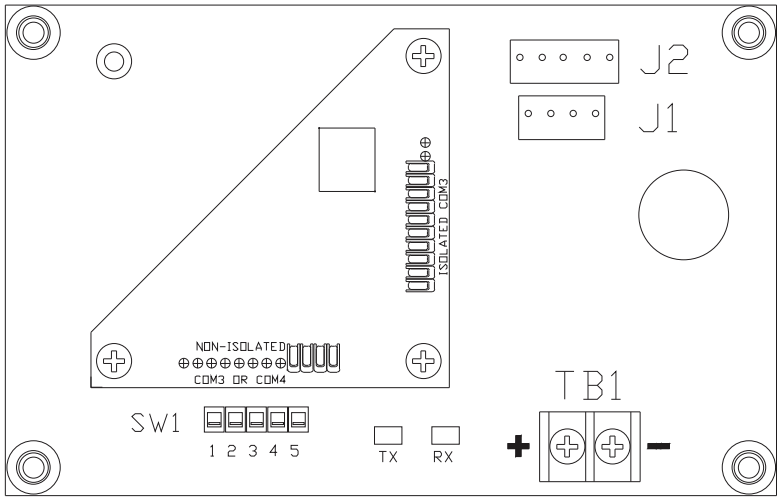
Installation Instructions

Trane Communications Interface (Comm3 / Comm4)



Model Numbers	Used With:
BAYICSI003A	3 - 10 Ton Packaged Rooftop units with Reliatel™ Communications Module 6 - 25 Ton Split System units with Reliatel™ Communications Module
BAYICSI004B	12 1/2 - 25 Ton Packaged Rooftop units with Reliatel™ Communications Module 27 1/2 - 50 Ton Packaged Rooftop units with Reliatel™ Communications Module

⚠ 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.

December 2011

ACC-SVN18D-EN

Warnings, Cautions and Notices

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provide to alert installing contractors to potential hazards that could result in death or personal injury. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that could result in equipment or property-damage-only accidents.

Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

Read this manual thoroughly before operating or servicing this unit.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully:

⚠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

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Important Environmental Concerns!

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

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. 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!

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

⚠WARNING

Personal Protective Equipment (PPE) Required!

Installing/servicing this unit could result in exposure to electrical, mechanical and chemical hazards.

- **Before installing/servicing this unit, technicians MUST put on all Personal Protective Equipment (PPE) recommended for the work being undertaken. ALWAYS refer to appropriate MSDS sheets and OSHA guidelines for proper PPE.**
- **When working with or around hazardous chemicals, ALWAYS refer to the appropriate MSDS sheets and OSHA guidelines for information on allowable personal exposure levels, proper respiratory protection and handling recommendations.**
- **If there is a risk of arc or flash, technicians MUST put on all Personal Protective Equipment (PPE) in accordance with NFPA 70E or other country-specific requirements for arc flash protection, PRIOR to servicing the unit.**

Failure to follow recommendations could result in death or serious injury.

General Information

The first generation of Reliatel™ Communications Module incorporates communications capabilities of the TCI-1 (Isolated Comm 3), TCI-2 (Non-Isolated Comm 3 or Comm 4 or Isolated Comm 3) board and TCI-3 (Non-Isolated Comm 3 or Comm 4).

The TCI Module allows digital communication between Reliatel™ controls and Trane ICS systems which include Tracer Summit™, Tracker Stat 4, Tracker Stat 7, Tracker Stat 16, and the VariTrac™ zoning system.

Note: *The TCI Module in this kit is shipped in the comm 4 position.*

The TCI Module in the non-insulated Comm 3 / Comm 4 position allows communication between a Reliatel™ controlled unit and a Tracer Summit or VariTrac zoning system.

By turning the Comm Link Board 90°, the Comm 3/4 Communications Module now becomes Isolated Comm 3 and can be used to communicate with Tracker or Tracer 100 systems.

