



Installation Instructions

Variable Frequency Drive

Conversion TR1 to TR200

IntelliPak™ 1 and 2 and Voyager™ 3 only



Model Numbers: Only Clarksville built units with factory installed VFDs. This includes the following Voyager 3 commercial units with the VAV option and IntelliPak 1 and 2 units with the VAV and/or Statitrac™ option built prior to Trane TR200 drive unit installation.

S*HF 20 to 75 tons (IntelliPak 1) TC, YC, and TE 27.5 to 50 tons (V3)
S*HG 90 to 130 tons (IntelliPak 1)
S*HJ 90 to 150 tons (IntelliPak 2)

This document applies to service offering applications only.

SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.



Introduction

Read this manual thoroughly before operating or servicing this unit.

Warnings, Cautions, and Notices

Safety advisories appear throughout this manual as required. Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

The three types of advisories are defined as follows:

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

Important Environmental Concerns

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

Important Responsible Refrigerant Practices

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

⚠ WARNING

Proper Field Wiring and Grounding Required!

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

⚠ WARNING

Personal Protective Equipment (PPE) Required!

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

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

⚠ WARNING**Follow EHS Policies!**

Failure to follow instructions below could result in death or serious injury.

- All Trane personnel must follow the company's Environmental, Health and Safety (EHS) policies when performing work such as hot work, electrical, fall protection, lockout/tagout, refrigerant handling, etc. Where local regulations are more stringent than these policies, those regulations supersede these policies.
- Non-Trane personnel should always follow local regulations.

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General Information

The instructions in this manual describe the procedures required to successfully retrofit a TR1 on 20 to 150 tons IntelliPak™ 1 and 2 rooftop air conditioning and 27.5 to 50 tons Voyager™ 3 rooftop air conditioning units to a Trane TR200 VFD drive. For help selecting the proper parts for this work, refer to *General Service Bulletin, Variable Frequency Drive Replacement List* (PART-SVB24*-EN).

The installation instructions in this manual are divided into three general topic areas:

- Removal of existing TR1 VFD and components
- Installation of replacement TR200 VFD and components
- TR200 programming of parameters

Follow start-up and trouble shooting procedures outlined in the service manuals of the unit and/or the literature that is included with this TR200 control.

Tools Required

- Very few tools are required to perform this installation.
- A service technician with a well-stocked tool chest should have the right tools to perform the job.
- A large-frame VFD will require a crimping tool for ring lugs and a drill with a #21 (4 mm) drill bit sized to allow a #10-32 screw to thread into sheet metal.

Removing the Existing VFD and Components

The section that follows will give the procedure to remove a TR1 VFD from its panel assembly and remove the remote keypad in the IntelliPak 1, IntelliPak 2, and Voyager 3 main control panels.

Programming parameters are supplied with the VFD and a minimum of five must be set based on unit specifications, see [Table 4, p. 13](#).

VFD Removal from Back Panel Assembly

1. Locate the existing TR1 VFD unit enclosure near the return and exhaust section as shown in [Figure 1](#) and [Figure 2](#) for IntelliPak 1 units, adjacent to the supply/exhaust sections

of IntelliPak 2 [Figure 3](#) and opposite supply fans on the Voyager 3 units as shown in [Figure 4](#).

2. Identify the correct VFD for replacement. The IntelliPak 1 and 2 rooftops can have both supply and exhaust/return VFDs. The IntelliPak 1 supply VFD is located on the back panel of the unit enclosure and the exhaust/return VFD is located on the inner door of the unit enclosure which must be turned to the open position for the VFD to be removed. The IntelliPak 2 supply VFD is adjacent to the supply fan section, and the exhaust/return VFD is adjacent to the exhaust/return fan section. Voyager 3 units only have supply VFDs and are located by the supply fan on the opposite side of the unit from the control panel.

