

# PACKAGED UNITS KITS AND ACCESSORIES

508335-01  
7/2024  
Supersedes 3/2023

## VFD REPLACEMENT KIT

### INSTALLATION INSTRUCTIONS FOR E800 SERIES VARIABLE FREQUENCY DRIVE (VFD) REPLACEMENT KITS

#### ⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

#### ⚠ WARNING

##### ELECTRICAL SHOCK HAZARD.

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

**VFD HOLDS A POTENTIALLY LETHAL CHARGE UP TO 10 MINUTES AFTER POWER HAS BEEN**

**DISCONNECTED.** Do not open VFD cover until 10 minutes AFTER power source has been disconnected and power lamp has turned off.

Read manual provided by VFD manufacturer. Carefully review and follow all safety warnings in that manual also.

#### ⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

#### Shipping and Packing List

Package 1 of 1 contains:

- 1- Pre-programmed VFD (A96 or A137)
- 4- Wire harnesses

#### ⚠ WARNING

##### ELECTRICAL SHOCK HAZARD.

**STOP!** Before you continue, make sure that power to the VFD has been off for at least 10 minutes. The capacitor in the VFD holds high voltage power for up to 10 minutes after power has been disconnected.

#### Application

Kits are used to replace the variable frequency drive (VFD) in LG/LC/LH/LD, SG/SC, KG/KC/KH, EL series units. See TABLE 1 for VFDs without MODBUS cables and TABLE 2 for VFDs with MODBUS cables.

**TABLE 1**

##### NO MODBUS

HP Rating	Voltage	Kit Number	Catalog Number
2HP	230V	622785-26	24B69
	460V	622785-27	24B70
	575V	622785-36	24B82
3HP	230V	622785-28	24B71
	460V	622785-29	24B72
	575V	622785-37	24B83
5HP	230V	622785-30	24B73
	460V	622785-31	24B74
	575V	622785-38	24B84
7.5HP	230V	622785-32	24B75
	460V	622785-33	24B76
	575V	622785-39	24B85
10HP	230V	622785-34	24B77
	460V	622785-35	24B78
	575V	622785-40	24B86

#### Replacing D700 Drives

This kit contains an E800 series drive. When replacing a D700 drive with the E800 drive provided in this kit, use kit harnesses as shown in TABLE 3.

#### ⚠ WARNING

##### To prevent serious injury or death:

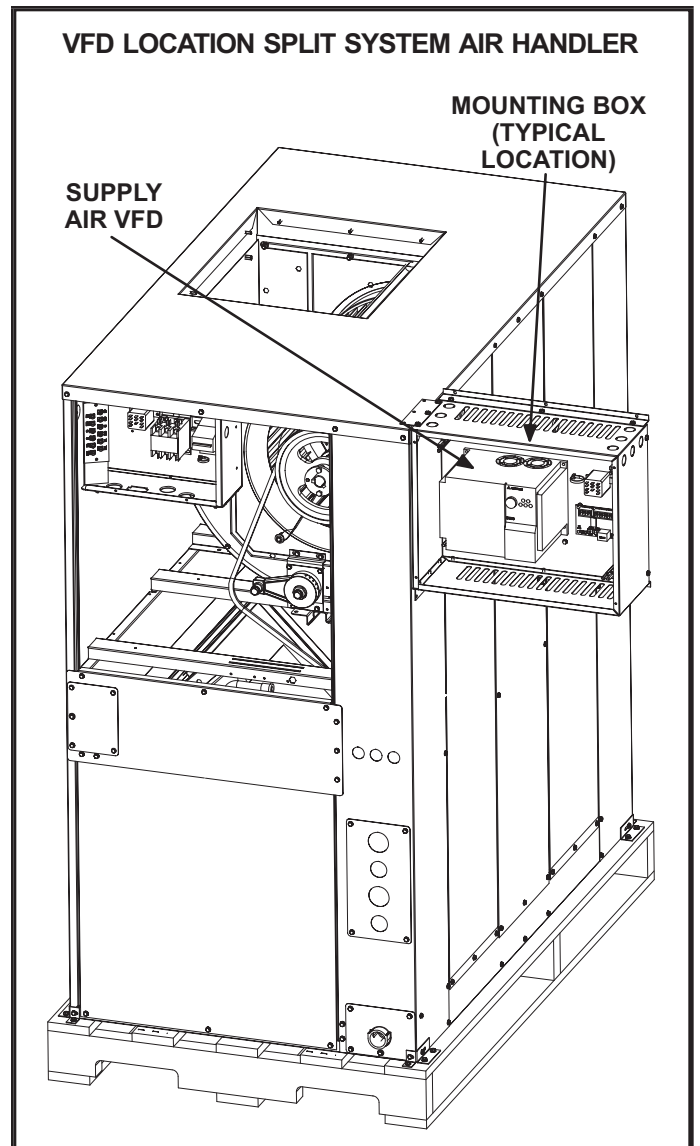
1. Lock-out/tag-out before performing maintenance.
2. If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
3. Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.

