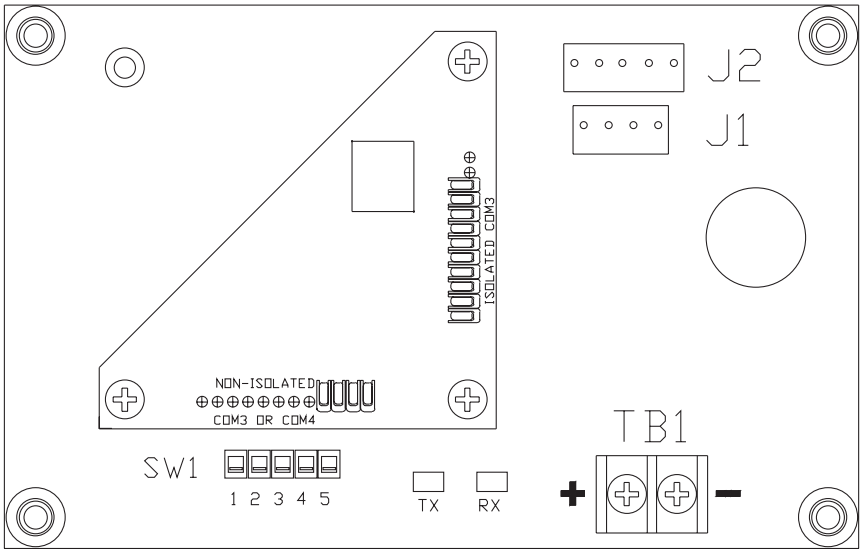
ACC-SVN18C-EN

Installers Guide

Trane Communications Interface
(Comm3 / Comm4)



Models:	Used With:
BAYICSI003A	3 - 10 Ton Packaged Rooftop units with Reliatel™ Communications Module, 7½ - 20 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

December 2005

Table of Contents

General Information **3**
Inspection **3**
Parts List **3**
Typical Reliatel Communications Applications **4**
Mounting and Wiring **5**
ICS Communication Link Wiring Requirements **6**
DIP Switch Address Settings **6**

TCI Board Mounting and Wiring

3 - 5 Ton Packaged Rooftop units (except WSC060E) **8**
7 ½ - 10 Ton Split System units **8**
15 - 20 Ton Split System units **8**
6 - 10 Ton Packaged Rooftop units (and WSC060E) **9**
12 1/2 - 25 Ton Packaged Rooftop units **9**
27 1/2 - 50 Ton Packaged Rooftop units **10**

Installation

NOTICE:

Warnings and Cautions appear at appropriate sections throughout this manual. 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, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

CAUTION – Indicates a situation that may result in equipment or property-damage-only accidents.