Figure 1. Typical IntelliPak 1 20 to 75 tons configuration

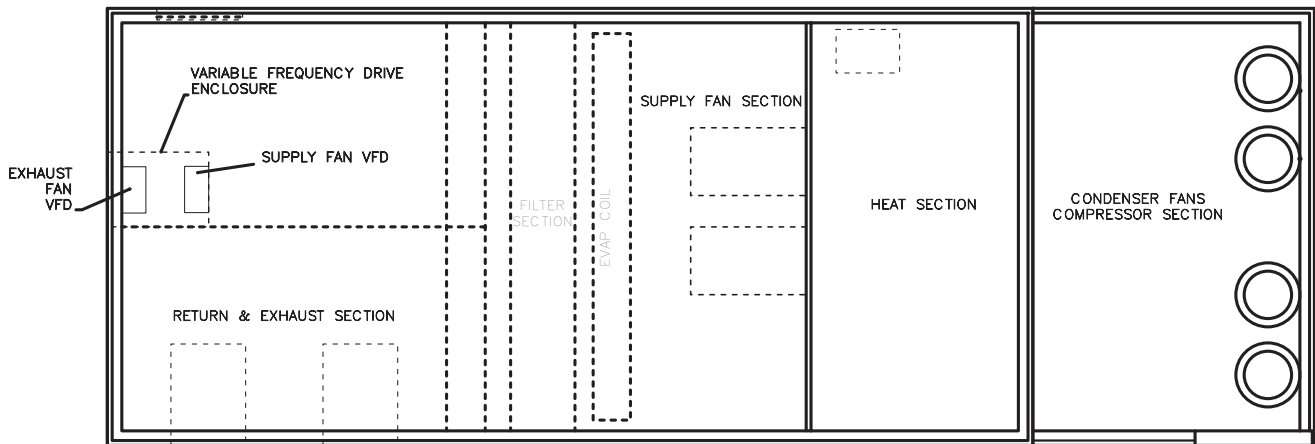


Figure 2. Typical IntelliPak 1 90 to 130 tons configuration

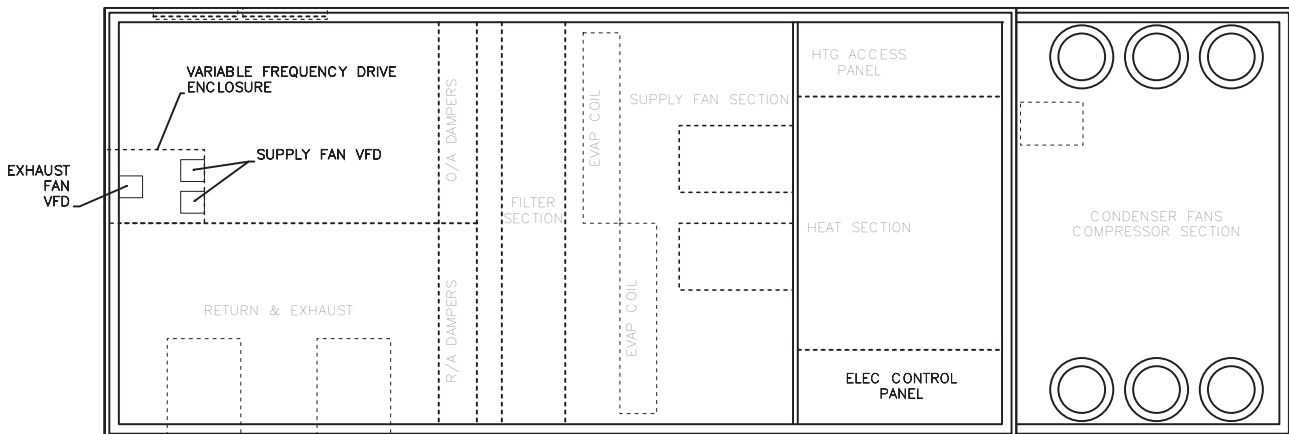


Figure 3. Typical IntelliPak 2 90 to 150 tons configuration

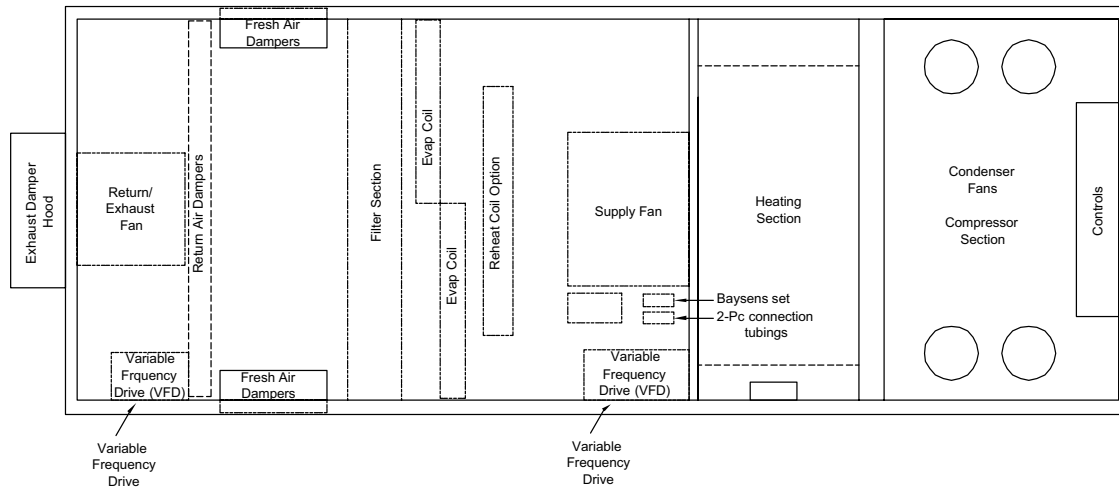
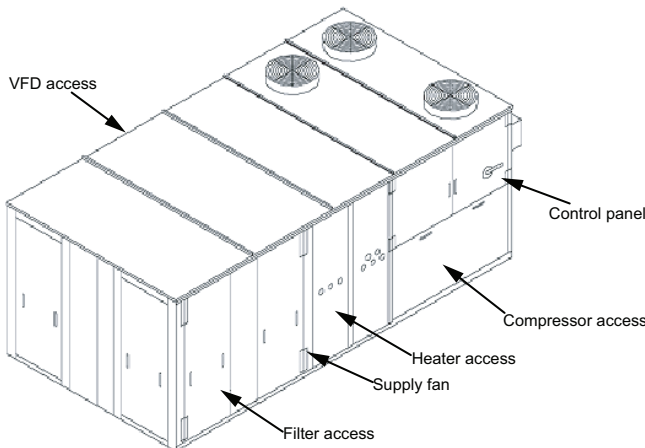