Inspection

1. Unpack all components of the kit.
2. Check carefully for any shipping damage. If any damage is found it must be reported immediately and a claim made against the transportation company.
3. The kit must be stored in an ambient between -40F(-40C) and 150F (65.6C), 10% - 90% non condensing.

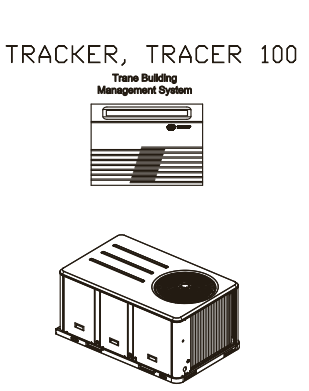
Parts List

- 1 - TCI Module Board
- 1 - Wiring Harness
- 2 - Screws
- 1 - Wire Tie

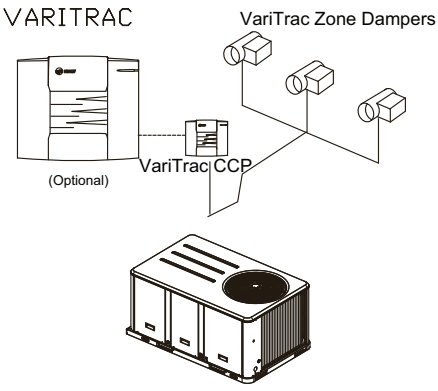
Installation

Figure 1. Typical Reliatel™ communications applications

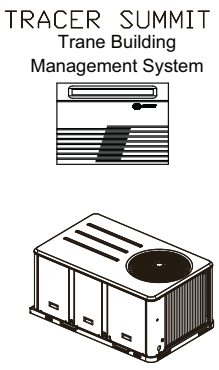
Packaged Units



Isolated Com 3
Communication Option

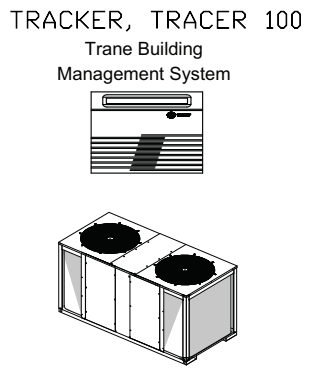


Non - Isolated
Com 3 or Com 4
Communication Option

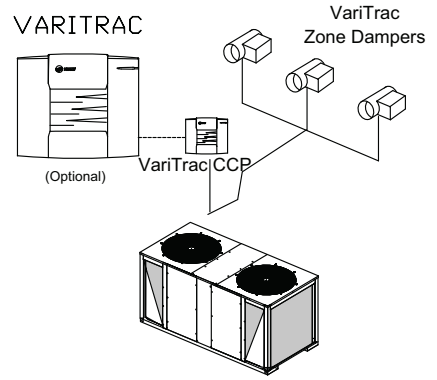


Non - Isolated
Com 3, Com 4 or Isolated Com 3
Communication Option

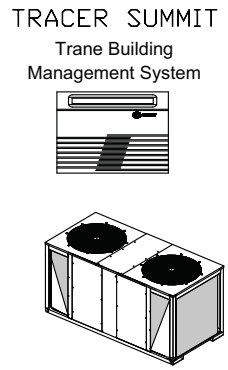
Split System Units



Isolated Com 3
Communication Option



Non - Isolated
Com 3 or Com 4
Communication Option



Non - Isolated
Com 3, Com 4 or Isolated Com 3
Communication Option

Figure 2. Communications Module with Comm link board in isolated comm 3 position

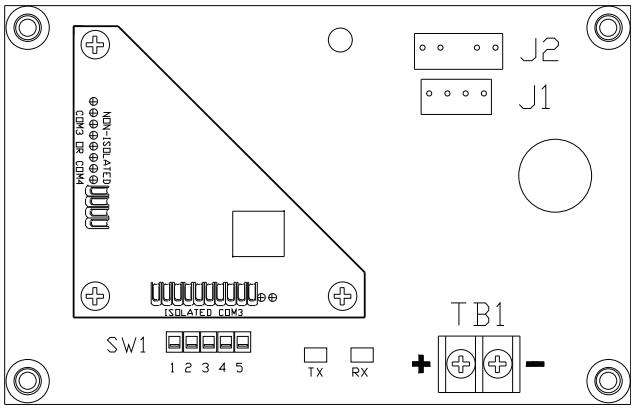
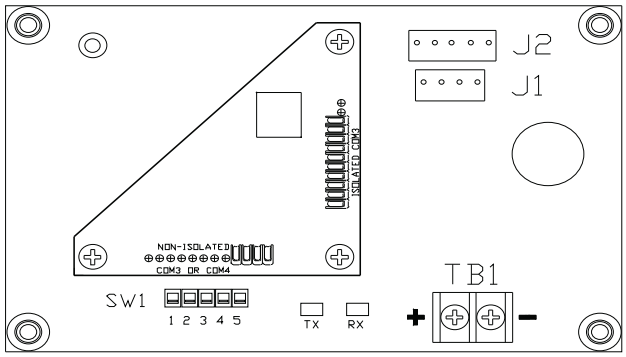


Figure 3. Communications Module with Comm link board in non-isolated comm 3 or 4 position



