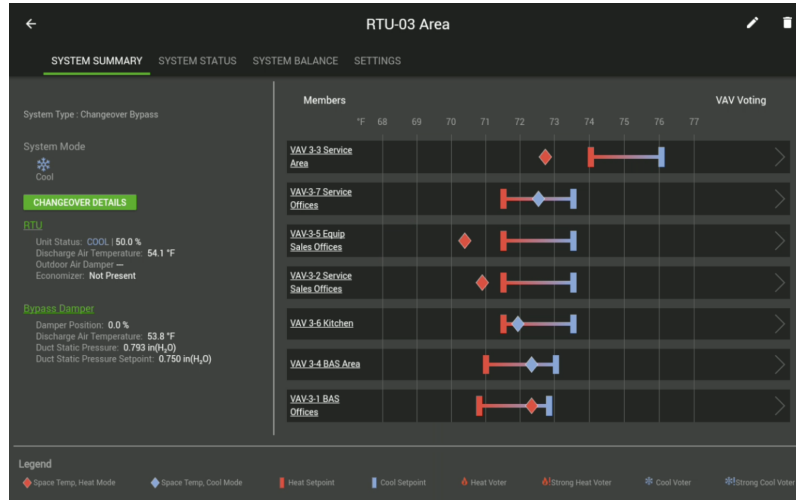
# System Status in Technician Tools

**Note:** If coming from the Occupant View, a PIN is needed to access the systems list. The PIN is 4833.

To view the status of your Concierge System:

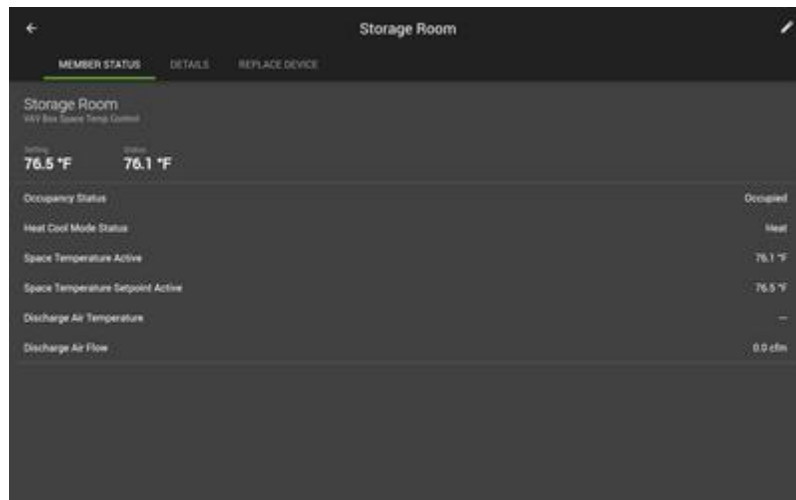
1. Select **Systems List** tab.

**Figure 30. System status**



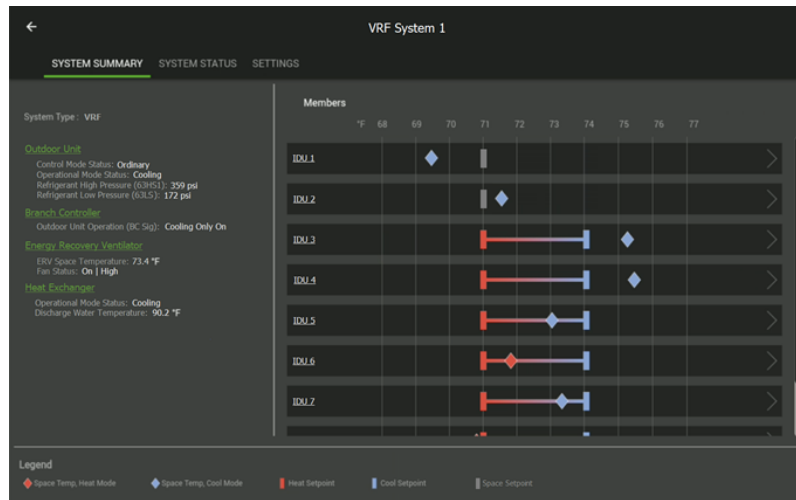
2. Tap on the Pencil or Trash Can icon in the upper right corner to rename your system in Tracer Concierge System.
3. To view the System Status page for a given system, select **System Status** tab.
4. To view the status of individual members of the system, tap on the member from the **System Status** page.

**Figure 31. Member status**



For Trane/Mitsubishi Electric VRF systems, the status page is specific to the VRF System.

**Figure 32. VRF status screen**

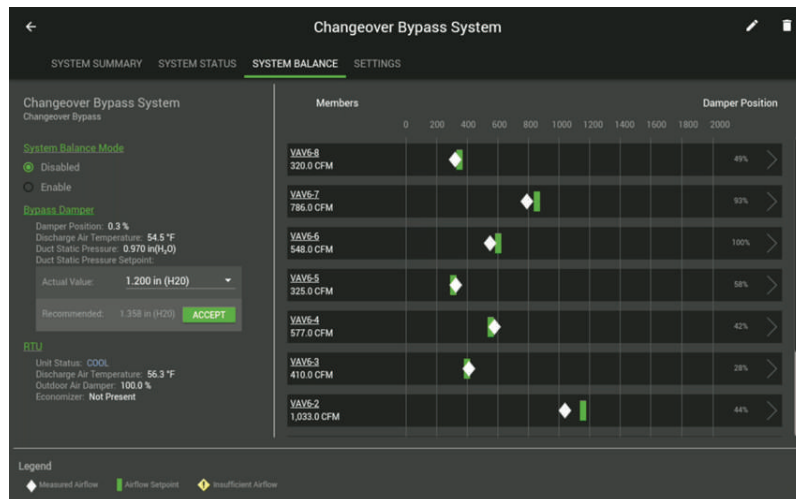


- Tap on the appropriate tab or pencil icon in the upper right corner.
  - Pencil Icon** (upper right): rename the device in the system controller.
  - Details**: view settings for this device.
  - Replace Device**: replace the member with a new device.

## System Balance Mode

The Technician Tools include a system balance function and summary screen, used primarily to determine and adjust the bypass damper duct static pressure setpoint for changeover bypass systems. While the screen is still visible and useful for other system types, the user may only enable the balancing function for changeover bypass systems in the occupied mode.

**Figure 33. Changeover bypass system**



When enabled, the system balance function performs the following overrides:

- The system controller temporarily overrides the heat cool mode of the RTU to fan only.
- The controller also disabled the economizer of the RTU, when applicable.
- The controller commands the associated VAV boxes to their maximum flow setpoint.
- The controller temporarily overrides the bypass damper duct pressure setpoint to 2.5 inches, which under these overridden conditions, safely closes the bypass damper.



With balance mode enabled and the temporary overrides in control, the system begins to stabilize. Once the bypass damper has been closed for at least one minute, the application suggests a duct pressure setpoint for the user and allows the user to accept the change. The application automatically calculates the recommended setpoint from the measured duct static pressure.

Suggested setpoint = actual duct pressure \* 1.4

Alternately, the user can edit the duct static pressure setpoint manually.

The user normally disables the system balance mode when balancing adjustments are complete. The mode will automatically expire and return to disabled after 8 hours.

On the right-hand side of the page, the application provide a flow summary for each of the VAV members, including the airflow setpoint and actual measure airflow. When the measured airflow is less than 70% of setpoint for one minute with balancing enabled, and the VAV damper position is greater than 95%, the application will display an icon indicating the box has insufficient flow.

The user can touch on the name of any of the devices on the page to navigate to the member status of that device. The user can also adjust many of the settings for those devices from the member status pages, assuming their user credentials allow such adjustment.

## Tracer SC+ Air-Fi Wireless Sensors

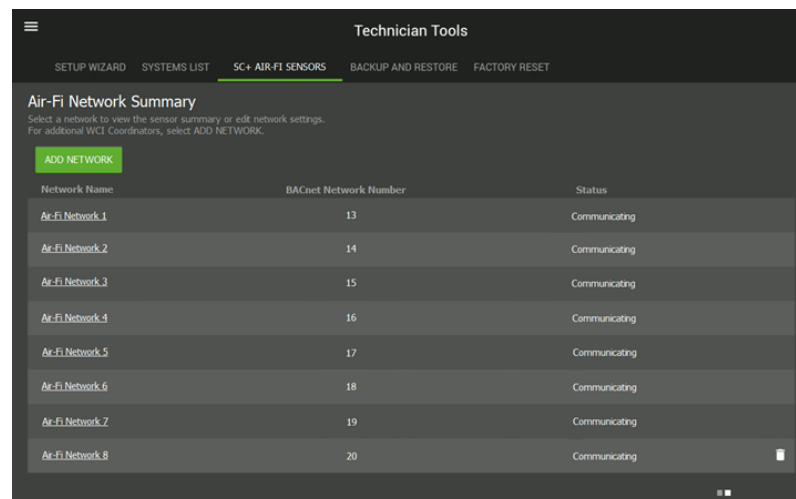
The Technician Tools for the Tracer 10–inch display now support up to eight (8) WCI coordinators, with up to six(6) Air-Fi Wireless sensors for each coordinator for a total of 48 possible sensors connected directly to the Tracer SC+.

Expanded support of all Air-Fi sensor types, including:

- Temperature
- Setpoint (single and dual adjustment)
- Humidity
- CO<sub>2</sub>
- Occupancy
- Battery Level

Additionally, for connected controllers that support the functionality, values from the Air-Fi Wireless sensors can be communicated (sent) to the connected controller. Each SC+ Air-Fi Wireless sensors can be designated as a monitoring sensor (read only) or device sensor (used for control purposes at the receiving device).

**Figure 34. SC+ Air-Fi sensors**



**Technician Tools**

SETUP WIZARD SYSTEMS LIST **SC+ AIR-FI SENSORS** BACKUP AND RESTORE FACTORY RESET

**Air-Fi Network Summary**  
Select a network to view the sensor summary or edit network settings.  
For additional WCI Coordinators, select ADD NETWORK.

**ADD NETWORK**

Network Name	BACnet Network Number	Status
Air-Fi Network 1	13	Communicating
Air-Fi Network 2	14	Communicating
Air-Fi Network 3	15	Communicating
Air-Fi Network 4	16	Communicating
Air-Fi Network 5	17	Communicating
Air-Fi Network 6	18	Communicating
Air-Fi Network 7	19	Communicating
Air-Fi Network 8	20	Communicating

## Adding Sensors

1. Select a network for additional information on that network, including information for each of the connected Air-Fi sensors (maximum six Air-Fi sensors per wireless network).

**Notes:**

- *Wireless Communication Interface (WCI) coordinators are "plug-n-play" devices. As such, the use of the **ADD NETWORK** button is only necessary when defining an Air-Fi network with the WCI coordinator offline. When properly addressed and connected to the Tracer SC+ controller, the Network Summary page is automatically updated (maximum eight WCIs per SC+ controller).*
  - *The BACnet Network Number is automatically defined and cannot be edited with the Technician Tools, nor can the coordinators be deleted. For additional edit and delete capabilities, refer to the Tracer Synchrony web interface.*
  - *Whenever a previously connected WCI is not communicating with the SC+ controller, the communication status will indicate "Not Communicating".*
2. A sensor summary for the network displays. The interface accommodates dual and single setpoint adjustment applications, with "—" displayed for the values not used.
  3. Press **ADD SENSOR** to add additional Air-Fi Wireless sensors to this network. The sensor ID and name correspond to the address of each sensor, set through the LCD menu on each sensor (maximum six per network). Selecting ADD SENSOR automatically opens the network, allowing Air-Fi sensors to join the network once association is initiated at the sensor.
  4. To associate Air-Fi Wireless sensors with a WCI coordinator on the SC+ controller: set the GRP and NET numbers on the Air-Fi sensors to match the WCI (eg. 1 and 1)
    - a. Set the GRP and NET numbers on the Air-Fi sensors to match the WCI (eg., 1 and 1).
    - b. Set the address of the Air-Fi sensor to 000, which is the address reserved for Air-Fi Wireless sensors directly associated with the WCI on the SC+.
    - c. Uniquely set the 'sensor' number of each Air-Fi Wireless sensors, 1 through 6.
  5. With addressing complete on the Air-Fi Wireless sensor, double-tap the center button of the five buttons, located immediately below the LCD. For other sensor types, press the up-arrow per the instructions for that sensor.

The Device Destination indicates the device to which the sensor data is associated, when applicable, or indicates that the sensor is used for monitoring purposes only.

Sensors equipped with both heating and cooling setpoints are indicated as such with the presence of data in both corresponding columns. Sensors equipped with only a single setpoint are indicated as such with data in the 'Single Setpoint' column. Since some of the sensor data features are optional, dashes are used to indicate when the feature is not present.

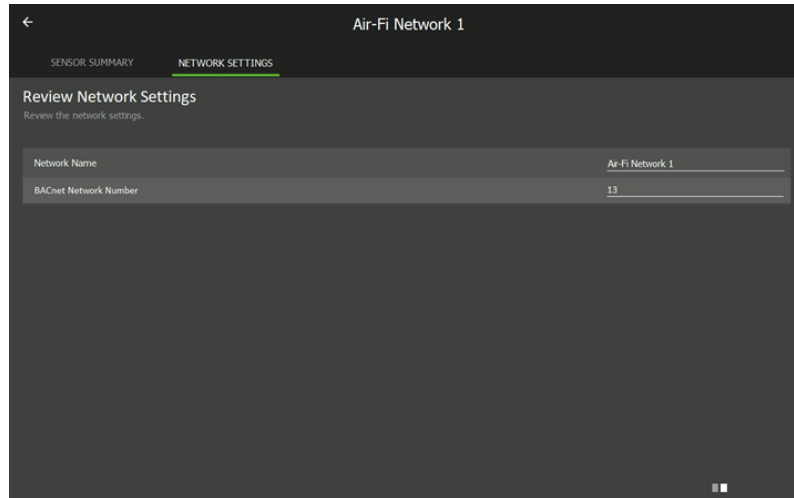
**Figure 35. Sensor summary**

ID	Battery	Name	Destination Device	Space Temp	Heating Setpoint	Cooling Setpoint	Single Setpoint	Space RH	Space CO2	Occupancy Input
1		Sensor_1	IDU 1-1	72.2 F	71.0 F	74.0 F	— F	48 %	442 ppm	Occupied
2		Sensor_2	IDU 1-2	72.8 F	70.0 F	73.0 F	— F	46 %	397 ppm	Occupied
3		Sensor_3	IDU 1-3	69.9 F	70.5 F	73.5 F	— F	45 %	423 ppm	Occupied
4		Sensor_4	IDU 1-4	70.7 F	71.0 F	74.0 F	— F	46 %	439 ppm	Occupied
5		Sensor_5	IDU 1-5	73.6 F	— F	— F	72.5 F	44 %	406 ppm	Occupied
6		Sensor_6	Monitoring	74.1 F	— F	— F	72.5 F	47 %	411 ppm	Occupied

The user can add or delete sensors at any time. To see and/or edit, additional information for a sensor, the user may select any of the (hyperlink) names in the left-most column.