**TABLE 2**  
**WITH MODBUS**

HP Rating	Voltage	Kit Number	Catalog Number
2HP	230V	622785-26	24B69
	460V	622785-27	24B70
	575V	622785-36	24B82
3HP	230V	622785-28	24B71
	460V	622785-29	24B72
	575V	622785-37	24B83
5HP	230V	622785-30	24B73
	460V	622785-31	24B74
	575V	622785-38	24B84
7.5HP	230V	622785-32	24B75
	460V	622785-33	24B76
	575V	622785-39	24B85
10HP	230V	622785-34	24B77
	460V	622785-35	24B78
	575V	622785-40	24B86

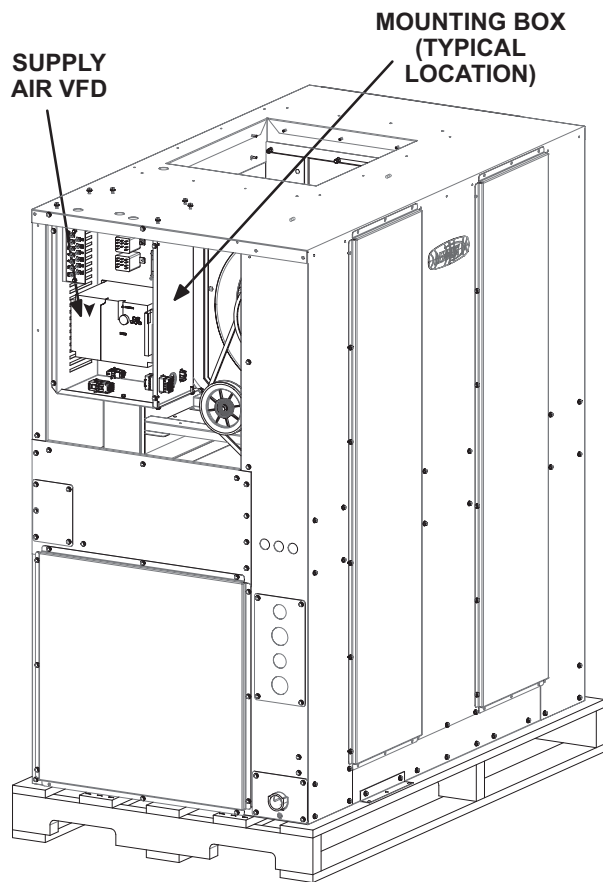
**TABLE 3**  
**D700 TO E800 REPLACEMENT HARNESSES**

Unit	Harness
LGH/LCH	616709-02
KG/KC/KH 156-300	106074-02
KG/KC/KH 092-150 & EL	107403-02
ZG/ZC/ZH 092-150	106437-02