⚠WARNING

Hazardous Voltage w/Capacitors!

Disconnect all electric power, including remote disconnects and discharge all motor start/run capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized. Verify with an appropriate voltmeter that all capacitors have discharged. Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury.

To change the configuration of the Comm 3/4 Communications Module:

4. Remove the four screws that attach the Comm Link Board to the TCI Module base board.
5. Gently lift the Comm Link Board off the TCI Module base board and away from the pin set located above TB1.
6. Rotate the Comm Link Board 90° so that the Non-Isolated Comm 3 or Comm 4 connector is above the pin set.
7. Gently lower the Comm Link Board onto the TCI Module base board.

8. Screw the Comm Link Board to the TCI Module base board with the four screws that were removed in step number 1.

Mounting and Wiring

The TCI board mounts directly to the Unit Control Box. The following procedure explains how to mount and wire the TCI board. See the following figures for Comm 3/4 board mounting location and wire bundle placement.

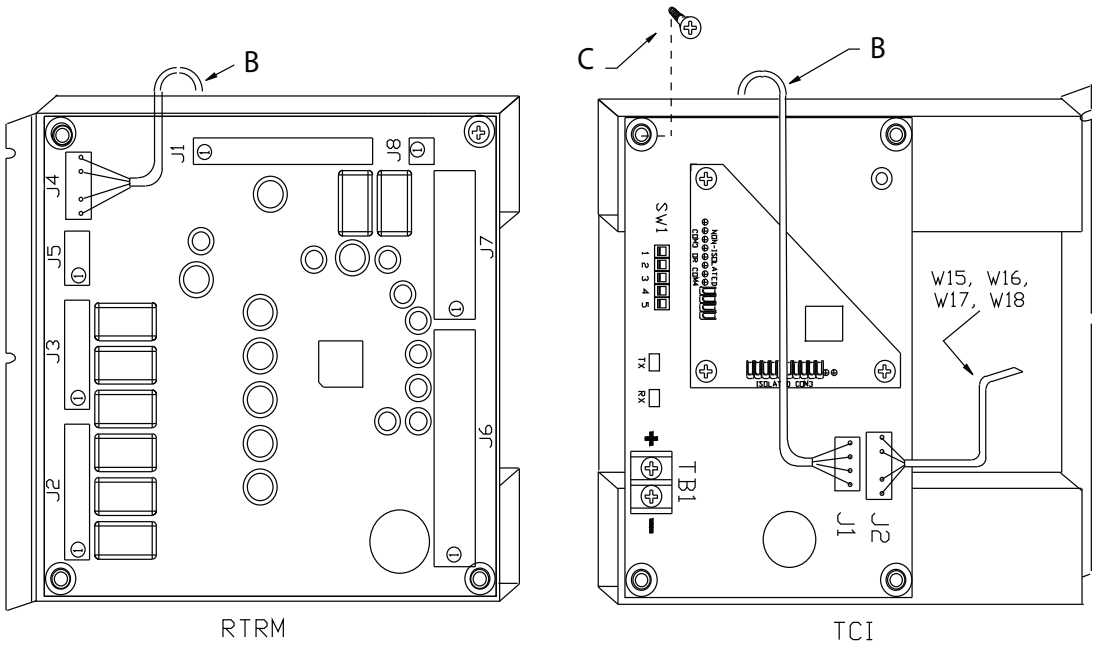
Note: *Skip steps 1 – 9 if the Reliatel™ Communications Interface is already factory installed.*