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

Figure 1
Typical Reliatel Communications Applications

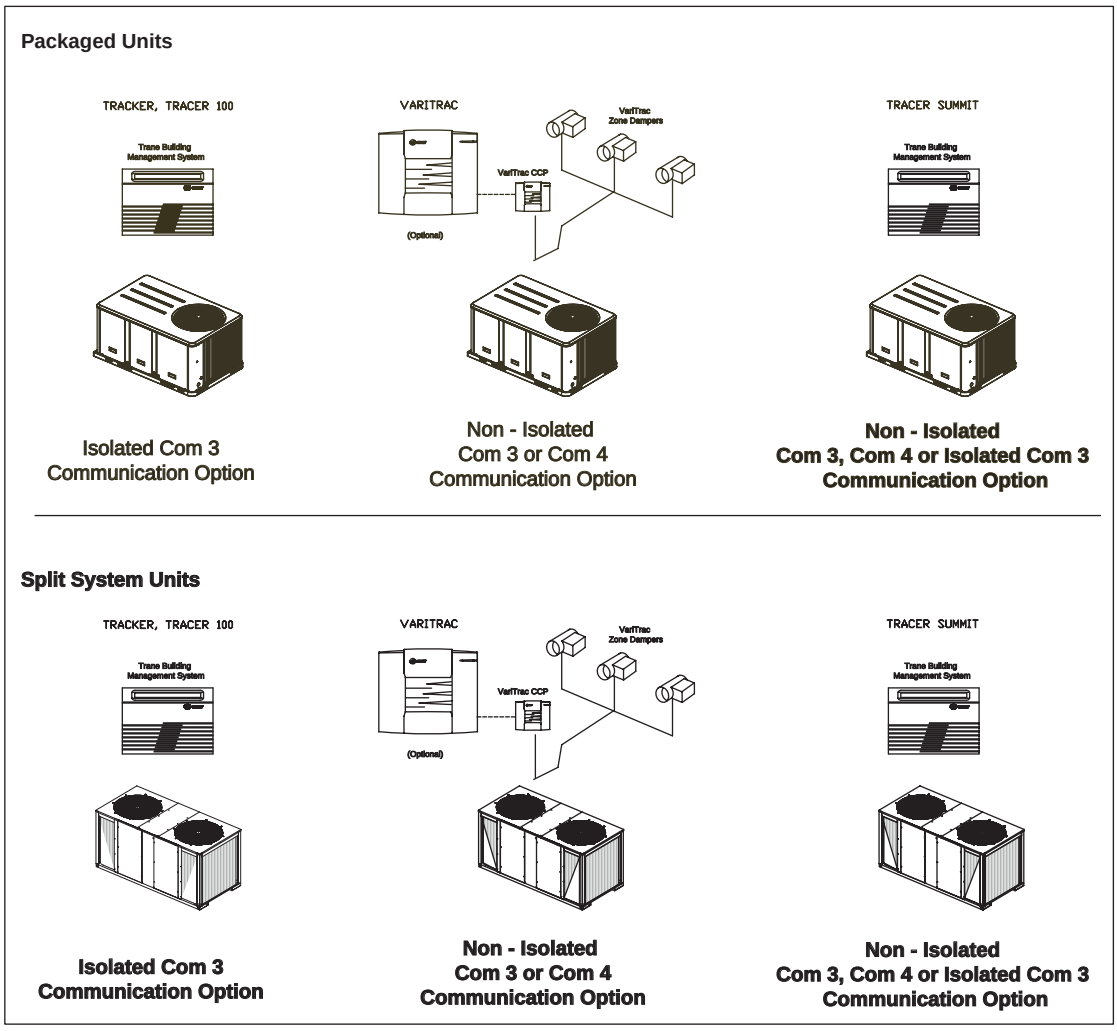
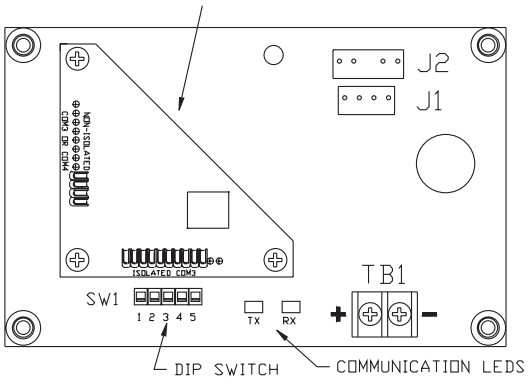
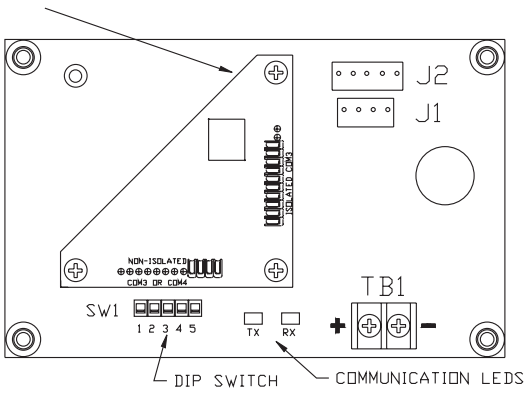