Press **Network Settings** to view or edit the network settings.

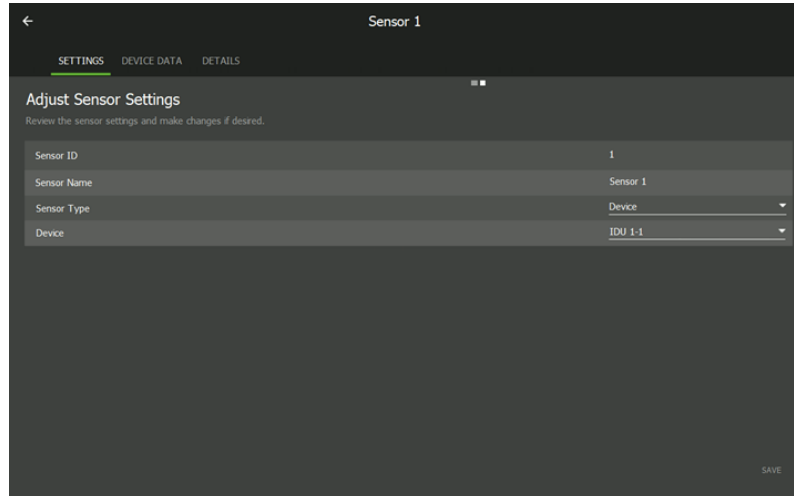
**Figure 36. Network Settings**



## Sensor Settings

From the Sensor Summary screen, select any sensor for additional information.

**Figure 37. Adjust Sensor Settings**

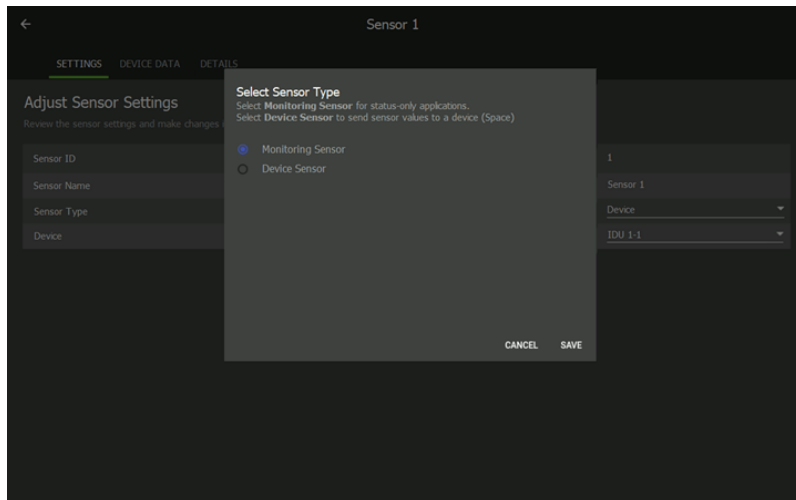


The Adjust Sensor Settings screen allows the user to review and edit sensor settings:

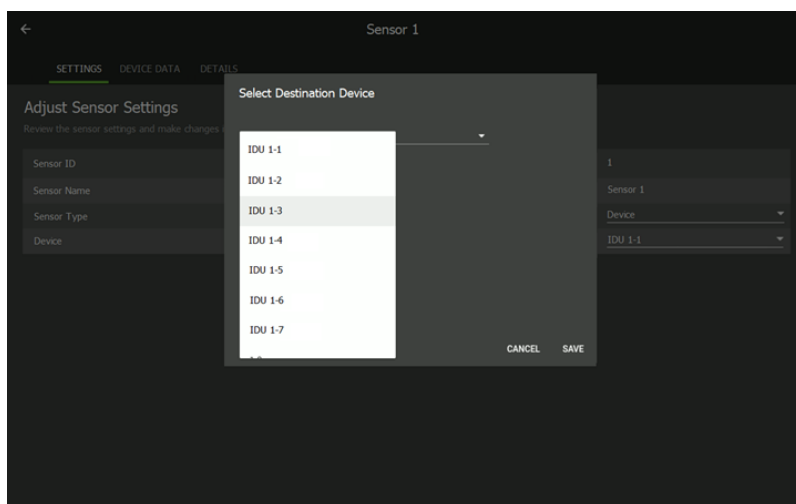
- **Sensor ID** — Corresponds to the sensor address (1–6) set from the LCD menu on the sensor.
- **Sensor Name** — Corresponds to the sensor address and cannot be edited.
- **Sensor Type** — Select if the sensor type
  - **Monitoring** devices are read only.
  - **Device** requires the user to select a destination device for the sensor data. All sensor data is sent from the sensor data to the destination device.

**Important:** While it may be possible to select a **Space** device from this drop-down list, the connected controller must also support this communicated functionality. When applicable, confirm that the feature is enabled on the connected device.

**Figure 38. Select Sensor Type**



**Figure 39. Select Destination Device**

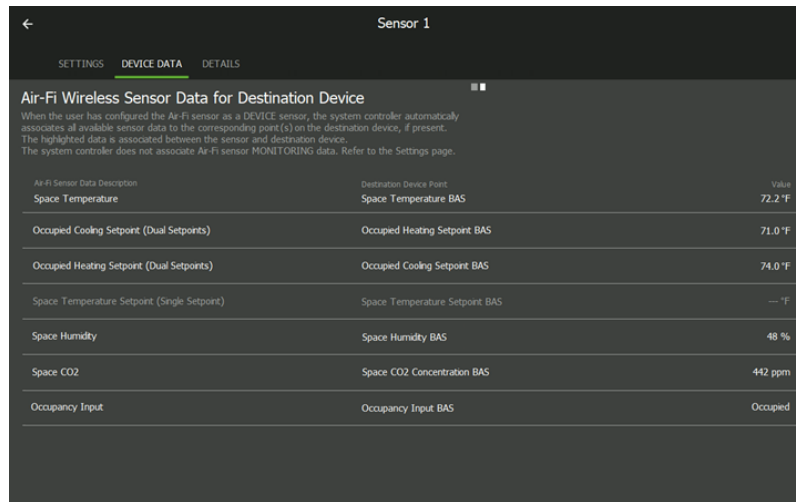


## Sensor Device Data

All associated data is indicated on the Device Data screen by highlighted text and a valid value in the right-most column. Any data not associated is indicated by disabled text and a dashed value.

Only data that exists in both the sensor and destination device is associated.

**Figure 40. Device Data**



**Air-Fi Wireless Sensor Data for Destination Device**

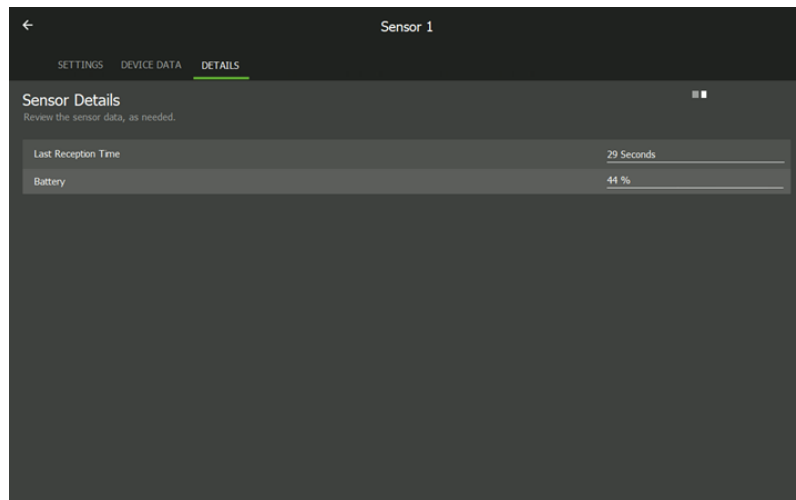
When the user has configured the Air-Fi sensor as a DEVICE sensor, the system controller automatically associates all available sensor data to the corresponding point(s) on the destination device, if present. The highlighted data is associated between the sensor and destination device. The system controller does not associate Air-Fi sensor MONITORING data. Refer to the Settings page.

Air-Fi Sensor Data Description	Destination Device Point	Value
Space Temperature	Space Temperature BAS	72.2 °F
Occupied Cooling Setpoint (Dual Setpoints)	Occupied Heating Setpoint BAS	71.0 °F
Occupied Heating Setpoint (Dual Setpoints)	Occupied Cooling Setpoint BAS	74.0 °F
Space Temperature Setpoint (Single Setpoint)	Space Temperature Setpoint BAS	— °F
Space Humidity	Space Humidity BAS	48 %
Space CO2	Space CO2 Concentration BAS	442 ppm
Occupancy Input	Occupancy Input BAS	Occupied

## Sensor Details

The sensor details indicate the amount of elapsed time since the sensor last communicated with the system controller. The details also include the analog status of the sensor battery.

**Figure 41. Sensor Details**



**Sensor Details**

Review the sensor data, as needed.

Last Reception Time	29 Seconds
Battery	44 %



# Display Setup

## Installation PIN

To navigate to the Technician Tools from the Occupant View, enter the following PIN: **4833**. The technician tools PIN cannot be edited.

## Setup Admin and User PIN

To set a PIN:

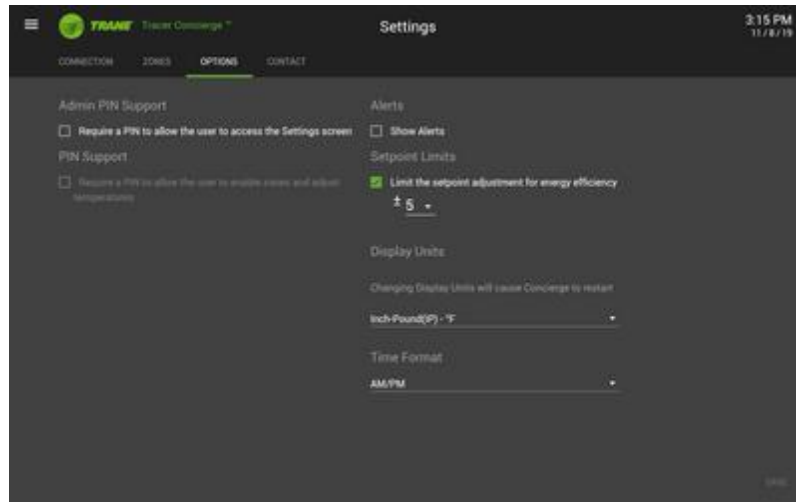
1. Select the **Options** tab.
2. Enable **Admin PIN Support**. Admin PIN requires users to enter the Admin PIN to view or modify Tracer Concierge System controller connection settings, Zone configuration, display options, and contact information.
3. Enable **PIN Support**. PIN Support prevents non-authorized users (such as new employees or the general public) from changing a setting on the Tracer 10-inch display.

## Setpoint Limit

To set a setpoint limit:

1. Select the **Options** tab.

**Figure 42. Options tab**



2. Enable **Setpoint Limits**. Setpoint limit defaults to +/-3 degrees. You can change the limited from 1–9.

**Notes:**

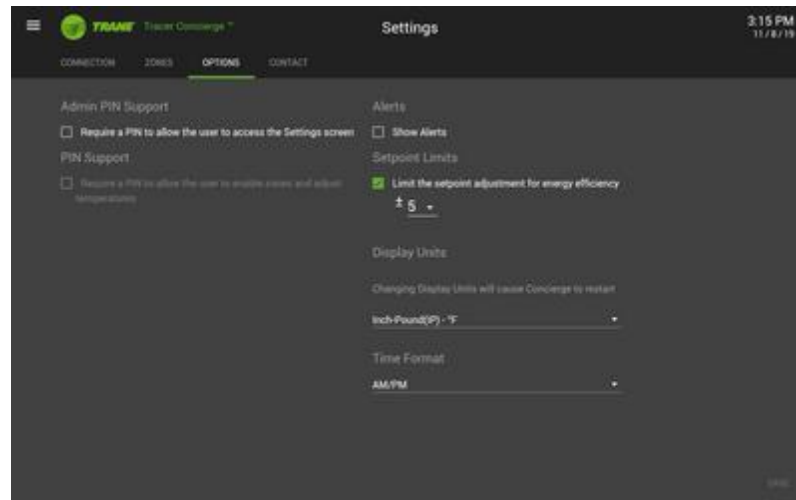
- +/- 3 degrees applies to both F and C. This number is not converted when choosing System Units.
- This setpoint limit applies to setpoints on the main screen and will not apply to any custom graphics.

## Setpoint Limit

To set a setpoint limit:

1. Select the **Options** tab.

**Figure 43. Options tab**



2. Enable **Setpoint Limits**. Setpoint limit defaults to +/-3 degrees. You can change the limited from 1–9.

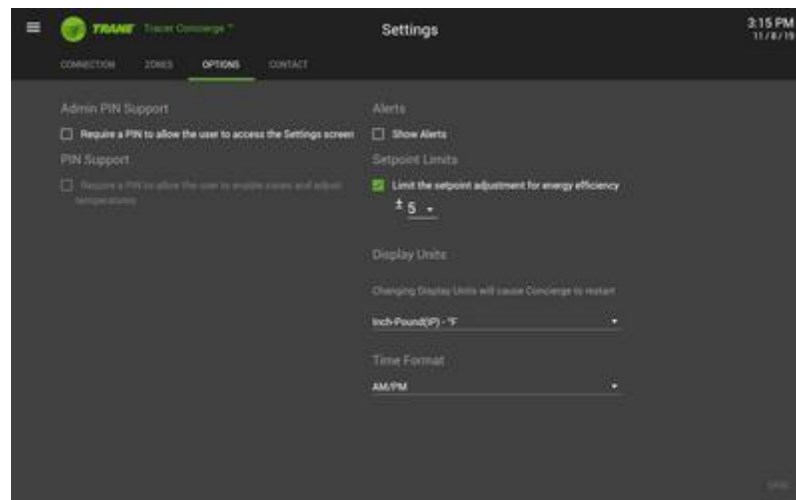
**Note:** This setpoint limit applies to setpoints on the main screen and will not apply to any custom graphics.