Figure 4. Typical Voyager 3 27.5 to 50 tons configuration



Note: For additional information regarding the safe discharge of capacitors, see *PROD-SVB06*-EN* or *PROD-SVB06*-FR*.

3. Disconnect the following power supply and control wires from each VFD.

Power Supply Wiring Removal

The following instructions relate to either the IntelliPak 1, 2 or Voyager 3.

VFD with bypass

- Disconnect power supply wires 1A, 2A, 3A from VFD connection points 91, 92, 93 (L1, L2, L3 respectively) and wires 10A, 11A, 12A, 13A from VFD connection points 96, 97, 98, 95 (T1, T2, T3, GND respectively).

VFD without bypass

- Disconnect power supply wire 1A, 2A, 3A from VFD connection points 91, 92, 93 (L1, L2, L3 respectively) and wires T1, T2, T3, 13A from VFD connection points 96, 97, 98, 95 (T1, T2, T3, GND respectively).

⚠ WARNING

Hazardous Voltage w/Capacitors!

Failure to disconnect power and discharge capacitors before servicing could result in death or serious injury. 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. For variable frequency drives or other energy storing components provided by Trane or others, refer to the appropriate manufacturer's literature for allowable waiting periods for discharge of capacitors. Verify with a CAT III or IV voltmeter rated per NFPA 70E that all capacitors have discharged.



Removing the Existing VFD and Components

Control Wiring Removal

1. Disconnect all control wires from the TR1 VFD itself and note the connection point numbers. The TR1 and TR200 have the same connection point numbers. See [Table 1](#) for common control wires and their connection point numbers. See [Table 2](#) for VFD keypad cables listed according to product line and function.

Table 1. Listed are typical control wires to remove from the TR1 and reinstall on the TR200^(a)

Control wire	VFD connection point
18B	12
28A	27
30A	53
31A	55
32A	18
34A***	05
Jumper wire***	39 and 04
VFD keypad cable*	Sub D connector (front of VFD)
45A**	02*
46A**	01*

Notes:

1. * See [Table 2](#) for cable names.
2. ** IntelliPak 1 90 to 130 ton units only.
3. ***VFD with bypass only.

(a) This applies to IntelliPak 1, IntelliPak 2, and Voyager 3 drives except as noted. Extra spaces are included in the table so that any other control wires may be recorded.

Table 2. Listed are VFD keypad cables according to product line and VFD function

Product/function	Keypad cable
IntelliPak 1/ supply fan	CBL3U72-6
IntelliPak 1/ exh/rtn fan	CBL3U74-6
IntelliPak 1/ supply fan #1*	CBL3U72-6
IntelliPak 1/ supply fan #2*	CBL3U73-6
IntelliPak 2/ supply fan	CBL5U16-6
IntelliPak 2/ exh/rtn fan	CBL8U17-6
Voyager 3/ supply fan	CBLVFD-6

Note: * IntelliPak 1 90 to 130 ton units only.

WARNING

Heavy Objects!

Failure to follow instructions below could result in unit dropping which could result in death or serious injury, and equipment or property-only damage. Ensure that all the lifting equipment used is properly rated for the weight of the unit being lifted. Each of the cables (chains or slings), hooks, and shackles used to lift the unit must be capable of supporting the entire weight of the unit. Lifting cables (chains or slings) may not be of the same length. Adjust as necessary for even unit lift.

2. After all cables and power supply wiring have been disconnected, locate and remove the four fasteners securing the TR1 drive to its back panel (retain fasteners). The weight of these drives can vary from approximately 20 to 230 lbs (see [Table 3](#) for estimates).
3. Verify actual weights before lifting. Follow safe procedures for lifting and removing the supply fan VFD drive and back panel assembly from the compartment and/or inner enclosure door if exhaust fan VFD is being removed.