Important: *Must have BAYWRKT003 when installing TCI board kit on 15-20 ton Split System Heat Pump (TWA) units.*

1. Disconnect the power source to the unit and remove the Access Panel to gain access to the electronic controls.
2. Installation of TCI board:

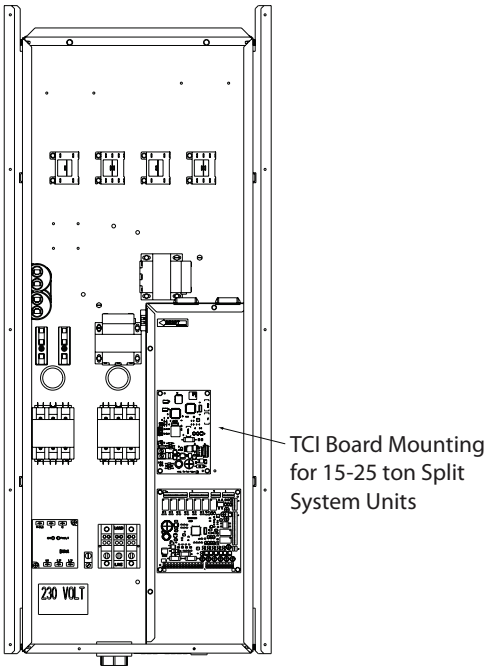
- 3 - 5 ton Packaged Rooftop (except Y/THC048-060E & WSC060E) and 6 - 12½ ton Split System units mount the TCI board to the rear side of the Reliatel™ Refrigeration Module mounting panel by sliding the TCI board mounting feet into the mounting extrusions on the Reliatel™ Refrigeration Module mounting panel. Secure with 1 screw.

Figure 4. TCI board mounting and wiring 3 - 5 Ton packaged rooftop units (except WSC060E), 6 - 12½ ton split system units



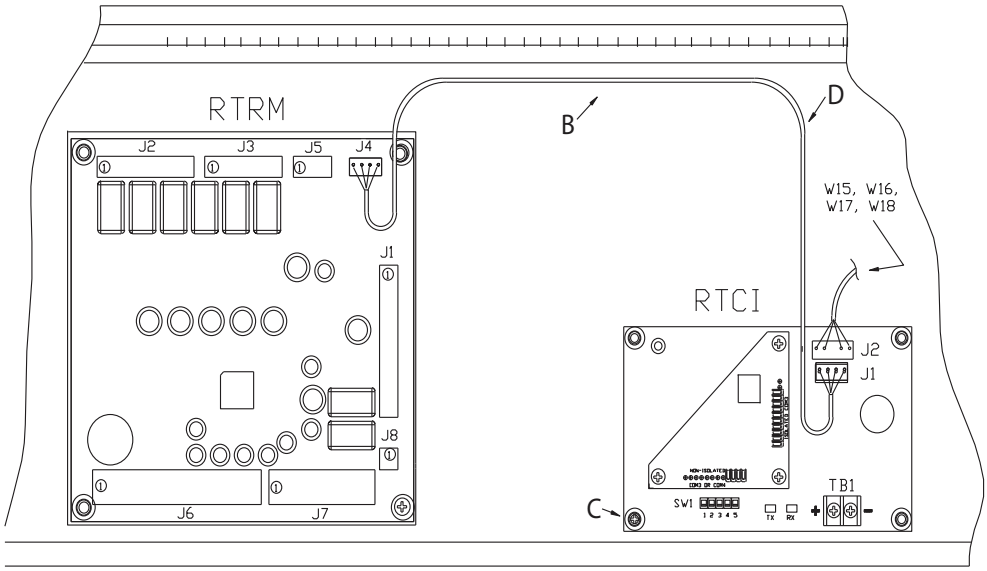
- 15 - 25 ton Split System units mount the TCI board above the Reliatel™ Refrigeration Module on the control box mounting panel. Secure with 2 screws.