Figure 2
COMM LINK BOARD IN ISOLATED COMM 3 POSITION



COMMUNICATIONS MODULE

Figure 3
COMM LINK BOARD IN NON-ISOLATED COMM 3 OR COMM 4 POSITION



COMMUNICATIONS MODULE

Installation

⚠ 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 :

1. Remove the four screws that attach the Comm Link Board to the TCI Module base board.
2. Gently lift the Comm Link Board off the TCI Module base board and away from the pin set located above TB1.
3. Rotate the Comm Link Board 90° so that the Non-Isolated Comm 3 or Comm 4 connector is above the pin set.
4. Gently lower the Comm Link Board onto the TCI Module base board.
5. 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 Figure 4,5,6,7 or Figure 8 for Comm 3/4 board mounting location and wire bundle placement.

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

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 WSC060E) and 7½ - 10 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. See Figure 4.

   15 - 20 ton Split System units mount the TCI board above the Reliatel™ Refrigeration Module on the control box mounting panel. Secure with 2 screws. See Figure 5.

   6 - 10 ton Packaged Rooftop units (and 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. See Figure 6.

   12 1/2 - 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. See Figure 7.

   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. See Figure 8.
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.
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)

Installation

ICS 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.

Table 1
TCI Communications Module Address Setting for Tracker/ComforTrac

Address Numbers	The Reliatel Communications Interface board DIP Switch Settings				
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
1	OFF	OFF	OFF	OFF	OFF
2	OFF	OFF	OFF	OFF	ON
3	OFF	OFF	OFF	ON	OFF
4	OFF	OFF	OFF	ON	ON
5	OFF	OFF	ON	OFF	OFF
6	OFF	OFF	ON	OFF	ON
7	OFF	OFF	ON	ON	OFF
8	OFF	OFF	ON	ON	ON
9	OFF	ON	OFF	OFF	OFF
10	OFF	ON	OFF	OFF	ON
11	OFF	ON	OFF	ON	OFF
12	OFF	ON	OFF	ON	ON

Table 2
Comm 3/4 Communications Module Address Setting for VariTrac I Comfort Manager and VariTrac II Central Control Panel

Address Numbers	The Reliatel Communications Interface board DIP Switch Settings				
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
ALL	ON	ON	ON	ON	ON

Table 3
TCI Communications Module Address Setting for VariTrac III Central Control Panel

Address Numbers	The Reliatel Communications Interface board DIP Switch Settings				
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
ALL	OFF	OFF	OFF	OFF	OFF

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 Table 4. Set the Comm 3/4 Communications Module DIP switches for this address.

Table 4
TCI Communications Module Address Setting for Tracer 100 Series Panels and Tracer Summit

Address Numbers	The Reliatel Communications Interface board DIP Switch Settings				
	SW1-1	SW1-2	SW1-3	SW1-4	SW1-5
50	OFF	OFF	OFF	OFF	OFF
51	OFF	OFF	OFF	OFF	ON
52	OFF	OFF	OFF	ON	OFF
53	OFF	OFF	OFF	ON	ON
54	OFF	OFF	ON	OFF	OFF
55	OFF	OFF	ON	OFF	ON
56	OFF	OFF	ON	ON	OFF
57	OFF	OFF	ON	ON	ON
58	OFF	ON	OFF	OFF	OFF
59	OFF	ON	OFF	OFF	ON
60	OFF	ON	OFF	ON	OFF
61	OFF	ON	OFF	ON	ON
62	OFF	ON	ON	OFF	OFF
63	OFF	ON	ON	OFF	ON
64	OFF	ON	ON	ON	OFF
65	OFF	ON	ON	ON	ON
66	ON	OFF	OFF	OFF	OFF
67	ON	OFF	OFF	OFF	ON
68	ON	OFF	OFF	ON	OFF
69	ON	OFF	OFF	ON	ON
70	ON	OFF	ON	OFF	OFF
71	ON	OFF	ON	OFF	ON
72	ON	OFF	ON	ON	OFF
73	ON	OFF	ON	ON	ON
74	ON	ON	OFF	OFF	OFF
75	ON	ON	OFF	OFF	ON
76	ON	ON	OFF	ON	OFF
77	ON	ON	OFF	ON	ON
78	ON	ON	ON	OFF	OFF
79	ON	ON	ON	OFF	ON
80	ON	ON	ON	ON	OFF
81	ON	ON	ON	ON	ON