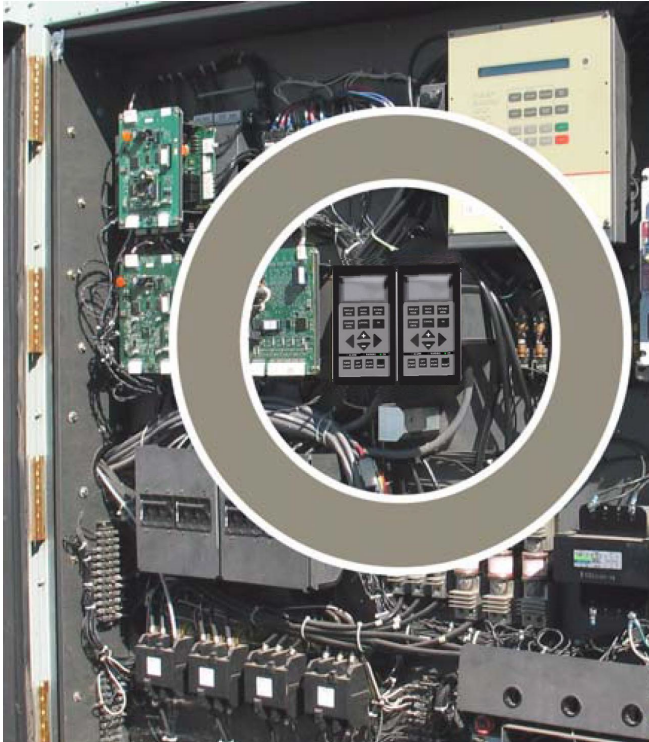
Table 3. Estimated drive weights

Motor voltage	Motor horsepower	Estimated weight	
		lb	kg
200 or 230	1.5	20	9
200 or 230	3.0	20	9
200 or 230	5.0	50	23
200 or 230	7.5	50	23
200 or 230	10	50	23
200 or 230	15	50	23
200 or 230	20	70	32
200 or 230	25	70	32
200 or 230	30	110	50
200 or 230	40	230	105
460 or 575	1.5	24	10
460 or 575	3.0	24	10
460 or 575	5.0	24	10
460 or 575	7.5	24	10
460 or 575	10	24	10
460 or 575	15	50	23
460 or 575	20	50	23
460 or 575	25	50	23
460 or 575	30	66	30
460 or 575	40	66	30
460 or 575	50	106	48
460 or 575	60	106	48
460 or 575	75	106	48
460	100	120	55

TR1 Keypad Assembly Removal

1. Locate the existing VFD keypad display in the main control box as shown in [Figure 5](#).
2. Using the keypad cable number to verify which keypad is associated with the TR1 drive being replaced, remove the keypad and keypad cradle (retain cradle screws) from the control box. Leave the keypad cable as it will be used with the TR200 keypad.

Figure 5. Typical existing remote keypad





Installation of TR200 VFD and Components

VFD and Back Panel Assembly for TR200

⚠ WARNING

Heavy Objects!

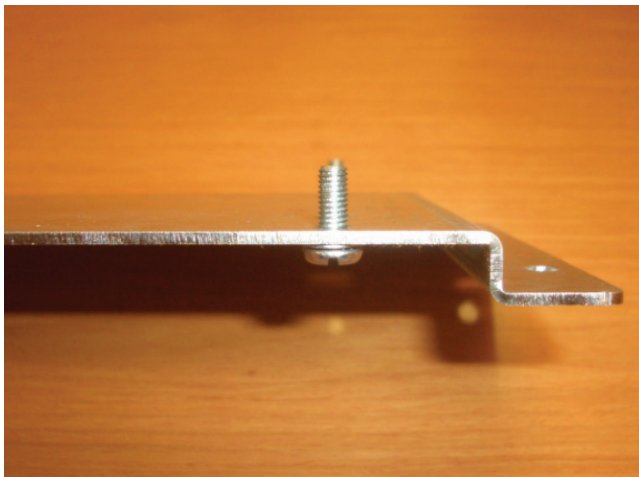
Failure to follow instructions below could result in unit dropping which could result in death or serious injury, and equipment or property-only damage.

Ensure that all the lifting equipment used is properly rated for the weight of the unit being lifted. Each of the cables (chains or slings), hooks, and shackles used to lift the unit must be capable of supporting the entire weight of the unit. Lifting cables (chains or slings) may not be of the same length. Adjust as necessary for even unit lift.

Remove VFD TR200 from the box and find the adapter plate from the kit to follow the instructions below.