## Units of Measure

To set the display's units of measure:

1. Select the **Options** tab.

**Figure 44. Options tab**



2. Select the desired **Display Units** from the drop-down.

**Note:** Changing the display units will restart the 10–inch display.

## Time Format

To set the display's time format:

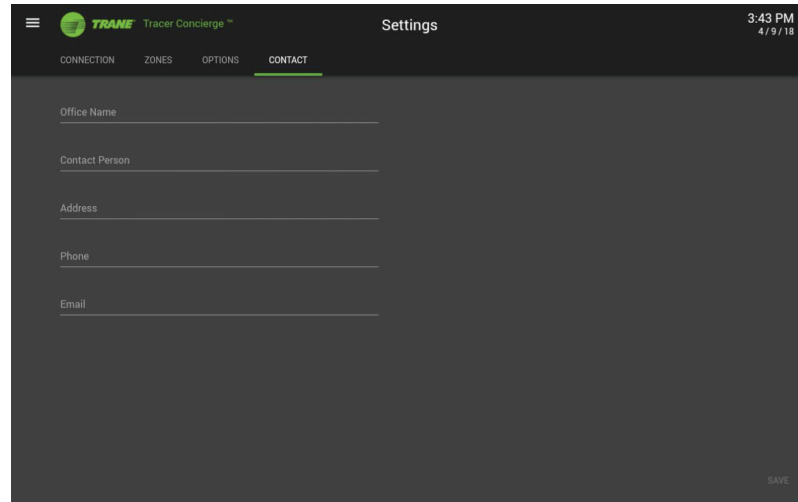
1. Select the **Options Tab**.
2. Select the desired **Time Format** from the drop-down menu.

## Contact Info

To set the contact information:

1. Select the **Contact** tab.

**Figure 45. Contact tab**



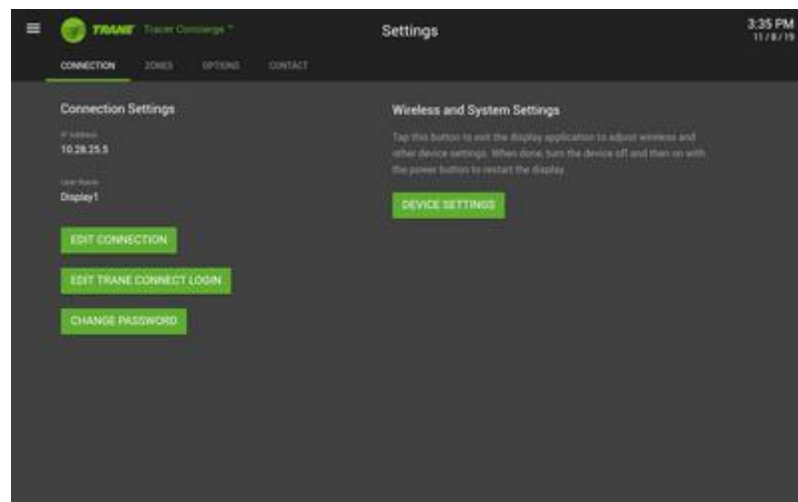
2. Enter the contact information for the person or organization that supports the Tracer Concierge System.

## Configure the Display

**Important:** If using the Trane WiFi router, the Tracer 10-inch display must be powered up after the system controller and router to ensure the router uses the correct default addresses for controller and the display. Alternatively, the display may be hardwired to the system controller.

1. Select the **Connection** tab.

**Figure 46. Connection tab**



2. Tap **Device Settings**.
3. If connecting to system controller via the wireless network:
  - a. Choose **Wi-Fi** and wait for the display to refresh available Wi-Fi networks.



- b. If using the Wi-Fi router from Trane, select **ciscosb1** and verify security is **WPA2 PSK**.
- c. Enter the Wi-Fi password: **Simple#Retail**.
- d. Verify that the display is connected to ciscosb.

**Note:** *If there are problems connecting, forget the network and start over.*

4. If connecting to system controller directly via an Ethernet cable:
  - a. Choose **Ethernet**.
  - b. Verify Ethernet is enabled **On**.
  - c. Wi-Fi must be disabled to use a wired Ethernet connection between the display and the system controller.
5. To exit the Device Settings screen, use the Back button located on the back of the display near the power button to return to the Connections tab.
6. Enter the **IP Address** of system controller. It defaults to Port 2.
7. Enter the **User Name** and **Password** of the system controller user you previously setup. Hostname may be used in place of the IP address. However, it must be a fully qualified hostname.
8. Click **Connect**.

**Note:** *Do not add a port in the IP address field. The system controller will attempt a secure connection (via https) first. If not available, it will establish a standard connection (http).*

## Install and Configure the Trane Wi-Fi Module

The Trane USB Wi-Fi Module is an accessory for the Tracer SC+ which allows the Tracer SC+ to use Wi-Fi for a network connection. It plugs into any one of the four USB Ports. It is available as of January 2021 and supported by version 5.5 (or higher). Use of this Trane Wi-Fi Module is highly preferred over using the Wi-Fi Router X13651632010 (as explained in the previous section).

Order X13651743001 (1 meter cable). The use of a USB cable extender is not recommended. Using a replacement USB cable is not recommended and not supported.

**Figure 47. Trane USB Wi-Fi Module for Tracer SC+**



Figure 48. Trane USB Wi-Fi Module installed in the Tracer SC+ panel



### Client Mode

Tracer SC+ can connect to an existing Wi-Fi network; typically this is managed by the customer. There is no need to have an Ethernet connection on Port #1.

Setup is required using the Tracer Synchrony UI to set the DHCP or static, network selection, network name, security type, and password. This requires interaction with the customers IT department prior to installation.

### Host Mode

Tracer SC+ can host its own wireless network for other devices to connect to. For example, the Trane 10–inch display connection to a SC+ without an Ethernet cable on Port #2. A Tracer 10–inch display can connect via Wi-Fi instead of a network cable to an SC+, which can ease the physical installation.

Host mode may also be useful before a network exists on a job. A technician can connect within Wi-Fi module range (300 feet).

This Hosted Mode is setup automatically by the SC+ when a Wi-Fi module is installed (in port #1) and the SC+ is initially started up. No programming or setup is necessary to initially establish a Hosted Network.

Check with the customer if Host Mode is intended to be permanent; most IT groups may not approve.

Host defaults (which must be entered into the 10–inch display):

- Default SSID: Trane Wifi <serial number of Tracer SC+>
- Default password (to join the hosted network): tracervifi
- Default IP address: 198.80.18.65

**Note:** Changing the Host Mode settings will require the use of Synchrony UI.

### Connecting the Tracer 10–inch Display and the Tracer SC+ via the Hosted Wi-Fi

The Trane 10–inch display comes factory configured to default for a wired Ethernet connection to port #2 of the Tracer SC+. This must be changed:

1. Select Settings > Device Settings > Network & Internet.

2. Select **Enable Wi-Fi**. This turns off the wired Ethernet connection.
3. Connect the Trane 10–inch display to the hosted Wi-Fi network using the credentials in the previous section. You will need the serial number for the SC+, which is on a decal on the right side of the controller. The Trane 10–inch display will connect to the hosted network.
4. Log into the SC+
5. Follow the instructions in the [“Display Setup,” p. 50](#) section for default usernames and passwords.



# Connecting a Concierge System Controller to a Building Network

The following information and equipment is required or optional, as stated, for installing the SC+ controller on a building network.

## Obtaining the IP Address

A unique IP address is required for the system controller. The controller can use either:

- A permanently assigned (static) IP address, or
- An address that is sent from a Dynamic Host Configuration Protocol (DHCP) server. The DHCP server must be set up to send the controller the same reserved IP address each time the controller connects to the DHCP server.

You can obtain IP addresses from the customer's IT staff.

### To edit the IP address of a Tracer SC+:

1. Plug an Ethernet cable into Port 1 of the controller and the customer network. Use the service cable to access the Web UI with your laptop.
2. Select Identification and Communications from the Installation page, then select the IP Configuration tab.
3. Click **Edit**. To edit the network address for one or both Ethernet Network ports, select one of the following options:
  - **Obtain IP address automatically using DHCP** is automatically selected (as shown at the top of the screen). A Dynamic Host Configuration Protocol (DHCP) requests an IP address from a server. Use the IP address found using DHCP to access the system controller on the customer's network.
  - **Use the following IP address**. Enter an IP address in the provided fields.
4. Click **Save**.

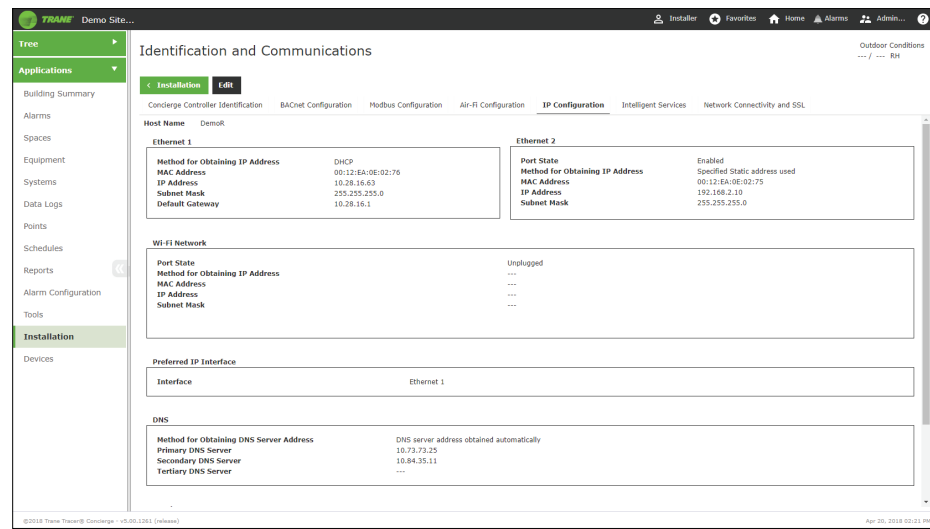
## Routing

Routing is the process of selecting paths in a network to send network traffic. Use network routing for Trane Intelligent Services (TIS) applications or in any case where the BAS network must be separated from the Internet.

### To select network routing:

1. Use the check boxes to select one or more network addresses.
2. Click the actions button to edit or delete the address.
3. Click **Save**. OR add a network route by clicking the add route button. The **add route** dialog box appears.
4. Enter the required information in the fields, then click **Save**.

**Figure 49. Editing IP configuration**



## DHCP

If the network uses the Dynamic Host Configuration Protocol (DHCP), DHCP server must be set up to send the system controller (unless it is a BBMD) the same reserved IP address each time the controller connects to the DHCP server. If the system controller is a BBMD, the IP address must be fixed.

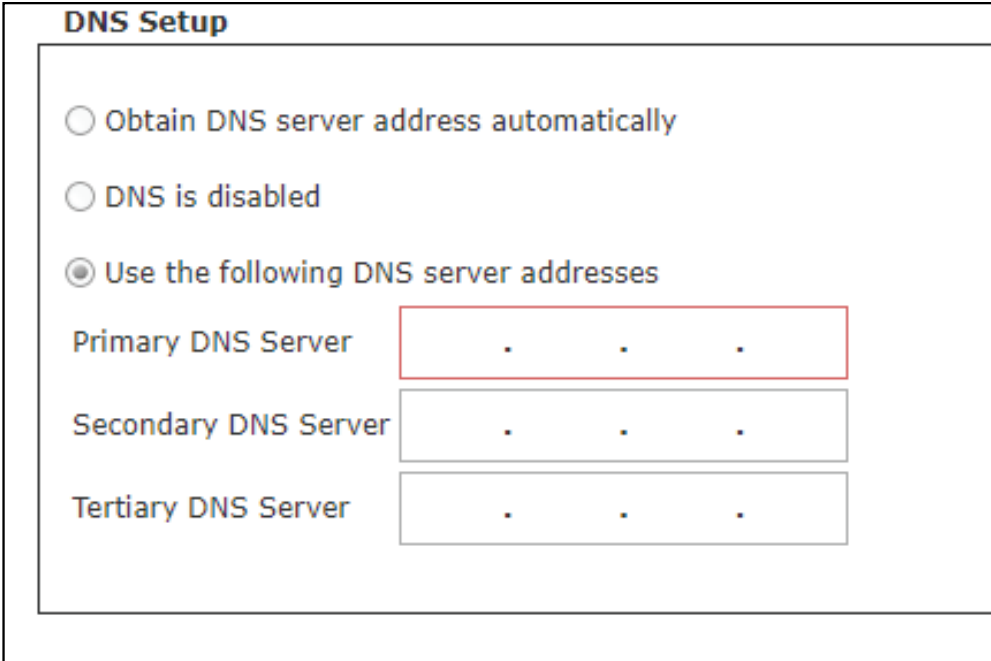
## DNS Server

Domain Name System (DNS) is an Internet service that translates domain names into IP addresses. It may be necessary to configure the DNS server for network routing. This is automatically set for Trane Intelligent Services (TIS) applications.

**To manually configure the DNS server:**

1. From the left navigation menu, click **Installation > Identification and Communications > IP Configuration**.
2. Click **Edit**.
3. In the **DNS Setup** section, select the **Use the following DNS server addresses** radio button.
4. Enter the DNS server addresses for Primary, Secondary, and Tertiary (where applicable).
5. Click **Save**.

Figure 50. DNS setup



**DNS Setup**

Obtain DNS server address automatically

DNS is disabled

Use the following DNS server addresses

Primary DNS Server

Secondary DNS Server

Tertiary DNS Server

### Jacks and Cabling

Required for connecting the network. (Obtain from IT staff.)

### Gateway Address

Required for all networks. The gateway address allows traffic to be routed between the Internet and an internal network. (Obtain from IT staff.)

### MAC Address

Required for all networks. A media access control (MAC) address — also called a physical address — is a unique number assigned by the manufacturer for identification. The IT staff at the customer site will request that you provide the MAC address of any system controller that is to be installed on the building network. The MAC address can be found in the IP configuration section of the controller user interface.

You can also obtain the MAC address by doing the following:

1. Select **Start > Run**.
2. In Run, type **command**. A DOS screen opens and presents a prompt.
3. At the prompt, type **ping** followed by a space and then the IP address. Click Enter.
4. At the next prompt, type **arp -a**. Click Enter.

The response contains the MAC address below the heading, “Physical Address.”

### Subnet Mask

Required for subnets. A subnet mask is a number used for routing traffic to a particular subnet. The subnet mask is stored in the PC, server, or router and is matched up with the incoming IP address to determine whether to accept or reject a packet. (Obtain from IT staff.)