Figure 4
TCI Board Mounting and Wiring
3 - 5 Ton Packaged Rooftop units (except WSC060E)
7 ½ - 10 Ton Split System units

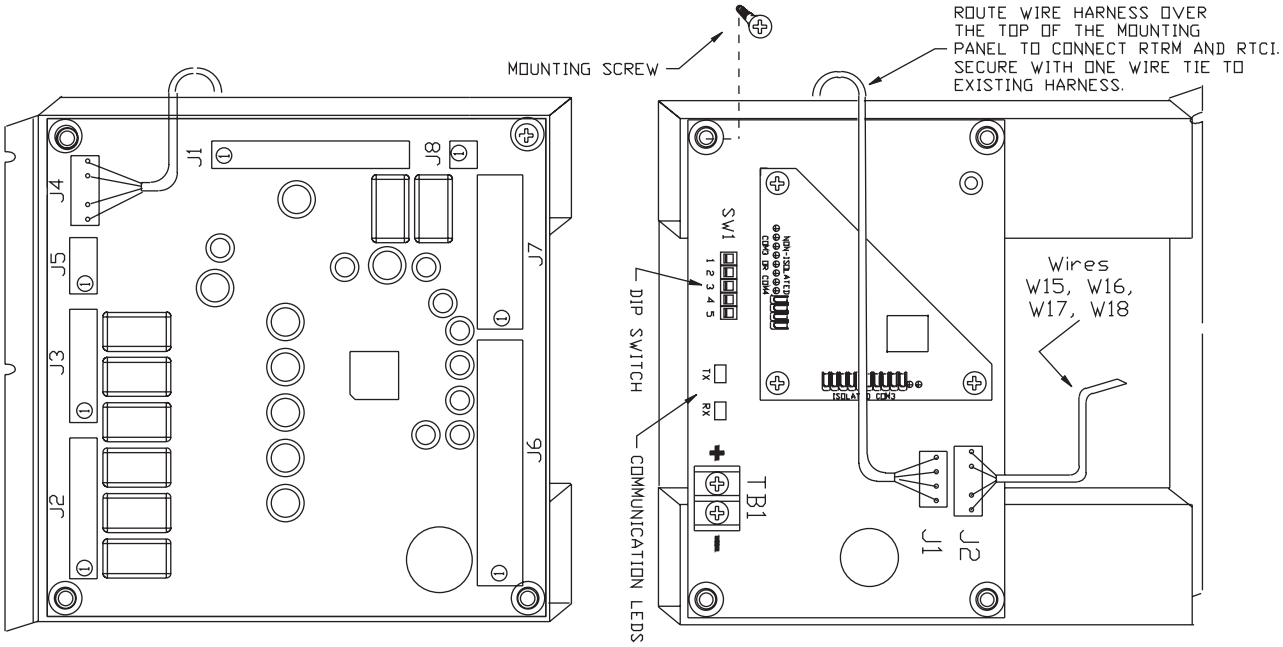