TR200 Drive Installation Instruction

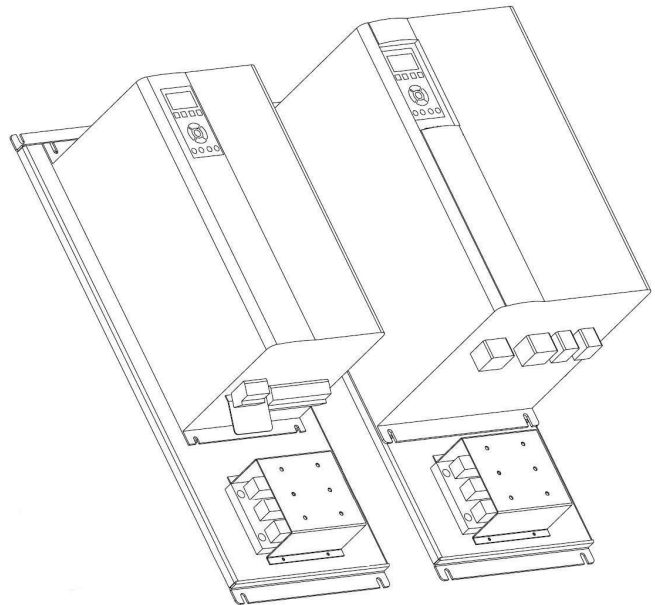
1. Identify the hole-pattern on the TR200 adapter plate that matches the TR200 replacement drive.
2. Install kit-supplied screws (SCRW MACH HEX.25-20x .625) and internal tooth lock-washers (WASH LOCK SPL .25x.484x.072 ST) in the TR200 drive adapter plate from the back.



3. Line up the TR200 on the adapter plate screws with the top of the drive nearest the edge. Excepting large-frame VFDs, there should be room on the adapter plate for fuses to mount below the VFD (Step 6). Fasten the TR200 drive with kit-supplied nuts (NUT KEPS HEX .25-20 ST).



4. Install the TR200 drive with adapter plate utilizing the TR1 mounting hardware.
5. Remove the fuses, fuse block, and fuse guard from the kit.
6. For smaller VFD, use the adapter plate mounting holes and four kit-provided fasteners (SCRW TROL HXW #8-32x.5), mount the fuse block on the adapter plate below the TR200 and install the three provided fuses into the fuse block. This figure shows typical fuse installation.



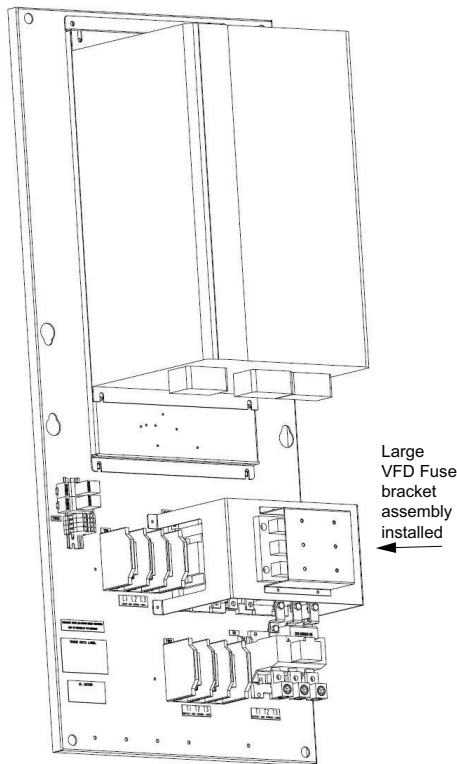
7. For large VFD, remove the fuse mounting bracket with four screws (TROL HXW #10-32x .5) and remove six fuse mounting studs (.31-18x1.75) with six screws (MACH FLT) from the kit and install the six fuse studs to the fuse bracket so each fuse will fit on two studs.
8. Using the four screws, mount this fuse bracket assembly directly to the existing TR1 panel similar to the figure below. Drilling is required to mount the fuse bracket; use the fuse bracket as a drill template to mark the existing panel

Installation of TR200 VFD and Components

(ensure a minimum of 5-inches through-air clearance between the bracket and all live connections on the existing panel).

9. Remove all metal shavings.

Note: The large VFD fuses are not actually installed onto the studs until after power supply wiring is connected. This is because the wire lug is the first item that stacks onto each fuse stud.

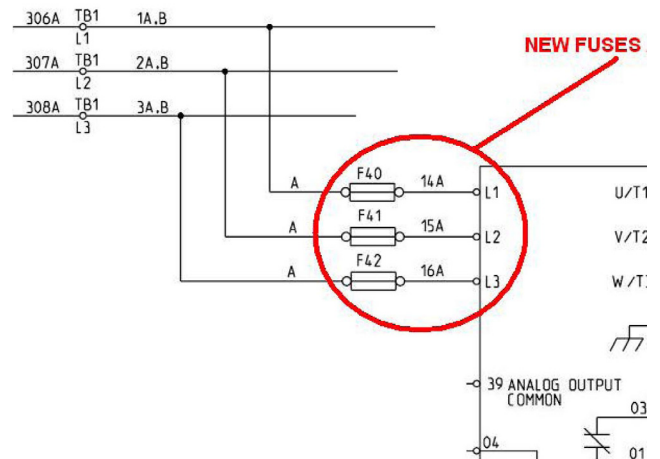


10. Confirm fuse guard mounting holes are accessible for installing the guard (after re-connecting power wires).

Power Supply Wiring to TR200

The existing unit VFD schematic, along with the fuse modification drawing [Figure 6](#), may be used as a reference or specific wiring schematics can be found in ["Wiring Diagram Matrix," p. 15](#).