## Securing Your Network with VPN

Trane recommends the use of a Virtual Private Network (VPN) to provide extra security to your BAS. VPN is a mechanism that safely extends a private network across a public network such as the Internet.

VPN provides an additional layer of security to your BAS without comprising your ability to access the system controller remotely. A VPN can help to prevent Internet based attacks on your BAS by requiring

## Connecting a Concierge System Controller to a Building Network

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an additional layer of authentication. This method requires a VPN server and VPN client software to be set up by the customer's IT staff.

### Frequently Asked Questions about VPN

#### **My facility already uses SSL; do I still need to use a VPN?**

The use of a VPN is still recommended as an additional layer of security. Attacks can come from both inside and outside of your network.

#### **After I set up a VPN, do I still need to use SSL?**

Yes. A VPN only provides encryption between the VPN endpoints (the VPN client and server). Traffic from the VPN endpoint to and from the server is not encrypted unless SSL is used.

#### **Do I still need a firewall?**

Yes. Firewall rules should be set up to restrict Internet access to the VPN port only. Consider setting up rules with the VPN server to restrict VPN access to only the required IP addresses and port.

#### **What is the impact of VPN on my system performance?**

Impact to performance should be minimal.

## Setup Remote Access

There are three options for setting up secure remote access to the system controller:

- Customer network
- Dedicated IP line
- Cellular router
- Trane connect remote access

Each method is described below.

### Customer Network

Installing the Tracer SC+ on a customer network when IT staff is present is the preferred solution. The customer's IT staff will have a firewall, saving Trane the additional expense of purchasing and configuring a firewall.

When using the customer network, request a separate Virtual Local Area Network (VLAN) for all HVAC traffic. VLANs are a way of separating traffic on a network, and provide an additional security.

Speak with the IT staff, inform them you will need remote access for the Tracer SC+ system controller. The majority of IT staff will already have VPN access configured and will simply set up another account and provide instructions on how to connect. If the customer does not have, or is not willing to provide a VPN, the other option for remote access is Trane Connect Remote Access. Trane Connect Remote Access does not require any inbound ports, so IT staff will not need to open any inbound ports on their firewall.

#### **Customer Network Summary:**

- Work with the customer's IT staff.
- IT staff will provide a VPN through their existing firewall.
- Trane Connect Remote Access is an alternative solution.

### Dedicated IP Line

The dedicated IP line is designated for environments where the Tracer SC+ will use an independent internet connection such as a DSL or cable modem. Typically, this is for customer environments where no IT staff is present, or the IT staff will not allow HVAC on the corporate network.

Not all internet carriers provide a firewall with their internet. There will be equipment on site, typically a cable modem which will be easy to identify because it will have a coax cable and a CAT 5/6 cable attached. The firewall will only have CAT 5/6 cables connected to it. If no firewall is present, you will need to include a firewall for security and accessibility. See Trane Firewall Router Solution BAS-SVX069-EN for more information on ordering and configuration.

## Connecting a Concierge System Controller to a Building Network

Once the Trane firewall router is in place, connect it to system controller with a CAT 5/6 cable. Customers will access the Tracer SC+ through Trane Connect Remote Access.

### Dedicated IP Line Summary:

- DSL or Cable Modem internet connection
- If no firewall is provided, use Trane Firewall Router Solution.
- Customers will access via Trane Connect Remote Access.

## Cellular Router

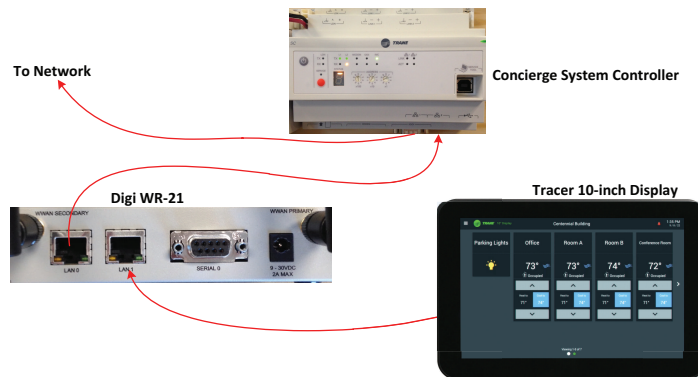
This cellular router is designated for environments where the Tracer SC+ will use a cellular router for an internet connection. Typically, this is for customer environments where no IT staff is present, or the IT staff will not allow HVAC on the corporate network.

For the configuration, please note if the system controller is physically connected to the wireless router, and the cellular router is physically connected to the controller:

- Connect the system controller directly to the second Ethernet port (LAN 1) on the Digi cellular router.
- Connect the Digi cellular router to the first Ethernet port (LAN 0) to the system controller second Ethernet port.
- Remove the wireless router and power supply from the enclosure.

**Note:** It is not necessary to change the configuration of the Digi cellular router to work with the Tracer SC+.

**Figure 51. Tracer concierge system controller configuration**



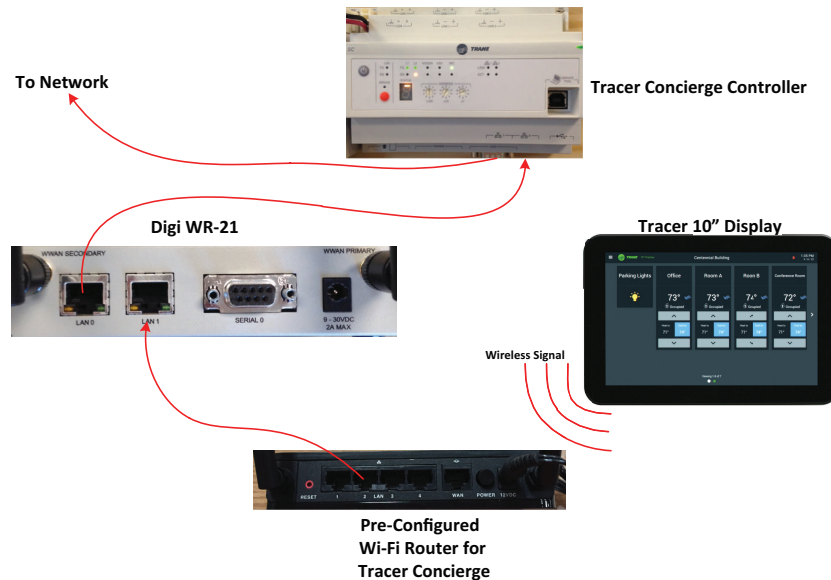
If the Tracer Concierge system is using the wireless connection to the wireless router, and the wireless router is physically connected to the Concierge system controller Ethernet port 2:

- Remove the wireless router's Ethernet connection from the Concierge system controller and then move the connection to the second Ethernet port (LAN1) on the Digi cellular router.
- Connect the first Ethernet port (LAN 0) of the Digi cellular router to the second Ethernet port of the system controller.



## Connecting a Concierge System Controller to a Building Network

**Figure 52. Tracer concierge system controller configuration with wireless connection**



Once the system controller is properly connected to the Cellular Router, customers will remotely connect to the controller through Trane Connect Remote Access.

### Cell Router Summary:

- Designed for cases where no IT staff is present, and there is no DSL or Cable Modem internet connection.

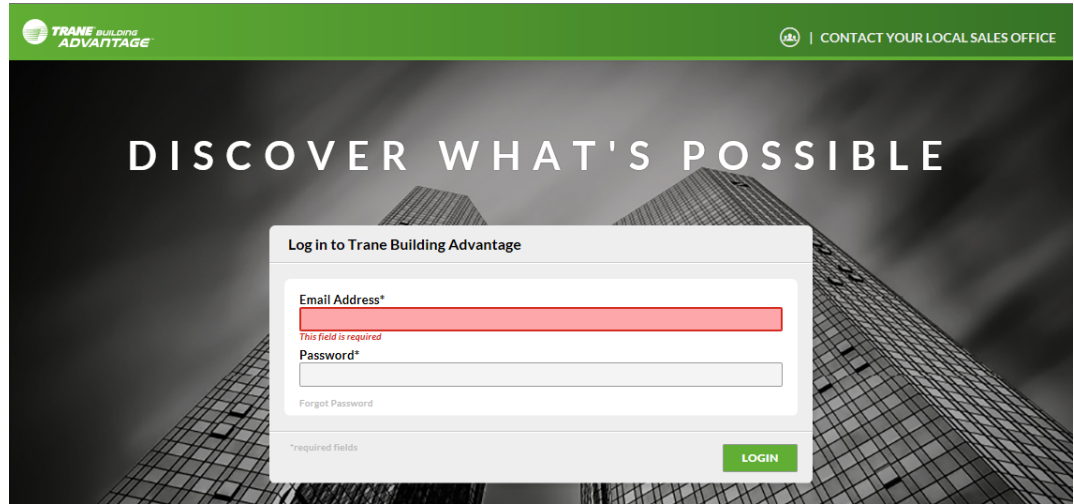
## Trane Connect Remote Access

### Logging into Trane Connect

After customer administrators have activated their accounts from the Welcome to Trane Connect e-mail, they are now able to access Trane Connect.

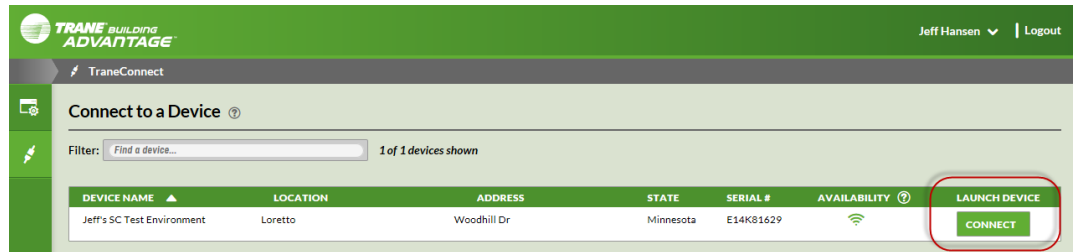
1. Navigate to [TraneConnect.com](http://TraneConnect.com). The Trane Connect login page opens (see the following figure).
2. Enter the credentials that were created in the Customer Account Creation procedure and then click the Login button. The **Connect to a Device** page opens, in which displays a list of devices that you can securely connect to.

**Note:** *It is recommended that users create a bookmark for [traneconnect.com](http://traneconnect.com) in order to navigate directly to the site on subsequent visits.*



3. Select the device to which you want to connect. Click on the **Connect** button in the Launch Device column to open the user interface. A new browser tab is launched, which displays a login page for the device.

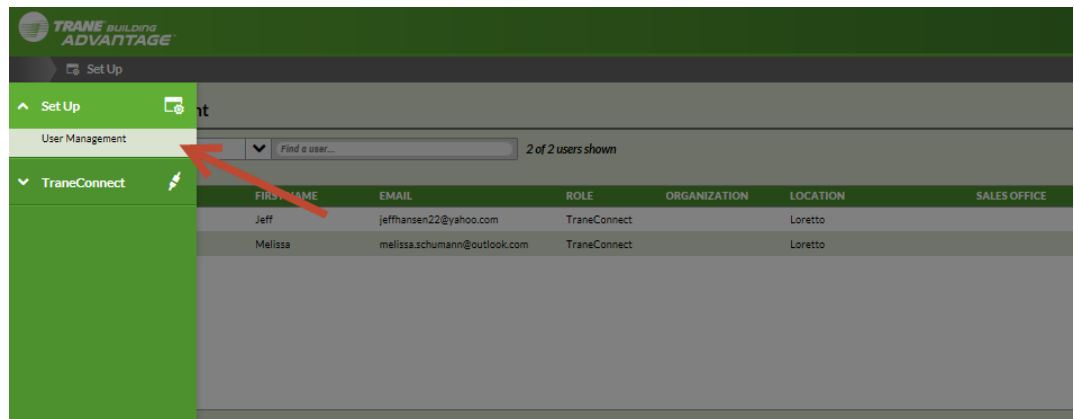
**Note:** Multiple devices can be accessed simultaneously in separate browser tabs.



## Creating Additional Trane Connect Users

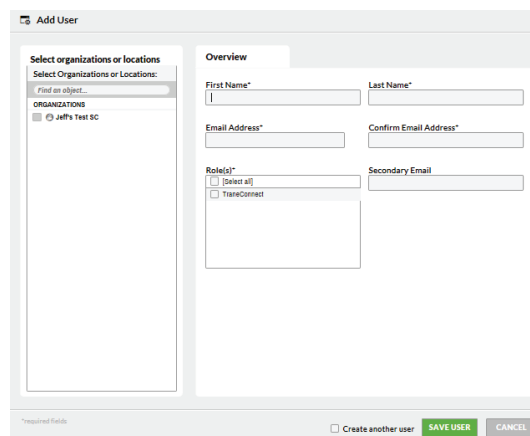
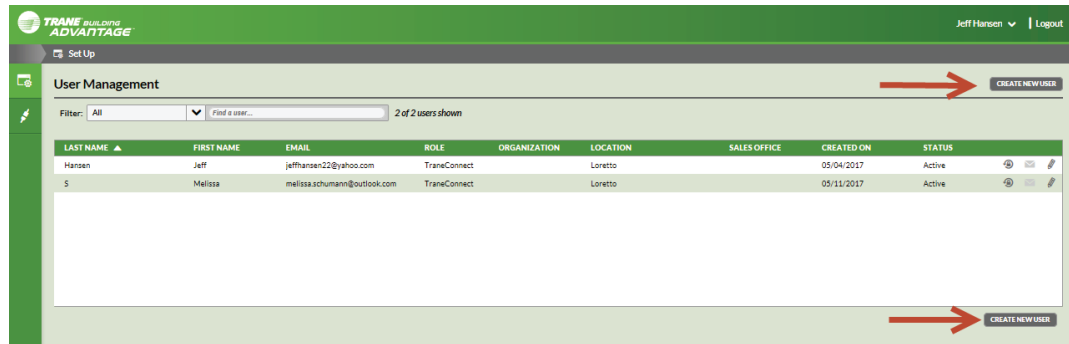
Customer admins have the ability to create and delete accounts for additional users for each device.

1. Log into Trane Connect. Click the Set Up icon located at the top of the left navigation menu, then select **User Management** (see the following figure). A list of current users is displayed.



2. From the upper-right portion of the screen, click **Create New User**. The **Add User** dialog box

appears.



3. Search for the user's location/organization in the search box. Enter the user information, Trane Connect role, and appropriate devices for the user.
4. When complete, click **Save User**.

