Installation Instructions

Trane® Cell Modem

⚠ 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.

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BAS-SVN246A-EN

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1

Warnings, Cautions, and Notices

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

The three types of advisories are defined as follows:

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

Important Environmental Concerns

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

Important Responsible Refrigerant Practices

Trane believes that rBAS-SVN246A-ENesponsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified according to local rules. For the USA, the Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.

2

⚠ WARNING

Proper Field Wiring and Grounding Required!

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

⚠ WARNING

Personal Protective Equipment (PPE) Required!

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

- **Before installing/servicing this unit, technicians MUST put on all PPE required for the work being undertaken (Examples; cut resistant gloves/sleeves, butyl gloves, safety glasses, hard hat/bump cap, fall protection, electrical PPE and arc flash clothing). ALWAYS refer to appropriate Safety Data Sheets (SDS) and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate SDS and OSHA/GHS (Global Harmonized System of Classification and Labeling of Chemicals) guidelines for information on allowable personal exposure levels, proper respiratory protection and handling instructions.**
- **If there is a risk of energized electrical contact, arc, or flash, technicians MUST put on all PPE in accordance with OSHA, NFPA 70E, or other country-specific requirements for arc flash protection, PRIOR to servicing the unit. NEVER PERFORM ANY SWITCHING, DISCONNECTING, OR VOLTAGE TESTING WITHOUT PROPER ELECTRICAL PPE AND ARC FLASH CLOTHING. ENSURE ELECTRICAL METERS AND EQUIPMENT ARE PROPERLY RATED FOR INTENDED VOLTAGE.**

3

⚠ 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.**

⚠ WARNING

Cancer and Reproductive Harm!

This product can expose you to chemicals including lead and bisphenol A (BPA), which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

⚠ WARNING

Electrical Shock, Fire, or Explosion Hazard!

Failure to follow these instructions could result in serious injury, death, or property damage.

- **Before servicing, disconnect all electrical power to the furnace.**
- **When servicing controls, label all wires prior to disconnecting. Reconnect wires correctly.**
- **Verify proper operation after servicing.**

⚠ WARNING

Strong Magnet!

Failure to follow below instructions could result in death or serious injury or equipment damage.
Keep away from children, pacemakers, implanted medical devices, and sensitive electronic equipment.
Magnets can cause injury if ingested or mishandled.

4

⚠ CAUTION

Radio Frequency Exposure Compliance!

Failure to follow instructions below could result in exposure to radio frequency.
Verify a minimum 20 cm distance is maintained between the antenna and an individual. Do not mount or operate the device with another antenna or transmitter in the same location. Provide users and installers with all required antenna installation instructions and operating conditions to ensure RF exposure compliance.

⚠ CAUTION

Safety Hazard!

Failure to follow instructions could result in mild to moderate injury.
Install, configure, or remove equipment only when the equipment is stationary and safe. Do not service while operating.

⚠ WARNING

Electrical Shock or FireHazard – Use 24 VDC Power Only!

Failure to follow instructions below and connecting to AC power could result in serious injury, death, or property damage due to shock or fire.
ALWAYS verify the controller's power type before wiring the red/black harness. Do NOT connect to 24 VAC power sources commonly found on some Trane controllers such as 24 VAC transformer outputs.

NOTICE

Equipment Damage!

Failure to follow instruction below could result in equipment damage.
Always seal cable entry into the cabinet to prevent water damage. The Trane Cell Module Enclosure is IP56, but cable ends are not waterproof.

5

NOTICE

Equipment Damage!

Failure to follow instruction below could result in equipment damage.
Do not power wash or expose to high-pressure sprays, as this can compromise the seals and cause malfunction.

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6

Overview

The Trane USB Cellular Module (Trane Cell Modem) provides secure, reliable cellular connectivity for Trane commercial HVAC controllers. This rugged module enables remote monitoring and diagnostics through a USB-A data connection to the controller and requires a separate DC power supply (24 Vdc) via a red/black wire harness.

Data from the Trane controller is sent via USB to the module, then securely transmitted to the Trane Cloud over cellular networks. Device health data is shared with Geotab for support; Trane HVAC data is not processed by Geotab.

Key Features

- IP56-rated enclosure for water and dust resistance
- LTE Cat-1bis cellular modem with integrated internal antennas
- Supports bi-directional data transfer between Trane controller and Trane Intelligent Systems (TIS)
- Over-the-air modem firmware updates and built-in security protocols
- Simple installation with magnets or M4 (#10) fasteners (removable magnets for fixed mounting)
- Requires two connections:
  - USB-A cable for data
  - Separate DC power supply cable (red/black wires); power is not provided through the USB

This module is intended for use with stationary Trane HVAC equipment and enables cloud-based management and efficient remote service.