Figure 6. TR200 Schematic



VFD with bypass, with and without line reactors.

- Connect 1A, 2A, 3A (originally from VFD connection points 91, 92, 93) to the new supplementary fuses F40, F41, F42*. Let the top/left most fuse be F40 by connecting wire 1A to it. Let the middle fuse be F41 by connecting wire 2A to it. Let the last fuse be F42 by connecting wire 3A to it. Using the kit-supplied wire*, connect F40, F41, F42 to VFD connection points 91, 92, 93 (L1, L2, L3 respectively). Reconnect wires 10A, 11A, 12A, 13A to VFD connection points 96, 97, 98, 95 (T1, T2, T3, GND respectively)**.

VFD without bypass, with and without line reactors.

- Connect 1A, 2A, 3A (originally from VFD connection points 91, 92, 93) to the new supplementary fuses F40, F41, F42*. Let the top/left most fuse be F40 by connecting wire 1A to it. Let the middle fuse be F41 by connecting wire 2A to it. Let the last fuse be F42 by connecting wire 3A to it. Using the kit-supplied wire*, connect F40, F41, F42 to VFD connection points 91, 92, 93 (L1, L2, L3 respectively). Reconnect wires T1, T2, T3 to VFD connection points 96, 97, 98, 95 (T1, T2, T3, GND respectively)**.

Verify wire routing does not block access to fuse guard mounting holes. Having connected the power supply wiring, the fuse guard can be installed over fuses F40, F41, F42 using 4 kit screws (SCRW TROL HXW #8-32x .5). Apply the supplied fuse replacement label to the fuse guard. Confirm ground wires are properly secured per the existing VFD schematic or appropriate wiring schematics referenced in ["Wiring Diagram Matrix," p. 15](#).

Notes:

- **Large VFD only: connect wires to the fuse studs on which F40, F41, F42 will mount using the supplied crimp-on terminals.*
- ***Large VFD only: after power supply wires are on the fuse studs, add the following kit components in order on each stud:*



Installation of TR200 VFD and Components

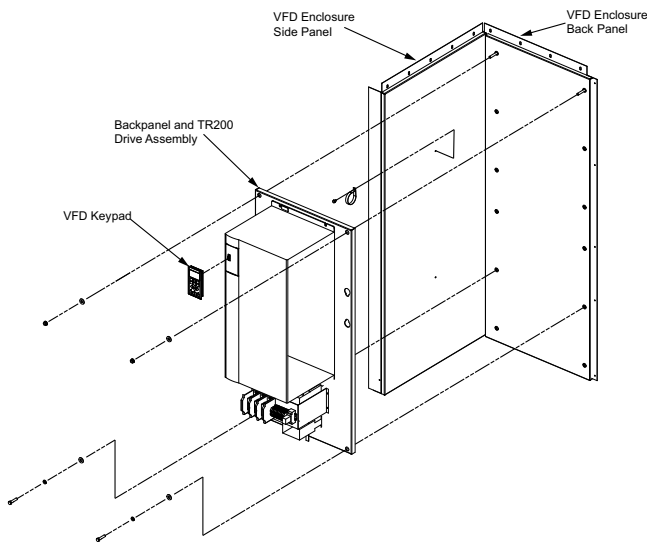
- 1 Fuse standoff (HEX0.63 FF0.31-180.50 AL)
- 2 Fuse
- 3 Flat washer (0.31x.688x.070 ST)
- 4 Lock washer (SPL .31x.580x.082 ST)
- 5 Hex nut (0.31-18 ST)

Control Wiring to TR200

1. Reconnect all control wires to the TR200 VFD according to the connection point numbers noted during TR1 removal. The TR1 and TR200 have the same connection point numbers.
2. See [Table 1, p. 8](#) for common control wires and their connection point numbers. See [Table 2, p. 8](#) for VFD keypad cables listed according to product line and function.

The existing unit VFD schematic may be used as a reference or specific wiring schematics can be found in ["Wiring Diagram Matrix," p. 15](#).

Figure 7. Typical VFD installation



Keypad and Cable Adapter Assembly Installation for TR200

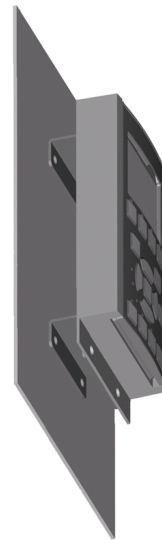
Remove the keypad mounting brackets, TR200 keypad cradle, and ribbon cable adapter from supplied parts kit.