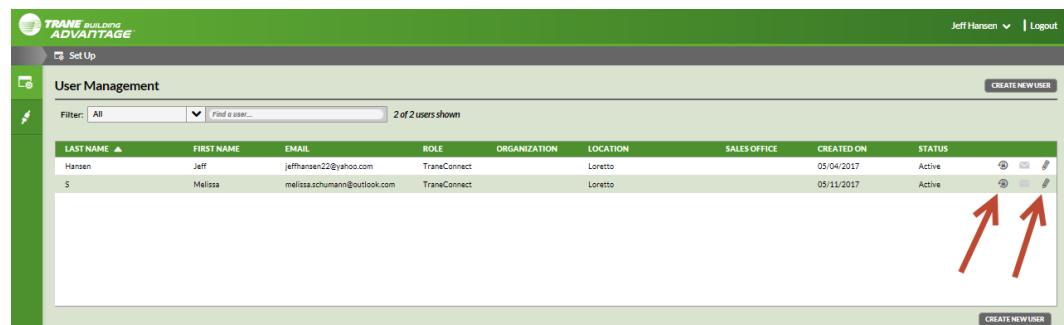
The user will receive a Welcome to Trane Connect e-mail.

**Important:** The new user **must activate the link in the e-mail within 7 days** or the account activation will expire.

Trane Connect utilizes a User Authentication tool called Okta to do the following:

- Authenticate customers with Trane Connect.

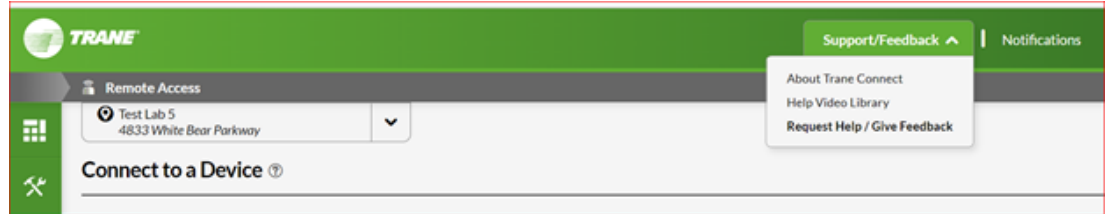
If a user requests the e-mail be resent, or if a user profile must be edited, click the appropriate icon located in the individual user list (see the following figure).



### Additional Information and Training

Use the Support/Feedback area to find additional training and the Help Video Library.

**Figure 53. Support/Feedback**

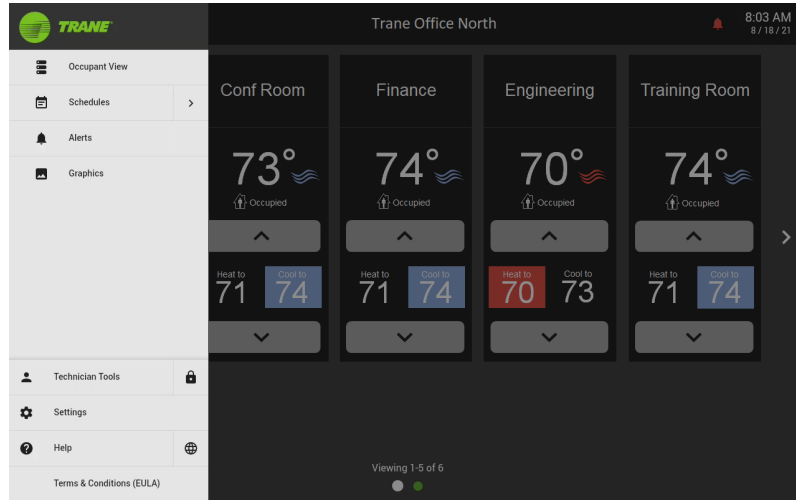




# Tracer 10-inch Display

The main screen of the Tracer 10-inch display Occupant View provides a snapshot of all the zones in a building. To navigate the display, touch the menu icon in the upper left of the screen. The main menu displays.

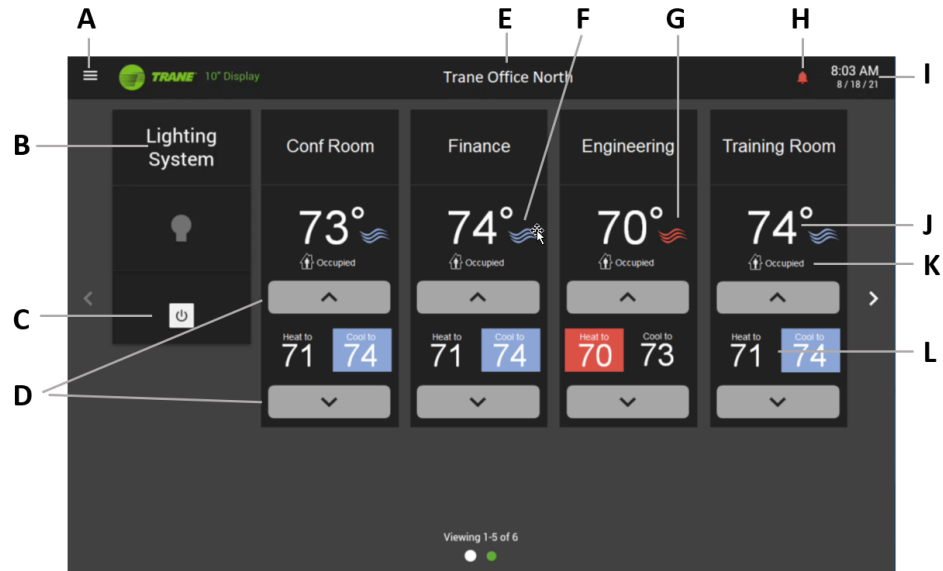
**Figure 54. Menu**



Menu elements include:

- **Occupant View:** Access to your zones
- **Schedules:** Main schedule page with a list of all schedules. Tap a schedule name on the pop-out menu to view or edit the schedule.
- **Alerts:** Alerts shown are either critical or service required alarms as defined in the notification class in the system controller. Only the most recent six alerts are shown.
- **Graphics:** Access to your custom graphic for the Tracer Concierge system (optional).
- **Technician Tools:** Access to the Technician Tools from the Occupant View.
- **Settings:** Modify your device settings
- **Help:** Includes language selections, contact information for your local Trane office, quick start videos, and alerts.

Figure 55. Main screen



Element	Description
A	Menu: tap the menu to access schedules, settings, and help.
B	Zone name
C	Power button to turn on the lights for the zone (override)
D	Up and down arrows that allow you to adjust the setpoint for the zone
E	System name
F	Blue icon: indicates the zone is in cooling mode
G	Red icon: indicates the zone is in heating mode
H	Alarm present icon
I	Time and date of the SC+
J	Active space temperature (F or C are user preferences)
K	Occupied / Unoccupied icon
L	Setpoints for zone (heating and cooling). The active setpoint is highlighted red or blue.

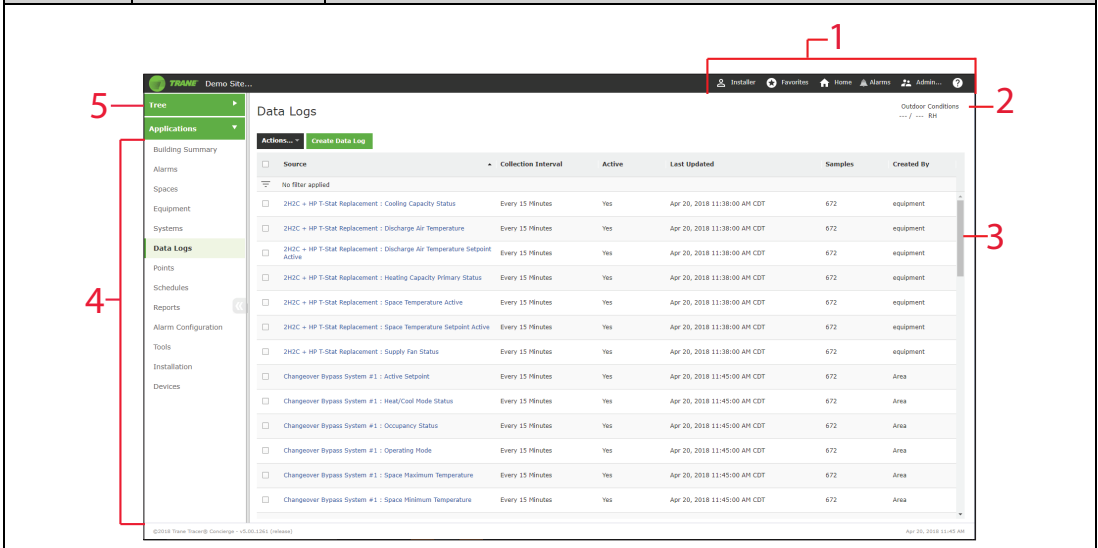
# Web User Interface

The controller's web interface, allows you to view and manage alarms, data logs, and schedules from a web browser.

**Note:** The Web user interface should be used for advanced setups and troubleshooting.

The web user interface provides an easy way for users to set up, operate, and modify a building automation system. The home page contains system status information and links to navigate to all areas of the system. The navigational elements are described in the following table.

**Table 6. Navigating the user interface**

Number	Button/Menus Functions	Description
		
1	Global Navigation Bar	<p>This is visible on every page. From left to right, the bar contains:</p> <ul style="list-style-type: none"> <li>• <b>Favorites</b> Click this button to save frequently Tracer Concierge UI pages.</li> <li>• <b>Home</b> Click this button at anytime to return to your home page.</li> <li>• <b>Alarms</b> Shortcut to the <b>Alarms</b> page. If a new alarm or event has been detected by the system since the <b>Alarms</b> page, the <b>Alarms</b> icon flashes.</li> <li>• <b>User...</b> Provides access to: <ul style="list-style-type: none"> <li>– Logout</li> <li>– Enable/disable automatic tree opening</li> <li>– Preferred data view (tabular or graphical)</li> <li>– Table filtering</li> <li>– Regional preferences</li> <li>– Data display units</li> <li>– Change password</li> </ul> </li> <li>• <b>Admin...</b> Provides access to roles and users. <ul style="list-style-type: none"> <li>– Appears only if the user has administrative privileges.</li> <li>– A role is a collection of access rights to equipment, functions, and applications. Users are assigned to roles. The role assignment determines a user's access rights.</li> <li>– Pre-defined user roles exist in the system controller. These roles can be used as is, or as a basis to create additional roles. Roles define the extent to which a user is allowed to perform specific functions.</li> <li>– Each user is assigned a role. If you make a change to a role, all users assigned to that role will have their permissions changed, as prescribed by the updated role.</li> </ul> </li> <li>• <b>Help</b> Opens the complete user help system.</li> </ul>
2	Outdoor Conditions	Shows current outdoor temperature and humidity, if configured.
3	Internal Scroll Bar	An internal scroll bar is available for pages that contain long lists of data and multiple sections.

**Table 6. Navigating the user interface (continued)**

Number	Button/Menu Functions	Description
4	Left Navigation Menu	Contains a list of menu items that are linked to features, applications, and equipment. Some menu items, when selected, expand to reveal a sub-menu of related items.
5	Navigation Tree	A customized view of user-selected elements in the HVAC system. You can group, order, name elements, and assign custom graphics to the tree nodes according to your preferences.

## Connecting to the Controller

The system controller includes a web interface that enables advance setup and troubleshooting via the web browser. To use the web interface, connect to the controller with your web browser of choice.

1. Connect your PC to the controller using the USB cable. Connect one end of the cable into your PC and the other end into the USB port on the face of the controller.
2. Open your web browser and type in the following address **198.80.18.1**.
3. Enter the username and password of the controller. If the username and password were never changed from default, try **Installer** and **Tracer** when logging in for the first time.

## Setting Up Additional Users

### Display Users

Each Tracer Concierge panel can support up to three displays. To configure additional displays:

1. Log in to the new display using the username: **Display 2** and password: **Tracer**.
2. Configure the display.

### Mobile Users

Mobile users should each have their own log in credentials.

#### Roles

- BAS Operator mobile app users should be assigned the Building Operator role.
- BAS Occupant mobile app users should be assigned to either Concierge or Concierge without Schedules roles.

**Note:** *Carefully review which zones are shown to a user. Once a user is created, only the user can edit which zones they see.*

#### Override Priority

Override priority should be set to 8 for all users.

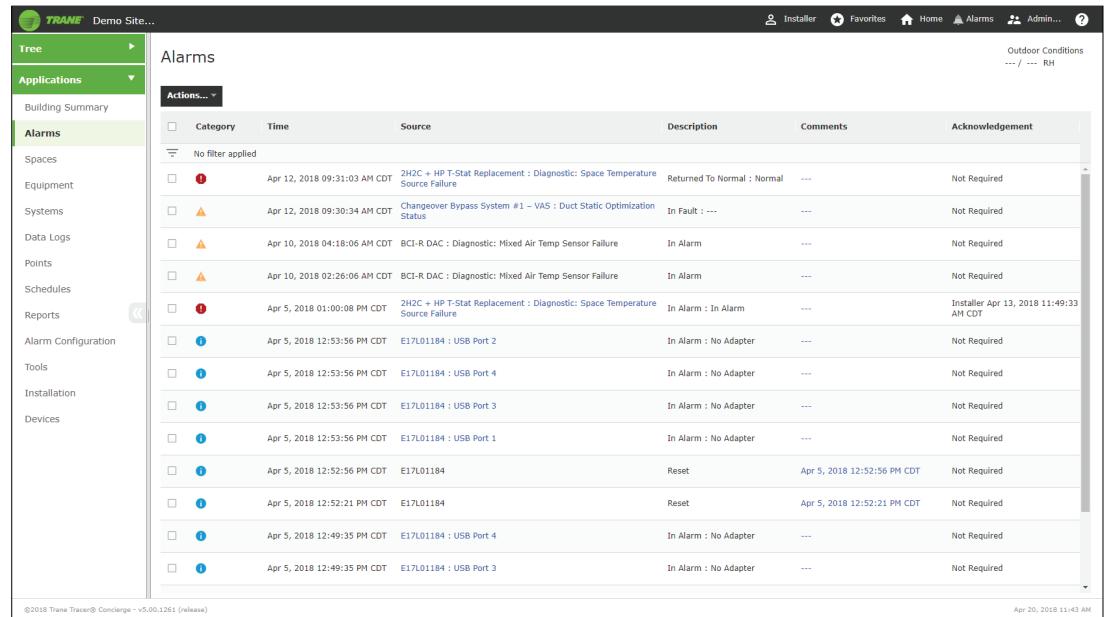
## Alarms

The alarm handling capabilities of the Tracer Concierge system allow users to receive, view, acknowledge, and make comments on building alarms and events. An event that is triggered by the detection of an abnormal or critical operating condition is generally considered to be an alarm. If a critical alarm exists, an alarm icon flashes in the global navigation bar, which remains visible in the right corner of every page of the user interface.