Figure 5
TCI Board Mounting and Wiring
15 - 20 Ton Split System units

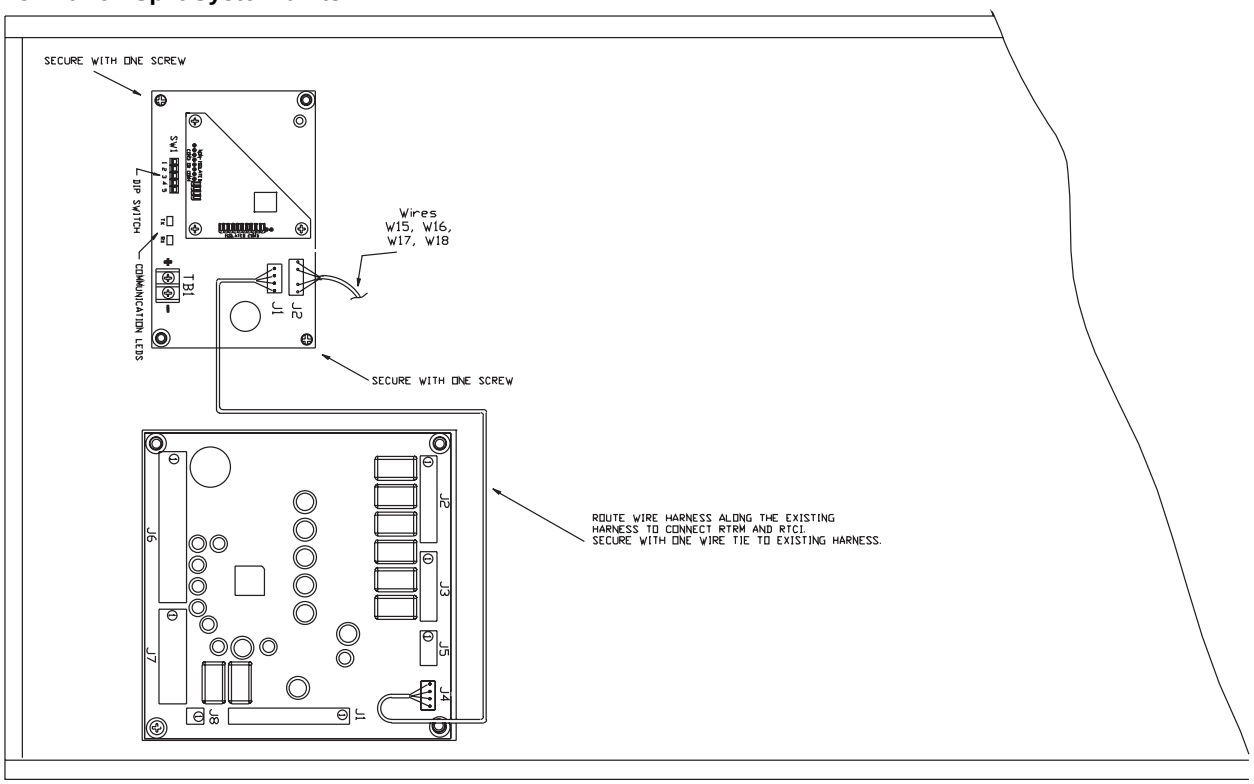
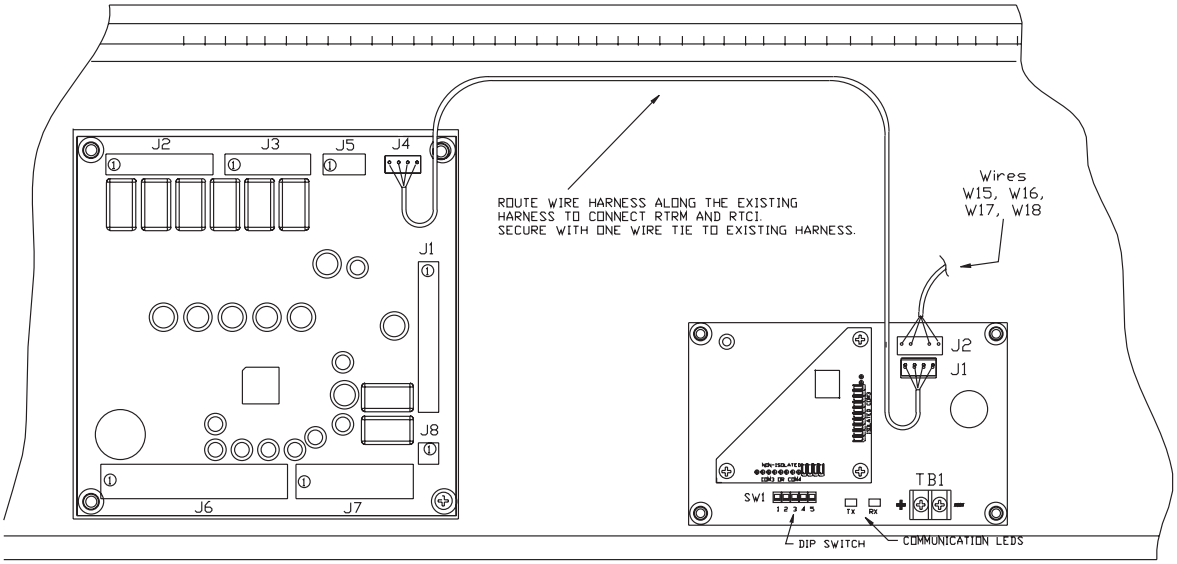