Packaged Contents

Each Trane Cellular Module (Trane Cell Modem) kit includes:

One (1) USB Cellular Module

One (1) USB-A cable (for data connection to Trane controller)

One (1) Power harness (red/black wires for 24 Vdc power connection)

One (1) Magnet mount (pre-installed; removable for fixed mounting)

One (1) Quick installation sheet

7

Optional Accessories

- LTE Signal Booster
  - ISED-certified version (Canada option)
  - FCC-certified version (USA option)
- Active USB to Ethernet Adapter (for extended runs)
- 100 ft Ethernet Cable (to be used with the USB to Ethernet adapter)

***Note:** Use of 100 ft USB 2.0 and USB 3.0 Active Extension Cables is not recommended.*

- Wall bracket and mounting fasteners
- Power Supply Module PM014 (24 Vdc) X13651538010

***Note:** Consult Trane documentation or your local representative for accessory specifications and ordering information.*

Specifications

Table 1. USB Cellular module specification

Parameter	Specification
Cellular	LTE Cat-1bis modem, up to 10 Mbps down/5 Mbps up (typical speeds vary). Bands: B2, B4, B5, B12, B13, B14.
GPS / GNSS	92-channel concurrent GNSS (GPS, GLONASS, Galileo, BeiDou)
Controller Interface	USB-A (data connection to Trane controller)
Power Input	24 Vdc (via red/black wire harness)
Power Consumption	150 mA RMS; 600 mA peak during transmitting
Enclosure	IP56-rated (water and dust resistant)
Temperature Range	-40°F to +158°F (40°C to +70°C)
Humidity	5% to 100% RH (condensing)
Installation Category	III
Pollution Degree	2

Table 1. USB Cellular module specification (continued)

Parameter	Specification
Certifications	FCC, UL, cUL, PTCRB, ISED

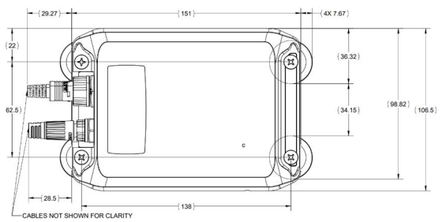
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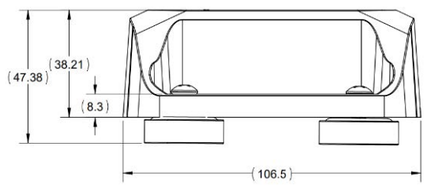
Notes:

- *All dimensions shown in millimeters (mm).*
- *Harness not shown for clarity.*

Figure 1. Dimensions

Note: *Dimensions in mm*





Installing the Trane Cellular Module

1. Prepare the module.
   a. Record the device serial number from the product label for system validation and support.
   b. Inspect the module and accessories for any damage.
   c. Confirm the availability of 24 Vdc power in the cabinet.
   d. Confirm that the 24 Vdc power source is rated to support the module's peak surge load together with the total load of all other connected equipment.
2. Select and prepare mounting location.

NOTICE

Factory-Installed Cabling!
Failure to follow instruction below could result in improper and/or operation.
Do not remove the cables from the back of the unit. These cables are factory-torqued to the correct level.

   a. Mount the device outside the control cabinet and position away from controller PCBs to reduce RF interference and thermal exposure. Place it away from heat sources and potential water-entry points.
   b. Use the pre-installed magnets for quick and secure mounting on metal surfaces. For wall-mounted installations, use the optional wall bracket and mounting fasteners.
   c. Fastener mounting: Pre installed magnets are suitable for most metal surface installations. For high vibration, movement, or temperature cycling, remove the magnets to expose the four M4 (#10) fastener holes (fasteners not provided).
   d. Orientation: Mount the device so connectors face downward to prevent water ingress; avoid locations near heat sources or where water might collect.
3. Prepare cable entry and sealing.
   a. Create a cable entry point by removing a knockout or drilling a new hole in the cabinet; a ~1-inch opening is sufficient.
   b. Deburr all edges thoroughly to prevent cable damage.

   c. Install a UL-rated cable gland, bushing, or waterproof grommet to protect and seal cable entry.
   d. After routing the USB and power cables into the cabinet, ensure the entry point is securely sealed to maintain water tightness and cabinet integrity.
4. Make electrical and data connections.
   a. Power Harness: Connect the red wire to the positive DC terminal (24 Vdc) and the black wire to ground/negative.
   b. USB Cable: Plug the USB-A cable into the correct port on the Trane controller.
   c. Secure excess cable inside the cabinet using cable ties, keeping wiring neat and strain-relieved.
   d. Form drip loops just outside entry points for added moisture protection.
5. Perform final inspection.
   a. Confirm that all connections are secure and the module is mounted with connectors facing down.
   b. Verify that all cable entry points are properly sealed and protected against abrasion.
   c. Ensure the module and cables are not exposed to direct spray, excessive vibration, or heat.
6. Power On and validate operation.
   a. Apply power to the system and check device status indicators.
   b. Complete system commissioning per Trane procedures.
   c. Confirm the device is visible and communicating with Trane Cloud.

Figure 2. USB cellular module kit components



Table 2. LED status

LED State	Device Status	Recommended Action
Slowly flashing white	Booting up	Do not power off device. Wait for device to finish.
Quickly flashing white	Firmware updating	Do not power off device. Wait for update to finish.
Double flash orange	Weak/no cell signal	Active USB to Ethernet extender or LTE signal booster.
Quickly flashing orange	Weak/no GPS signal	—
Solid green	Device on and working.	Device is operating normally. No action needed.
Slowly flashing green	Initializing/waking up	Device is entering operational mode. No action needed.

Agency Listings and Compliance

- **FCC Compliance:** FCC Part 15 compliant; may not cause harmful interference, must accept any received.
- **US Compliance:** UL Listed - UL 60730-1
- **Canada Compliance:** cUL Listed - CAN/CSA-E60730-1

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

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