The Alarms page contains a list of alarms that have been detected by the system. Data displayed in the Alarm log includes when and where the event occurred and whether operator acknowledgment is required.

As of version 4.3, the Alarm log also includes the value of the data associated with the alarm.





Category	Time	Source	Description	Comments	Acknowledgement
<input type="checkbox"/>	Apr 12, 2018 09:31:03 AM CDT	2HZC = HP T-Stat Replacement : Diagnostic: Space Temperature Source Failure	Returned To Normal : Normal	---	Not Required
<input type="checkbox"/>	Apr 12, 2018 09:30:34 AM CDT	Changeover Bypass System #1 - VAS : Duct Static Optimization Status	In Fault : ---	---	Not Required
<input type="checkbox"/>	Apr 10, 2018 04:18:06 AM CDT	BCL-R DAC : Diagnostic: Mixed Air Temp Sensor Failure	In Alarm	---	Not Required
<input type="checkbox"/>	Apr 10, 2018 02:26:06 AM CDT	BCL-R DAC : Diagnostic: Mixed Air Temp Sensor Failure	In Alarm	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 01:00:08 PM CDT	2HZC = HP T-Stat Replacement : Diagnostic: Space Temperature Source Failure	In Alarm : In Alarm	---	Installer Apr 13, 2018 11:49:33 AM CDT
<input type="checkbox"/>	Apr 5, 2018 12:53:56 PM CDT	E17L01184 : USB Port 2	In Alarm : No Adapter	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:53:56 PM CDT	E17L01184 : USB Port 4	In Alarm : No Adapter	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:53:56 PM CDT	E17L01184 : USB Port 3	In Alarm : No Adapter	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:53:56 PM CDT	E17L01184 : USB Port 1	In Alarm : No Adapter	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:52:56 PM CDT	E17L01184	Reset	Apr 5, 2018 12:52:56 PM CDT	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:52:21 PM CDT	E17L01184	Reset	Apr 5, 2018 12:52:21 PM CDT	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:49:35 PM CDT	E17L01184 : USB Port 4	In Alarm : No Adapter	---	Not Required
<input type="checkbox"/>	Apr 5, 2018 12:49:35 PM CDT	E17L01184 : USB Port 3	In Alarm : No Adapter	---	Not Required

## Taking Action on an Alarm

1. On the Alarms Log page, select one or more alarms.
2. Click the **Actions** button to refresh, add or view comments, acknowledge a comment, export the alarm log, or delete all from the Alarm log.

## Alarm Categories

You can categorize alarms to determine how they appear in the Alarm log. A category is assigned to one of 255 priorities. In previous versions of the product, alarm categories were limited to four types: Severe, Critical, Advisory, and Information. Now, you can create additional categories and select an accompanying icon. Benefits of customizing alarm categories include the ability to send a specific alarm to a specific person, and to differentiate critical equipment alarms from others.

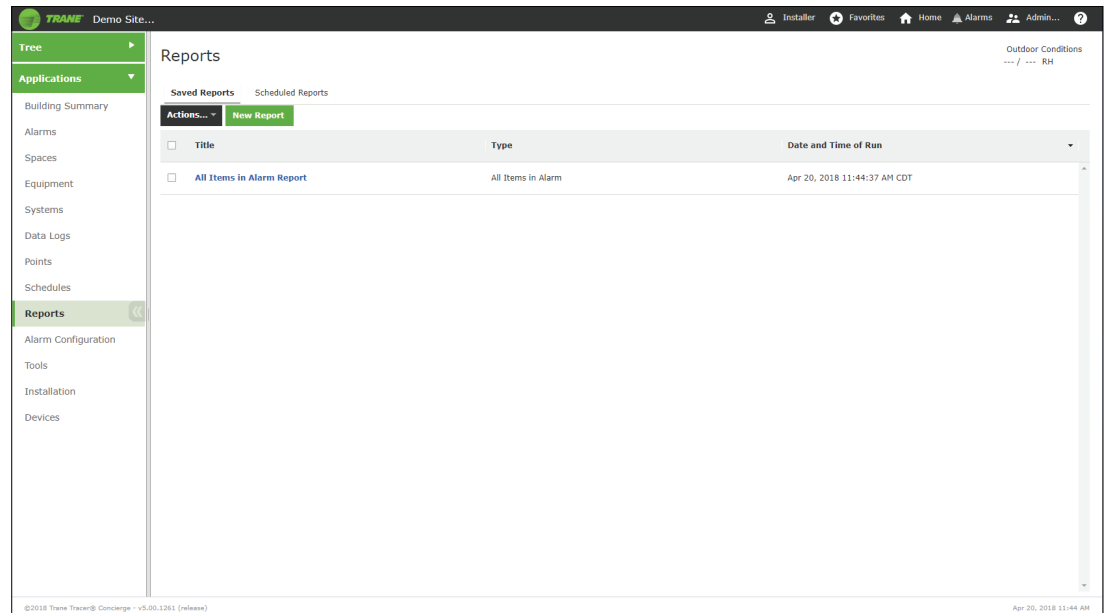
## Reports

You can generate the following types of reports for Trane equipment:

- Site reports
- VAS commissioning reports
- Points reports

Report features include:

- Scheduling reports to run during specific date periods and run frequencies
- Specifying file storage options for scheduled reports
- Exporting reports to save to your PC as CSV, HTML, or PDF files
- Editing scheduled reports

**Figure 56. Reports page**

## Data Logs

Data Logging, also referred to as trending, records in real-time the value of a data point in the system and the time at which the value was recorded.

By default, the controller automatically generates system-created data logs (for equipment and standard applications) on a 15-minute interval and then stores that data for seven days. Data storage is a continuous window where only the most recent seven days of data are stored. Data older than seven days is discarded in order to make room for the newest data.

Users can also create data logs (either scheduled or triggered) by clicking the log data button on equipment and applications pages, or by using the create data log wizard.

A list of data logs can be accessed by clicking **Data Logs** from the left navigation menu. From this page you can take action on a data log, such as comparing or exporting, by selecting one or more data logs and then clicking the **Actions** button.

**Figure 57. Data Logs page**

Source	Collection Interval	Active	Last Updated	Samples	Created By
No filter applied					
2H2C + HP T-Stat Replacement : Cooling Capacity Status	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Discharge Air Temperature	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Discharge Air Temperature Setpoint Active	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Heating Capacity Primary Status	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Space Temperature Active	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Space Temperature Setpoint Active	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
2H2C + HP T-Stat Replacement : Supply Fan Status	Every 15 Minutes	Yes	Apr 20, 2018 11:38:00 AM CDT	672	equipment
Changeover Bypass System #1 : Active Setpoint	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area
Changeover Bypass System #1 : Heat/Cool Mode Status	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area
Changeover Bypass System #1 : Occupancy Status	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area
Changeover Bypass System #1 : Operating Mode	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area
Changeover Bypass System #1 : Space Maximum Temperature	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area
Changeover Bypass System #1 : Space Minimum Temperature	Every 15 Minutes	Yes	Apr 20, 2018 11:45:00 AM CDT	672	Area

## Spaces

Spaces refer to equipment that controls a single space, such as:

- Variable-air-volume (VAV) boxes

The Spaces page contains the most frequently needed data for equipment of these types.

**Figure 58. Spaces page**

Name	Space Temperature	Active Setpoint	Discharge Air Temperature	Air Flow	Air Valve Position	Heat Cool Mode Status	Occupancy
No filter applied							
2H2C + HP T-Stat Replacement	71.8 °F	71.0 °F	---			Heat	Occupied
UC210 - 1174625528	71.8 °F	71.0 °F	---	0.0 cfm	22.5 %	Heat	Occupied
UC210 - 1175020415	71.4 °F	73.0 °F	---	0.0 cfm	22.5 %	Heat	Occupied
lobby vav1	72.0 °F	72.0 °F	---	0.0 cfm	22.5 %	Heat	Occupied

For VRF systems, select the Spaces page dedicated to VRF (indoor) devices.

Figure 59. VRF spaces pages

Name	Space Temperature	Active Setpoint	Mode Status	Occupancy	Fan Speed	Vane Direction	Setpoint Type
IDU 1-1	72.5 °F	---	---	Occupied	Low	Horizontal (0%)	Single
IDU 1-10	72.5 °F	---	---	Occupied	MD 2	Horizontal (0%)	Single
IDU 1-11	72.5 °F	---	---	Occupied	Auto	Horizontal (0%)	Single
IDU 1-2	72.5 °F	---	---	Occupied	MD 2	Horizontal (0%)	Single
IDU 1-3	72.5 °F	---	---	Occupied	MD 1	Downblow (20%)	Single
IDU 1-4	72.5 °F	---	---	Occupied	Low	Horizontal (0%)	Single
IDU 1-5	72.5 °F	---	---	Occupied	Low	Horizontal (0%)	Single
IDU 1-6	72.5 °F	---	---	Occupied	Low	Horizontal (0%)	Single
IDU 1-7	72.5 °F	---	---	Occupied	MD 2	Horizontal (0%)	Single
IDU 1-8	72.5 °F	---	---	Occupied	MD 2	Horizontal (0%)	Single
IDU 1-9	72.5 °F	---	---	Occupied	MD 2	Horizontal (0%)	Single

To view a status page for a specific space, click an item in the **Name** column of the Spaces page. The following figure shows an example of a spaces status page.

Figure 60. Spaces status page

Name	Value	Name	Value
Communication Status	Communicating	Requested Operating Mode	Occupied
Occupancy Request	Occupied	Air Valve Position Command	22.5 %
Air Flow Setpoint Active	225.0 cfm	Discharge Air Flow	0.0 cfm
Space CO2 Concentration Active	---	Discharge Air Temperature	---
Space Temperature Active	72.0 °F	Heat Cool Mode Status	Heat
Occupied Offset	1.5 °F	Occupancy Status	Occupied
Space Temperature Setpoint Active	72.0 °F		
Space Temperature Setpoint BAS	73.5 °F		
Source Temperature Active	---		

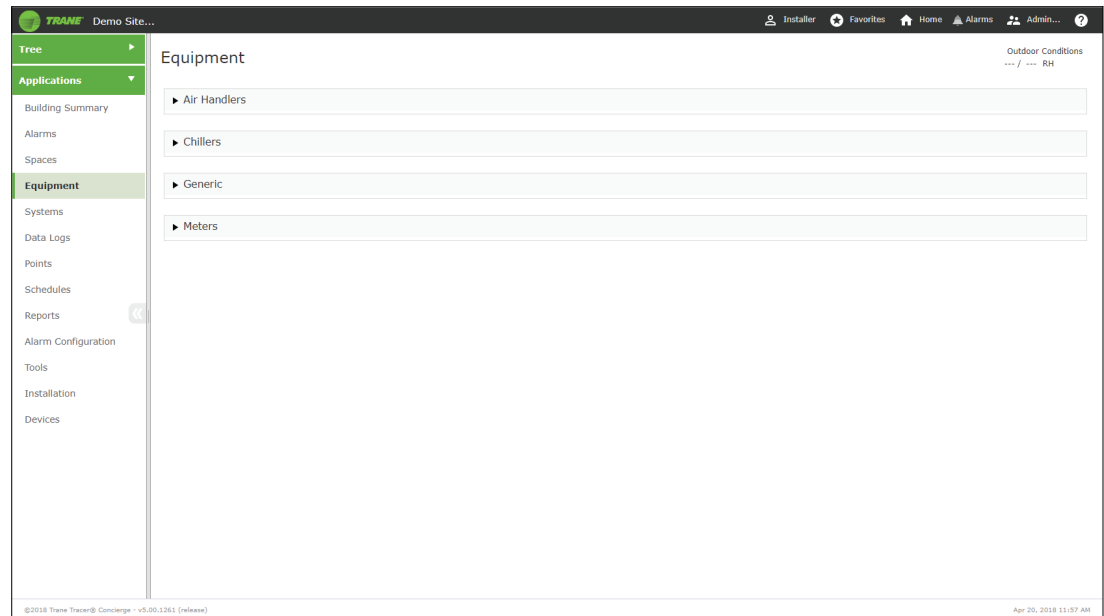
## Equipment

Equipment is the function and role, or software representation, of the physical devices in the Building Automation System (BAS). All devices are represented as equipment upon installation, which makes them available to view and control by the BAS.

Find your VAV rooftop and air handling units in the Equipment section. Constant volume unit will be found in Spaces.

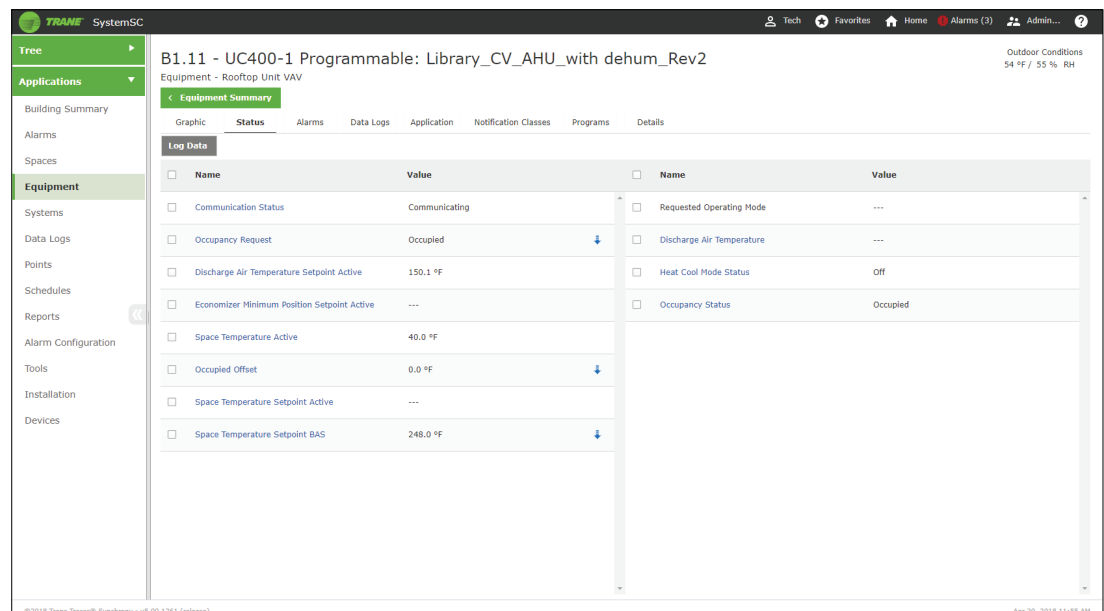
The **Equipment** list page contains the most frequently needed data for each piece of equipment of these types.