Figure 5. TCI board mounting and wiring 15 - 25 ton split system units



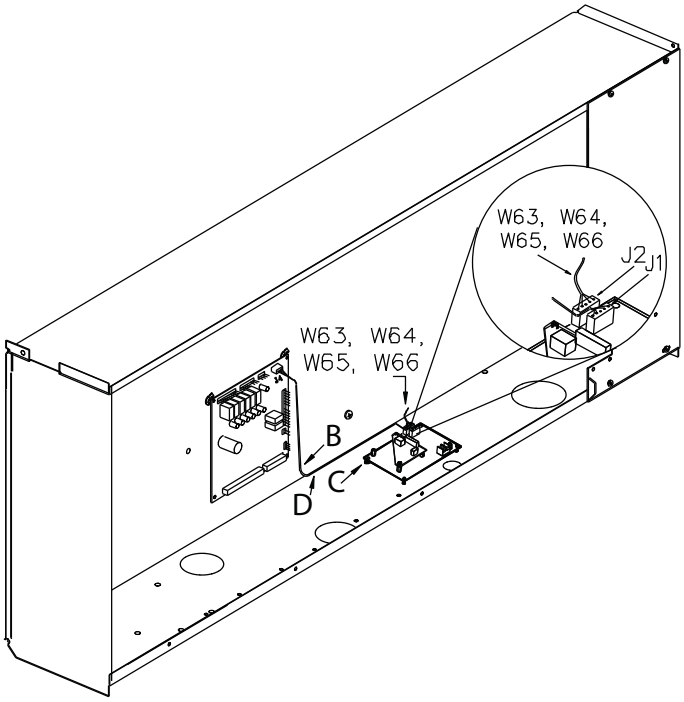
- 6 - 10 ton Packaged Rooftop units (and Y/THC048-060E & WSC060E) mount the TCI board to the right side of the Reliatel™ Refrigeration Module by sliding the TCI board mounting feet into the mounting extrusions on the control box mounting panel. Secure with 1 screw.

Figure 6. TCI Board Mounting and Wiring 6-10 packaged rooftop units (and WSC060E)



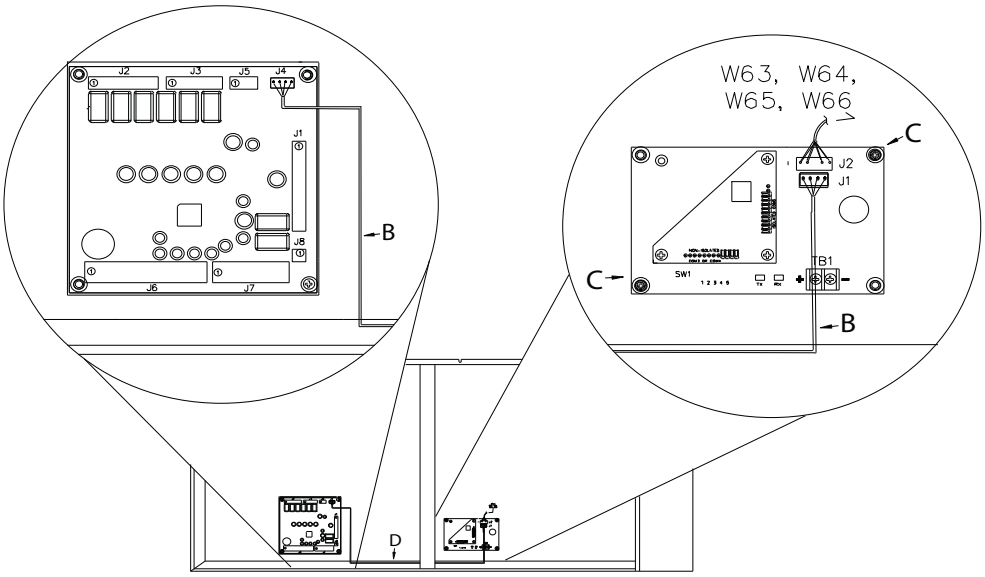
- 12½ - 25 ton Packaged Rooftopunits mount the TCI board to the right side of the Reliatel™ Refrigeration Module by sliding the TCI board mounting feet into the mounting extrusions on the control box bottom panel. Secure with 2 screws.