1. Remove the Local Control Panel keypad (LCP) from the TR200 drive to remote-mount in the unit control box.
2. Install the TR200 LCP cradle. Use the mounting screws retained from removal of the TR1 cradle and install both LCP adapter brackets with the hourglass shaped side facing out and hanging down. The hourglass indentations allow the screw driver to fasten the screws. Use four

screws (TROL HXW #8-32x .5) supplied in the kit to mount the TR200 LCP cradle to the adapter brackets.

3. Connect the existing LCP cable to the TR200 LCP. Plug the ribbon cable adapter into the existing LCP cable¹, and feed the ribbon cable adapter through the existing LCP cable sheet metal hole/passageway, and then feed it through the TR200 LCP cradle cable hole. Apply edge protection to sheet metal and strain relief for the ribbon cable adapter.
4. Install the TR200 LCP into the cradle bottom edge first, then rock the top edge into the cradle ensuring the ribbon cable adapter is plugged in until the LCP is firmly in place.

Figure 8. Typical TR200 VFD remote keypad installation



Miscellaneous

Find the appropriate wiring schematic and connection drawing referenced in ["Wiring Diagram Matrix," p. 15](#), and print an electronic copy or contact the local Trane representative to obtain a copy. Tape or glue the printout over the wiring schematic and connection drawing found on the VFD unit enclosure door.

¹ To secure the existing cable plug to the ribbon cable adapter, add the supplied jack posts to the cable adapter and replace the existing cable jack screws with kit jack screws.

TR200 VFD Programming Information

Refer to *Installation and Operation - TR200 (BAS-SVX19*-EN)*, for complete programming information.

Table 4. Supply and exhaust VFD programming parameters — air-cooled condensers

Menu	Parameter	Description	Setting	Description
Load and Motor	1-21	Motor power	Set based on motor nameplate	Set only for application using 3hp hi- efficiency motors. Set to 2.2 kW/3 hp
	1-22	Motor voltage	Set based on motor nameplate	Set only for 380/415 50 Hz applications
	1-24	Motor current	Set based on motor nameplate	Sets the motor FLA
	1-25	Motor speed	Set based on motor nameplate	Sets the motor RPM
Limits and Warnings	4-18	Current limit	Rated current 100%	Limits the maximum current to motor

Note: These parameters are motor specific and the actual motor nameplate rating must be used. Do not use the unit nameplate.

VFD Programming Parameters

Please follow these instructions for setting the TR200 programming parameters listed in [Table 4, p. 13](#).

Note: Check to make sure that parameter 1-23 is set to 60 Hz. To check parameter 1-23 press the **Main Menu** button (press **Back** button, if the main menu does not display), use the **▼** button to scroll down to load and motor, press **OK**, use the **▼** button to select 1-2, press **OK**, and finally use the **▼** button until parameter 1-23 is displayed. Parameter 1-23 can then be modified by pressing **OK** button and using **▲** and **▼** buttons. When the desired selection has been made, press the **OK** button.

To verify and/or program a VFD, use the following steps:

- At the unit, turn the 115 volt control circuit switch to the **Off** position.
- Turn the 24 volt control circuit switch to the **Off** position.

⚠ 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.**

- To modify parameters:
 - Press **Main Menu** button (press **Back** button if the main menu does not display).
 - Use the **▲** and **▼** buttons to find the parameter menu group (first part of parameter number).
 - Press **OK**.
 - Use the **▲** and **▼** buttons to select the correct parameter sub-group (first digit of second part of parameter number).
 - Press **OK**.
 - Use the **▲** and **▼** buttons to select the specific parameter.
 - Press **OK**.
 - To move to a different digit within a parameter setting, use the **[.]** buttons (Highlighted area indicates digit selected for change).
 - Use the **▲** and **▼** buttons to adjust the digit.
 - Press **Cancel** button to disregard change, or press **OK** to accept change and enter the new setting.



Installation of TR200 VFD and Components

4. Repeat [Step 3](#) for each menu selection setting in [Table 4, p. 13](#).
5. To reset all programming parameters back to the factory defaults:
 - a. Go to parameter 14-22 operation mode.
 - b. Press **OK**.
 - c. Select Initialization.
 - d. Press **OK**.
 - e. Cut off the mains supply and wait until the display turns off.
 - f. Reconnect the mains supply - the frequency converter is now reset.
 - g. Confirm parameter 14-22 operation mode has reverted back to normal operation.

Notes:

- *Item five resets the drive to the default factory settings. The program parameters listed in [Table 4, p. 13](#) will need to be verified or changed as described in Item three and four.*
 - *Some of the parameters listed in the Table are motor specific. Due to various motors and efficiencies available, use only the values stamped on the specific motor nameplate. Do not use the unit nameplate values.*
 - *A backup copy of the current setup may be saved to the LCP before changing parameters or resetting the drive. See LCP Copy in the VFD operating instructions for details.*
6. Follow the start-up procedures for supply fan in the Variable Air Volume System section or the Exhaust Airflow Measurement start-up procedures for the exhaust fan.
 7. After verifying that the VFD(s) are operating properly, press the STOP key at the human interface module to stop the unit operation.
 8. Follow the applicable steps in the Final Unit Checkout section in the unit Installation, Operation, and Maintenance to return the unit to its normal operating mode.