Figure 6
TCI Board Mounting and Wiring
6 - 10 Ton Packaged Rooftop units (and WSC060E)



FRONT VIEW
RTRM AND TCI BOARD MOUNTING

6 - 10 TON UNITS

Figure 7
TCI Board Mounting and Wiring
12 1/2 - 25 Ton Packaged Rooftop units

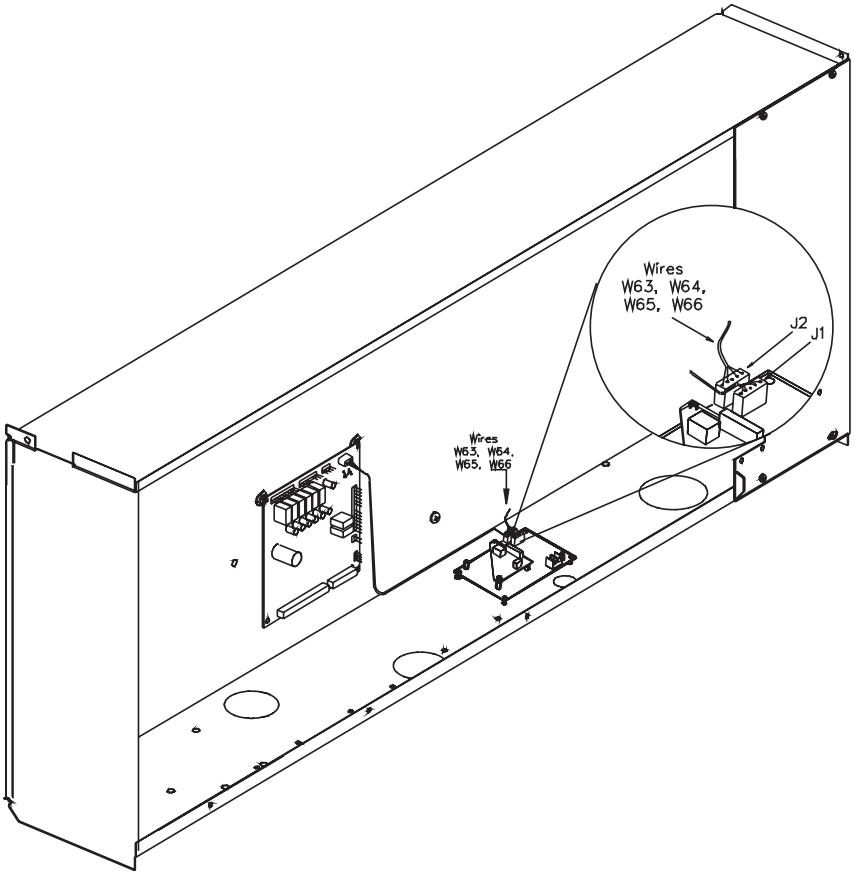