Figure 7. TCI Board Mounting and Wiring 12 1/2 - 25 Ton packaged rooftop units



- 27 1/2 through 50 Ton Packaged Rooftop Units: Mount the TCI board to the right side of the ReliaTel™ Refrigeration Module on the control box back panel. Secure with 2 screws.

Figure 8. TCI board mounting and wiring 27 1/2 - 50 ton packaged rooftop units



Note: *For Split System 6-25 ton units, skip Step 3.*

3. Remove the five pin (four wire) connector from J4 on the RTRM and connect to J2 on the TCI board.
4. Connect the four pin (four wire) end of the TCI board wire harness to J1 on the TCI board.
5. Connect the five pin (four wire) end of the TCI board wire harness to J4 on the Reliatel™ Refrigeration Module. On 15 - 20 ton Split System Heat Pump units only — install a new 2-Step Mechanical Heat configuration wire (68F) by following the installation instructions for BAYWRKT003. Once completed, proceed to Step 6.
6. Route the TCI board wire harness and secure with one wire tie.
7. Route the twisted pair communications wire from the BMS or CCP, through the hole located below TB1 on the TCI board and connect these wires to TB1. Refer to the ICS Communications Link Wiring Requirements section for wire information.
8. Secure the wires connected to TB1 using the pop-in wire tie under the control box.
9. Set the DIP switch (SW1) on the TCI board to the desired unit address setting. (See DIP switch settings section)

CS Communication Link Wiring Requirements

The ICS communications link is for communication between Trane Building Management Systems and various Trane ICS equipment controllers.

Note: *Observe polarity when wiring all devices on the communications link to aid troubleshooting communication wiring problems.*

At the ICS equipment, or VAV-UCMs and Reliatel™ Communications Interface, the shield must be spliced with the shield from the next section of communication link wiring and taped to prevent any connection between the shield and ground. The shield at the last ICS device must be cut and taped back.

See equipment installation literature for correct wire type, resistors, and maximum length.

DIP Switch Address Settings

The DIP switch (SW1) is located on the left corner of the Comm 3/4 board. DIP switches SW1-1 through SW1-5 are used to set the Comm 3/4 board addresses.

Setting for Tracker/ComforTrac (Pre Version 10 Trackers)

The Comm 3/4 board is supported by Tracker/ComforTrac Building Management Systems. The Comm Link Board must be positioned for Isolated Comm 3 communications. A maximum of 12 Interfaces can be defined for each Tracker/ComforTrac system.