**Figure 61. Equipment list page**



To view a status page for a specific piece of equipment, click an item in the name column of the Equipment list page. The following figure shows an example of an equipment status page. On the Equipment Status page you can navigate to Alarms, Data Logs, and Applications that are specific to the equipment by clicking on the individual tabs. New data logs can be created by clicking the **Log Data** button.

**Figure 62. Equipment status page**



## Schedules

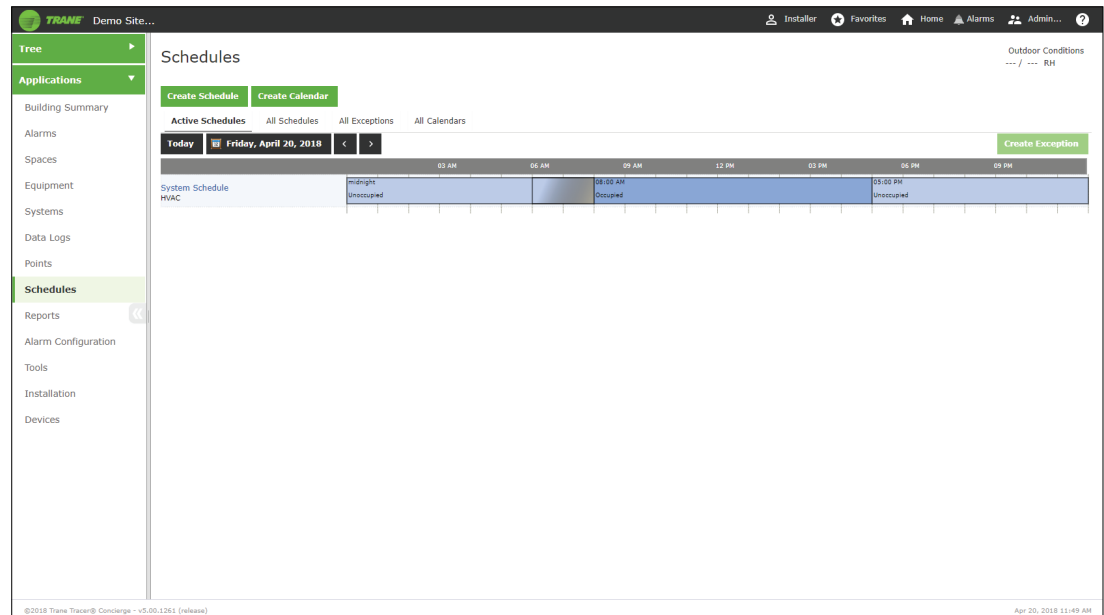
Scheduling for the system controller is based on the BACnet schedule object implementation. Scheduling is one of a facility's most important energy-saving strategies. It ensures that equipment runs only when needed. Scheduling facilitates the following tasks:

- Creating, editing, and deleting schedules

- Creating, editing, and deleting calendars and exception schedules
- Viewing all effective schedules in a facility

The Schedules page contains four tabs: Active Schedules, All Schedules, All Exceptions, and All Calendars.

**Figure 63. All Schedules**



## Optimal Start/Stop

Optimal start and stop times can be defined for HVAC schedules. HVAC refers to both Area and equipment.

The schedule coordinates with the Area application or equipment to calculate when the optimal start and stop occurs. Optimal start/stop times are based on outside air conditions, space temperature, and occupied setpoints.

## Exceptions and Calendars

Exceptions are temporary modifications to a schedule. Exceptions contain one set of dates or one repeating pattern of dates. If a schedule has an exception applied, a red box outline will appear.

### Calendars

For multiple dates and repeating patterns a calendar can be created, which is then applied to the exception.

Calendars are used to group dates, which can then have exceptions applied to these dates on a schedule. For example, a school might create a calendar to group the days that require extended operating hours for after-school meetings.

### Release Function

The release function is a predetermined time in which the present schedule or the event releases control over to the next event based on priority. Conceptually, a scheduled release is very similar to a timed override. For example, after the daily schedule ends at 12:00 am (midnight), the schedule releases control over to the next event.

## Creating a Schedule

The system controller leads you through the process of creating a schedule for your facility by navigating through a series of steps and pages, often referred to as a "wizard." If you need help completing the steps, click the help icon located on each page. You can create a schedule to control the following points and applications based on time and date:

- Binary outputs and values
- Analog outputs and values
- Multistate outputs and values
- Equipment, spaces, and system applications (typically referred to as HVAC schedules).

Points and applications are referred to as *members* when they are assigned to a schedule. Members can be assigned to only one schedule during the same effective period. Members must be the correct type; that is, a binary point cannot be included in an analog schedule.

**To create a schedule:**

1. Click the **create schedule** button.

The **Create Schedule — Schedule Information** page appears.

2. Enter a name for the schedule, and select the schedule type and effective dates.
3. Click **Next** to continue. The **Create Schedule — Select Members** page appears.
4. From the **selection tree** select members (spaces and areas) for the schedule, then click **Add** to move to **selected items**.
5. Click **Next** to continue. The **Create Schedule – Schedule Times** page appears.
6. Select a schedule default. Each day is independent of the others and always begins with the **schedule default** value. The schedule default value is applied to each day of the week and is the value that the schedule defaults to at 12:00 a.m. for any given day. Select **Release** (see below), **Occupied**, or **Unoccupied**.

**Note:** A **Release** is a predetermined time in which the present schedule or the event releases control over to the next event based on priority. A scheduled Release is very similar to a timed point override.

7. Add events to the schedule: click **Add Event**, which opens the event dialog box.
8. Enter a time for when the event will start and select a value.
9. Enter a time for when the event will stop (this is optional).
10. Select the days of the week to which the event will be applied.
11. Click **Add**. The event appears in the schedule viewer. (To edit or delete an event, click on the event in the schedule viewer.)
12. Click **Next** to continue. The **Create Schedule – Summary** page appears.
13. Review the schedule. Click **Finish** to save the new scheduled as summarized.



# Mobile Access

## BAS Occupant Mobile App

This section describes how to locate, download, and install the BAS Occupant app for Apple® mobile devices and Android™ mobile devices.

### Apple Mobile Devices

BAS Occupant app is available free from the Apple App Store. It is compatible with iPhone, iPad, and iPod devices.

Using your mobile device, follow these instructions to download and install the mobile app:

1. Tap the App store icon on your mobile device, which opens the Apple App Store.
2. In the search field, enter Trane, which will display a list of related apps.
3. Select the BAS Occupant app. This is the free Apple App Store page for the app.
4. Tap **Install App**. The installation process begins.

### Android Mobile Devices

BAS Occupant app is available free from the Google Play store. It is compatible with smartphones and tablets using Android operating systems.

Using your mobile device, follow these instructions to download and install the app:

1. Tap the App Store icon, which opens the Google Play Store.
2. In the search field, enter Trane, which will display a list of related apps.
3. Select the BAS Occupant app. This is the free Google Play Store page for the app.
4. Tap **Install**.
5. Tap **Accept and Download**. The installation process begins.

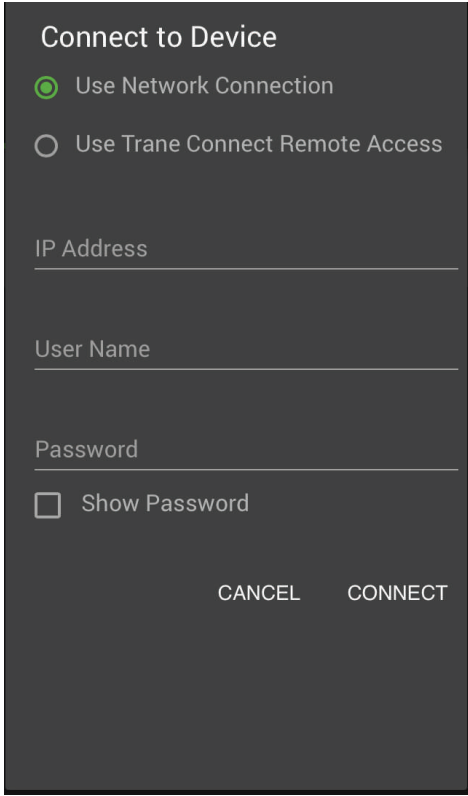
### Connecting The App Using a Network Connection

To connect the BAS Occupant app to your Tracer Concierge system:

1. **Use Network Connection** is selected by default.



**Figure 64. Network connection**



Connect to Device

Use Network Connection

Use Trane Connect Remote Access

IP Address

User Name

Password

Show Password

CANCEL CONNECT

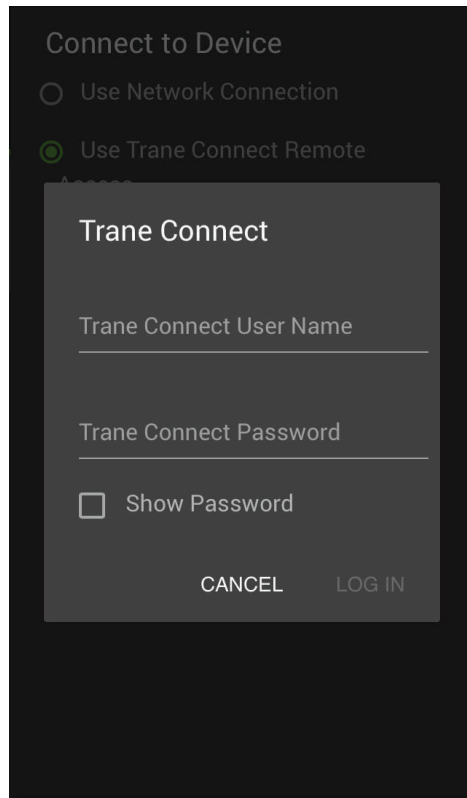
2. Enter the **IP Address**.
3. Enter the User Name. See [“Setting Up Additional Users,” p. 68.](#)
4. Enter the **Password** you created earlier.
5. Click **Connect**.

### Connecting the App using Trane Connect Remote Access

To connect the Tracer Concierge app to your Tracer Concierge system:

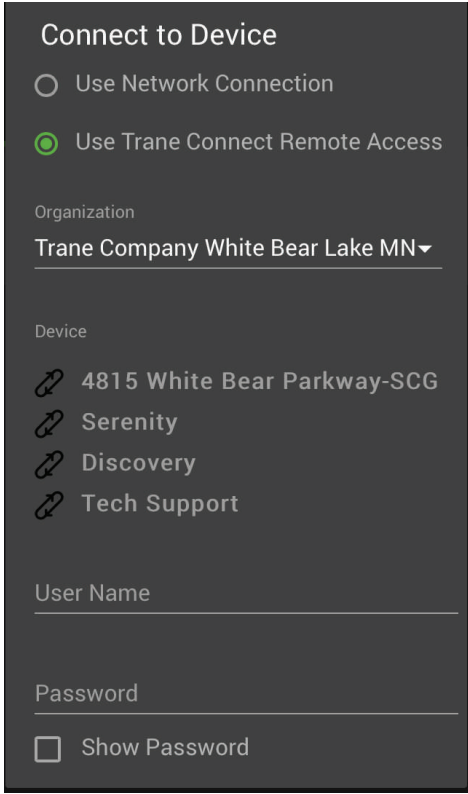
1. Tap **Use Trane Connect Remote Access**. A pop-up window appears.
2. Enter your Trane Connect **User Name** (e-mail address).
3. Enter your Trane Connect **Password**.
4. Tap **Log In**.

**Figure 65. Trane connect log in**



5. If you have access to more than one organization, select the appropriate organization from the Organization drop-down menu.
6. If you have access to more than one controller, select the one you wish to connect to.

**Figure 66. Connect to controller**



7. Enter your **Controller User Name**.
8. Enter your **Password**.
9. Tap **Connect**.
10. The app will restart and connect.

## BAS Operator Mobile App

This section describes how to locate, download, and install the BAS Operator app for Apple® mobile devices and Android™ mobile devices.

### Apple Mobile Devices

The BAS Operator mobile app is available free from the Apple App Store. It is compatible with iPhone, iPad, and iPod devices.

**Note:** *Because this particular app is larger than 10 MB, you will need to download it using a WiFi connection opposed to your cellular connection.*

Using your mobile device, follow these instructions to download and install the mobile app:

1. Tap the App store icon on your mobile device, which opens the Apple App Store.
2. In the search field, enter Trane, which will display a list of related apps.
3. Select the BAS Operator app. This is the free Apple App Store page for the app.
4. Tap **Install App**. The installation process begins.

### Android Mobile Devices

The BAS Operator mobile app is available free from the Google Play store. It is compatible with smartphones and tablets using Android operating systems.



**Note:** Because this particular app is larger than 10 MB, you will need to download it using a WiFi connection opposed to your cellular connection.

Using your mobile device, follow these instructions to download and install the app:

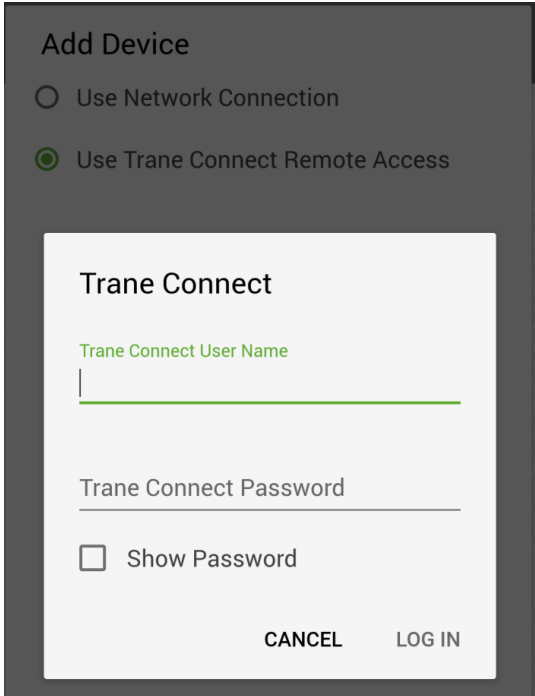
1. Tap the App Store icon, which opens the Google Play Store.
2. In the search field, enter Trane, which will display a list of related apps.
3. Select the BAS Operator app. This is the free Google Play Store page for the app.
4. Tap **Install**.
5. Tap **Accept and Download**. The installation process begins.