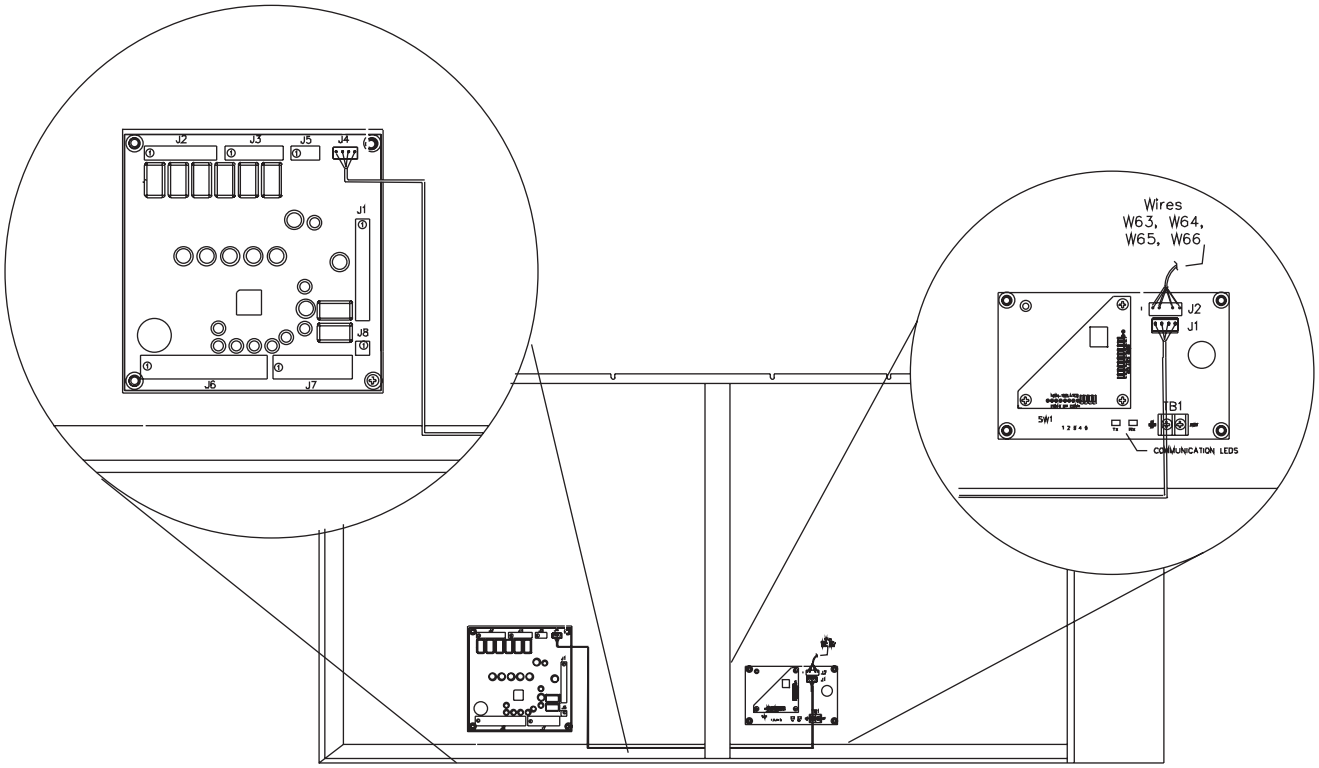


Figure 8
TCI Board Mounting and Wiring
27 1/2 - 50 Ton Packaged Rooftop units



Literature Order Number	ACC-SVN18C-EN
File Number	SV-UN-ACC-ACC-SVN18C-EN 12/05
Supersedes	ACC-SVN18B-EN
Stocking Location	Webb Mason