Figure 9. TCI Communications Module Address Setting for Tracker/ComforTrac — address numbers and ReliaTel communications interface board DIP switch settings

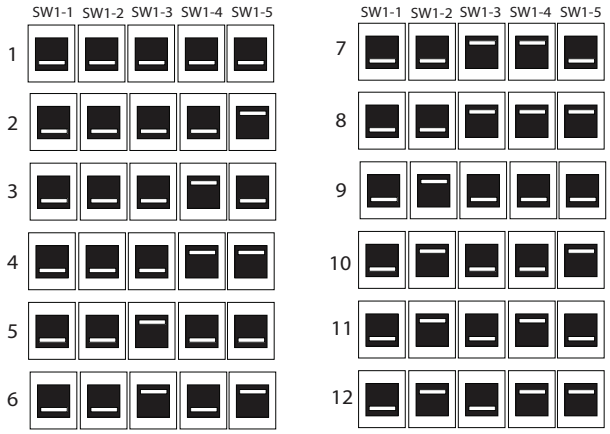


Figure 10. Comm 3/4 communications module address setting for VariTrac I comfort manager and VariTrac II central control panel — ALL address numbers and ReliaTel communications interface board DIP switch settings

Figure 11. TCI Communications Module Address Setting for VariTrac III Central Control Panel - ALL address numbers and ReliaTel communications interface board DIP switch settings

VeriTrac I Comfort Manager and VariTrac II Central Control Panel are vertically mounted with an access door. VariTrac III Central Control Panel is horizontally mounted with no access door.

Settings for Tracer 100 Series Panels and Tracer Summit Systems

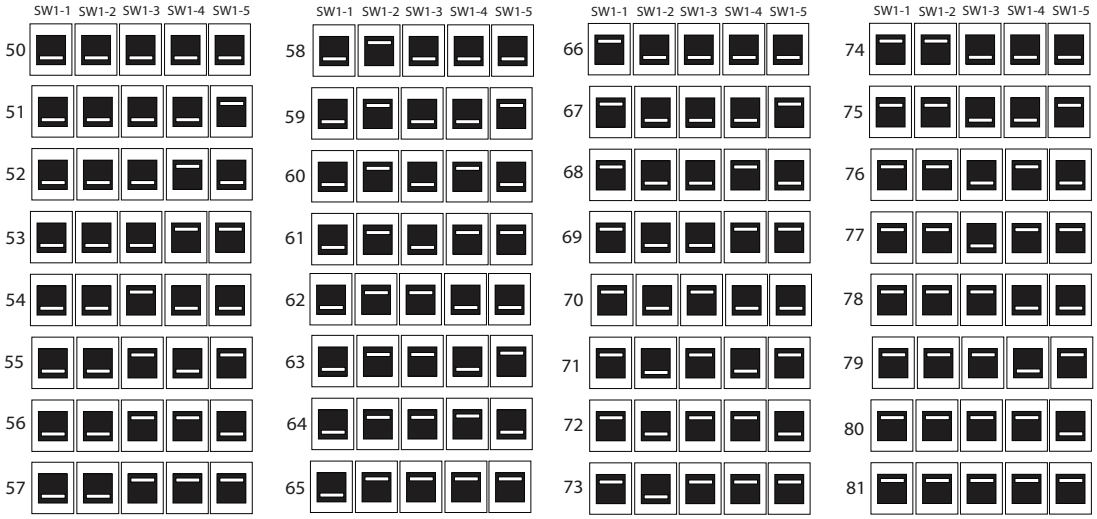
Tracer 100 has a maximum of 32 Comm 3/4 Communications Modules that can be defined for each Tracer 100 and Tracer 100i. A maximum of 20 Comm 3/4 Communications Modules can be defined for each Tracer L and Tracer Monitor.

Note: *The number of ReliaTel Communications Interfaces supported by Tracers is dependent on the software version being used. Refer to Tracer 100 Series literature for specific quantities.*

Tracer Summit allows a maximum of 32 Tracer addresses per link for high capacity or 16 addresses for standard capacity.

The range of Tracer address numbers that may be defined for Comm 3/4 Communications Modules is 50 through 81. To configure an address for a unit, assign its point number (i.e. 30-01, 30-02, 30-03, etc.) to a Tracer address within the acceptable range (50-81) as shown in Figure 12. Set the Comm 3/4 Communications Module DIP switches for this address.

Figure 12. TCI Communications Module Address Setting for Tracer 100 Series Panels and Tracer Summit— address numbers and ReliaTel communications interface board DIP switch settings



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