## Setting up the App Using Trane Connect Remote Access

Trane Connect Remote Access is a pre-engineered, secure remote access IT technology that provides a standard and secure way to access a Concierge system when outside of your network. If your system was configured to use Trane Connect, you will receive an email with instructions for creating a password. If you are experiencing problems accessing your system remotely, please contact your installer.

1. Tap the app icon () to start the app.
2. Tap the add icon () to connect a controller to the mobile app.
3. Select **Use Trane Connect Remote Access**.
4. Enter your Trane Connect User Name and Password.
5. Tap **Log in**.

**Figure 67. Trane Connect Log In screen**



Add Device

Use Network Connection

Use Trane Connect Remote Access

Trane Connect

Trane Connect User Name

Trane Connect Password

Show Password

CANCEL LOG IN

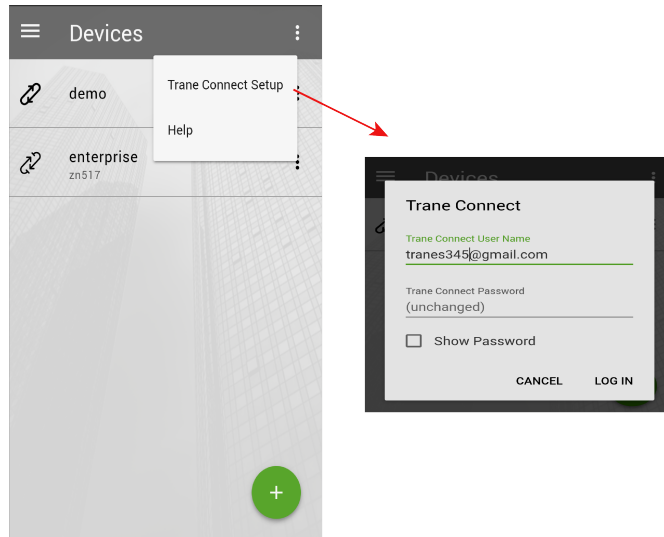
6. From the Organization drop-down, select the appropriate organization.
7. If you have access to more than one controller (device), tap to select.
8. Enter your controller User Name and Password.
9. Tap **Connect**. The app will restart and connect.

## How to Edit Trane Connect Credentials

In the event that you forget your Trane Connect password, or want to change it, do the following:

1. Visit [traneconnect.com](http://traneconnect.com) to reset your password.
2. Open the mobile app to update it with your new password: On the Devices screen, tap the more options icon (⋮) and then tap **Trane Connect Setup**. The Trane Connect dialog appears (Figure 68, p. 81).

**Figure 68. Edit Trane connect credentials**



3. Enter your new password in the provided field. Tap **Log In**.



# Troubleshooting and Service

## Recommended Service Tasks

- Create a backup of the site.
- Store backups for later use.

## Troubleshooting

### Comfort Complaints

In the event of a comfort complaint or issue with a system, check any combination of the following:

- View status:
  - Tracer 10-inch display and BAS Occupant mobile app: zone temperature/setpoint, schedules, alerts, and overrides
  - Technician Tools Status screens: status of air system operation
  - View detailed status on Web UI, such as alarm log history and/or data logs
- Override HVAC (zones, RTU)
- Make adjustments to setup/settings (setpoint, schedules, overrides)

### Issues with the Display

Problem	Potential Causes
Up or down arrows are disabled	<ul style="list-style-type: none"> <li>• Setpoint is controlled locally at the zone sensor (such as thumbwheel).</li> <li>• The setpoint is controlled at a higher priority than the system controller.</li> <li>• The setpoint is out of the range of the limits.</li> </ul>
Setpoint doesn't seem to be controlling the HVAC	Zone should be hidden.

### Service Pack or Firmware Upgrade for Unit Controller or System Controller

The system controller can also be upgraded directly from the Web UI:

1. Connect to the Web UI via USB.
2. Select **Devices**.
3. Select **Concierge Controller**.
4. Select **Actions | Upgrade Firmware**.

### Display Upgrade

ELO tablets cannot be updated in the field. Contact the factory for further assistance.

### Replace a Unit Controller

When a device fails from a power surge, storm, or a defective board:

**Important:** *Replace one device at a time.*

1. The device will display dashes for all values.
2. Physically replace the unit controller hardware.
3. Set the rotary dials (they do not need to be set the same as the original device).
4. Restore the UC backup: 2H/2C, bypass damper, or site-specific backup.
5. Open the wireless network so the device can join the network. On the system control panel, open the WCI. Press the Open Net button.

6. On the display device status page, select the **Replace Device** tab. The system will discover the new device and set it up as the replacement.
7. Verify the proper operation of controls and system (view status).
8. Take new backup(s) and update stored files new backup(s).

## Replace a Concierge System Controller

When a system controller fails from a power surge, storm, or a defective board:

1. The device will display a comm loss error message.
2. Physically replace the system controller hardware.
3. Restore the system controller backup.
4. Open the wireless network so the device can join the network. On the system control panel, open the WCI. Press the Open Net button.
5. On the display device status page, select **Replace** from the menu. The system will discover the new device and set it up as the replacement.
6. Verify the proper operation of controls and system (view status).
7. Take new backup(s) and update stored files new backup(s).

## Wireless Network Health

Using Tracer TU, you can generate the Wireless Network Summary Report to assess network health and to isolate problem devices. You can also generate a graphical map (tree diagram) showing all network devices with communication links and hops.

### IP or USB Connection

1. Connect to a wireless device using an IP or USB connection.
2. Select **Wireless > Network Health**.
3. Click **Report** to generate the Wireless Network Summary Report.

The report is displayed in a separate window and indicates the link status, response time, communication strength, link quality, and number of hops for each member device.

4. Click **Load Map** to view a tree diagram of the network.

The communication links are represented by colored lines. Green indicates a strong link, yellow is acceptable, and red indicates there is no communication.

### Tracer TU Adapter Connection

1. Start a wireless session using the Tracer TU Adapter.
2. Select the network you want to join from those listed on the Wireless Network Utilities dialog box.
3. Click **Join** and, if a Tracer Concierge system controller is present, sign in.

All network member devices are listed on the Network Devices dialog box.

4. Click **Report** to generate the Wireless Network Summary Report.

The report is displayed in a separate window and indicates the link status, response time, communication strength, link quality, and number of hops for each member device.

5. Click **Load Map** to view a tree diagram of the network.

The communication links are represented by colored lines. Green indicates a strong link, yellow is acceptable, and red indicates there is no communication.

## Backup and Restore UC210, UC400, Symbio 210, Symbio 500, and Concierge System Controllers

### Backup Controllers

Use the Backup Utility to back up all files and configuration information on one or more controllers to your designated backup locations. You can use a backup file to load configuration data and programs on field programmable controllers or to restore a controller.

To back up files from the controller:

1. Click the **Backup Utility** icon in the upper left corner of the Tracer TU window to display the "Choose From Available Devices" dialog box.
2. Select the devices you want to back up.
3. Click **Next** to proceed to the Backup dialog box, which shows the default backup file name and destination for each device.
4. If you want to save to a different directory and file name, click the **Browse** button and navigate to the directory to which you want to save the backup file(s).  
All device backup files will be automatically named.
5. Click **Next** to proceed to the Backup Summary dialog box.
6. Click **Start**.

The controller configurations are backed up to the default or specified destinations. Progress bars ending with a green check mark indicate that a backup was successful. When all backups are complete, a check mark appears in the heading row at the top of the dialog box along with a "Backup Complete" status.

You can also click **Show Report** to display a summary report, which you can save. Tracer TU displays the backup file name(s) on the Full Report tab if the backup is successful. However, if an error occurs due to a communication or power loss, Tracer TU generates an error message for each affected device. (See [File Transfer Error Messages](#).)

7. Click **Finish**.

### Restore Controllers

To restore a controller from a backup:

1. Click the **File Transfer Utility icon** in the upper left corner of the Tracer TU window, or select **Utilities > File Transfer Utility**.  
The "Choose From Available Devices" dialog box appears.
2. If you are connected to a system controller or if you selected **Discover other devices on the same link** on the Startup Task Panel, select the **Show Devices** check box to see all controllers on the link or network.

**Note:** *It may take a few minutes for Tracer TU to display all devices on the link or network. The amount of time depends on how many devices are being discovered. If you are connecting to a standalone device, or you have selected **Connect only to this device** on the Startup Task Panel, the connection occurs instantly and you will see only that one device on the "Choose From Available Devices" dialog box.*

3. Select the devices to which you want to transfer the Controller Configuration on either the Select by Device tab or the Select by Type tab.

If you want to send a Controller Configuration to all devices of a particular type and version on a wireless link, then deselect the currently selected device on the Select By Device tab. Select the **Select By Type** tab and then select the device type. (For example, select UC400 to select all UC400s on the wireless link.)

4. Click **Next** to display the "Choose files to Transfer to each Device or Device Group" dialog box.
5. Click the **Browse button** to select the Controller Configuration to be transferred to each device.

At this point Tracer TU performs the validation check explained previously and presents a list of programs that require revalidation. You can stop the transfer operation to resolve any problems or continue the operation if you choose to do so.

6. Click **Next** to display the Transfer Summary dialog box with an active Start button.
7. Click **Start**.

The files are sent to the selected devices. Progress bars ending with a green check mark indicate that a download was successful. When all downloads and actions are complete, a check mark appears in the heading row at the top of the dialog box.

8. Click **Next** to move to the Transfer Complete dialog.



9. If all transfers completed successfully, click **Finish**.

## Air Balance - Calibrate the Air Valve

Use the Calibrate Air Valve dialog box to drive the VAV air valve to maximum and minimum flow so you can take physical air flow measurements. The Air Balancing tool uses your measured values to calculate the Air Flow Gain and Air Flow Measurement Offset values for both maximum and minimum air flow.

1. Select **Utilities > Equipment > Commissioning**.
2. Expand the **Actions** box and click the Calibrate Air Valve **Start** button.
3. Verify that the **Air Flow Setpoint Maximum** and **Air Flow Setpoint Minimum** values are set according to the job specification.
4. Click **Start** under Drive to Maximum Air Flow.
5. When the damper is fully open, take flow hood measurements at the diffusers.
6. Enter the resulting figure in the Measured Air Flow Maximum entry box, and then press **Enter** or just tab out of the entry box.

New Air Flow Gain and Air Flow Measurement Offset values appear in the Results group box and are stored while you perform the Drive to Minimum Air Flow operation.

7. Click **Start** under Drive to Minimum Air Flow.  
When the damper is at the minimum position, take flow hood measurements once again.
8. Enter the resulting value in the Measured Air Flow Minimum box, and then either press **Enter**, tab out of the entry box, or click **Calculate Results**.  
The Air Flow Gain and Air Flow Measurement Offset values are updated to their two point values.
9. Click **Apply** to send these values to the controller and to enter these values on the Current Calibration Summary box on the Flow Calibration screen.  
The controller reads the values and adjusts the air flow so it closely matches the air flow setpoints.
10. Check the **Current Operating Status** values on the left side of the dialog box to verify your results, then continue with one of the following actions:
  - Click **Done** to close the dialog box, if you are satisfied with the result.
  - Repeat the two-point air valve calibration.

## VRF Reference

This section discusses how to troubleshoot when the Tracer SC+ is **discovered and communicating** with the Mitsubishi Electric VRF controller but is **missing maintenance data**.

### Is Maintenance Tool on the M-Net Link?

If so, this will overtake the communications on the M-Net and will not allow enabling of the Maintenance Data or other activity until it is removed. This is common when data is being captured for warranty, as is done during startup.

### Is the status light on the Centralized Controller solid or blinking?

Solid is good, blinking means there is an error and it needs to be addressed before proceeding.

### Did the addressing change since Outdoor Unit was energized?

If so, use SW5-2 on the Outdoor Unit to reinitialize the addressing of the system. Then run the Maintenance Tool Utility to enable Maintenance Data before bring in to the SC+. Alternatively, power to the Outdoor Unit can be disconnected for 30 minutes to dissipate the energy in the capacitors then turn on again to begin a reinitialization of the system addressing.

Centralized Controller may have a 6607 code in the alarm log or via maintenance tool.

### Are the groups matching the equipment and wiring?

Wall thermostat wiring must match the groupings when wired to multiple units or multiple thermostats (Main and sub) to one unit. A mismatch will cause issues with enabling maintenance data.

For more information see Trane Mitsubishi Electric VRF Integration License for the Tracer SC+ System Controller Integration Guide (BAS-SVP044).

**WCI Does Not Join the Network**

<b>Problem</b>	<b>Potential Causes</b>
Not enough time allowed for joining	Give the WCI more time to join. If the network closes before the WCI has joined, re-open if necessary by pressing the OPEN NET button on another member WCI.
Wrong address	For factory addressed WCIs, verify address is correct. Verify each WCI address after installation. If sensor is installed, check for error code on sensor. Initiate network formation and resolve by exception.
No power	Ensure that: <ul style="list-style-type: none"> <li>• The WCI is wired correctly.</li> <li>• The corresponding controller is wired to equipment correctly and is powered On.</li> </ul>
Too much traffic	Try a different channel by selecting a different net address or by using Tracer TU. A better channel may be found by trial and error or by using a purchased tool such as WiSpy.
Outside of radio range or too many obstacles	Relocate WCI or add a repeater
Defective WCI	Replace

**Related Literature**

- BAS-SVN071\*-EN: Air-Fi® Wireless Communications Sensor (WCS) Installation Instructions: A quick-start guide to addressing and installing a WCS
- BAS-SVN217\*-EN: Air-Fi® Wireless Communications Sensor (WCS) Configuration Instructions: A quick-start guide to configuring a WCS
- BAS-SVX068\*-EN: Air-Fi® Wireless Planning and Implementation Best Practices Guide
- BAS-APG051\*-EN: Tracer Concierge for Zoned Rooftops Application Guide
- BAS-SVN038\*-EN: Air-Fi Wireless Communication Interface (WCI) Installation Instructions.
- BAS-SVX40\*-EN: Air-Fi Wireless System Installation, Operation, and Maintenance.
- BAS-SVX55\*-EN: Air-Fi Network Design Installation, Operation, and Maintenance.
- BAS-SVN099\*-EN: UC400 2H2C Installation Instructions
- BAS-SVN210\*-EN: Bypass Damper Controller Installation Instructions
- BAS-APG050\*-EN: Symbio 500 Rooftop Unit/Heat Pump Controller Application Guide



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