Note: *If a problem with a VFD occurs, confirm that the programmed parameters listed for supply and exhaust VFD [Table 4, p. 13](#) have been set before replacing the drive.*



Wiring Diagram Matrix

Table 5. TR200 VFD IntelliPak™ wiring schematics and connection diagrams

Wiring diagram number	Description
2309-3576	020 through 075 ton, Supply fan VFD with bypass control, rooftop single motor application
2309-3577	090 through 130 ton, Supply fan VFD 1 with bypass control, dual motor application
2309-3578	020 through 130 ton, Exhaust/return fan VFD with bypass control, rooftop
2309-3579	090 through 130 ton, Exhaust/return fan VFD 2 with bypass control, dual motor application
2309-3580	020 through 075 ton, Supply fan VFD without bypass control, single motor application
2309-3581	090 through 130 ton, Supply fan VFD 1 without bypass control, dual motor application
2309-3582	020 through 130 ton, Exhaust/return fan VFD without bypass control
2309-3583	090 through 130 ton, Supply fan VFD 2 without bypass control, dual motor application
2309-3587	020 through 130 ton, Constant volume external field mounted devices, area 5
2309-3588	020 through 130 ton, Variable air volume external field mounted devices, area 5

Note: Wiring diagrams are available via e-Library (if accessible) or contact the local Trane representative to obtain a copy.

Table 6. TR200 VFD IntelliPak™ wiring schematics and connection diagrams

Wiring diagram number	Description
2309-3606	Schematic-power-2-PC-W/Supply VFD 90 to 150 ton
2309-3607	Schematic-power-2-PC-W/Exhaust/Return VFD 90 to 150 ton
2309-3608	Print Schematic-power-2-PC-W/Supply and Exhaust/Return VFD 90 to 150 ton
2309-3610	Schematic-power-W/Supply VFD-W/Low Ambient 90 to 105 ton
2309-3611	Schematic-power-W/Exhaust/Return VFD-W/Low Ambient 90 to 105 ton
2309-3612	Label Schematic-power-W/Supply and Exhaust/Return VFD-W/Low Ambient 90 to 105 ton
2309-3614	Schematic-power-2-PC-W/Supply VFD-W/Low Ambient 90 to 105 ton
2309-3615	Schematic-power-2-PC-W/ Exhaust/Return VFD-W/Low Ambient 90 to 105 ton
2309-3616	Schematic-power-2-PC-W/Supply and Exhaust/Return VFD-W/Low Ambient 90 to 105 ton
2309-3618	Schematic-power-W/Supply VFD-W/Low Ambient 120 to 150 ton
2309-3619	Schematic-power-W/Exhaust/Return VFD-W/Low Ambient 120 to 150 ton
2309-3620	Schematic-power-W/Supply and Exhaust/Return VFD-W/Low Ambient 120 to 150 ton
2309-3621	Schematic-power-2-PC-STD-W/Low Ambient 120 to 150 ton
2309-3622	Schematic-power-2-PC-W/Supply VFD-W/Low Ambient 120 to 150 ton
2309-3623	Schematic-power-2-PC-W/ Exhaust/Return VFD-W/Low Ambient 120 to 150 ton
2309-3624	Schematic-power-2-PC-W/Supply and Exhaust/Return VFD-W/Low Ambient 120 to 150 ton
2309-3631	Schematic-CONTROLS-RTM-2-PC-W/Exhaust/Return VFD 90 to 150 ton
2309-3632	Schematic-CONTROLS-RTM-2-PC-W/Supply and Exhaust/Return VFD 90 to 150 ton
2309-3645	Schematic-LHI-ECEM-VCM-MPM-W/O Exhaust or Return VFD
2309-3646	Schematic-LHI-ECEM-VCM-MPM-W/Return VFD
2309-3647	Schematic-LHI-ECEM-VCM-MPM-W/Exhaust VFD
2309-3648	Schematic-LHI-ECEM-VCM-MPM-2PC-W/O Exhaust or Return VFD
2309-3649	Schematic-LHI-ECEM-VCM-MPM-2/3 PC-W/Return VFD
2309-3650	Schematic-LHI-ECEM-VCM-MPM-2/3 PC-W/Exhaust VFD

Note: Wiring diagrams are available via e-Library (if accessible) or contact the local Trane representative to obtain a copy.

Table 7. TR200 VFD Voyager™ 3 wiring schematics and connection diagram

Wiring diagram number	Description
2309-3584	Voyager 3 fan VFD with bypass control
2309-3585	Voyager 3 fan VFD without bypass control

Note: Wiring diagrams are available via e-Library (if accessible) or contact the local Trane representative to obtain a copy.

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