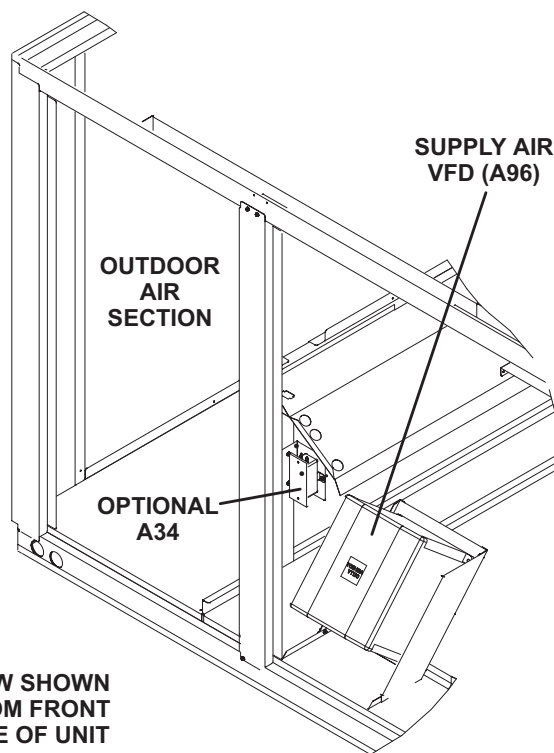
**FIGURE 1**

## VFD LOCATION-EL SPLIT SYSTEM AIR HANDLER



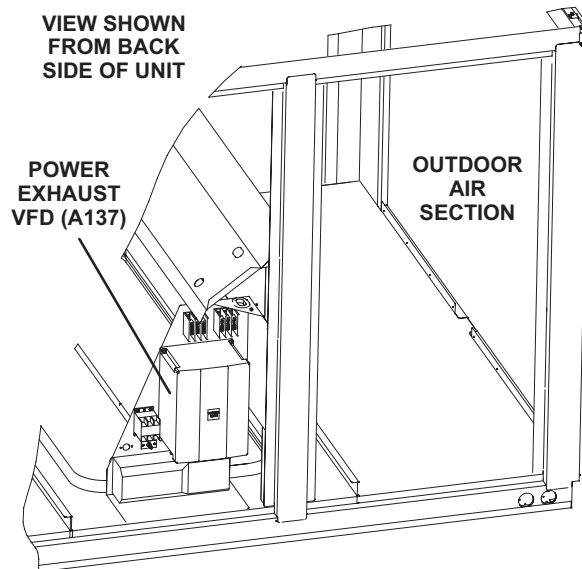
**FIGURE 2**

## SUPPLY AIR VARIABLE FREQUENCY DRIVE 420, 480, 540, & 600 UNITS



**FIGURE 3**

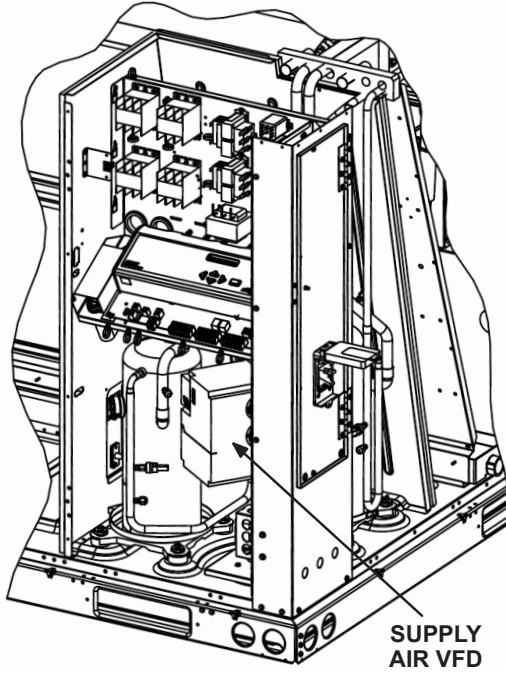
## POWER EXHAUST VARIABLE FREQUENCY DRIVE 420, 480, 540, & 600 UNITS



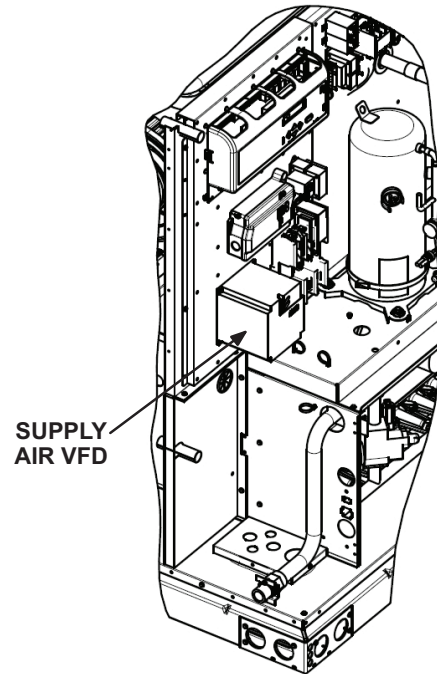
**FIGURE 4**

# VFD LOCATION

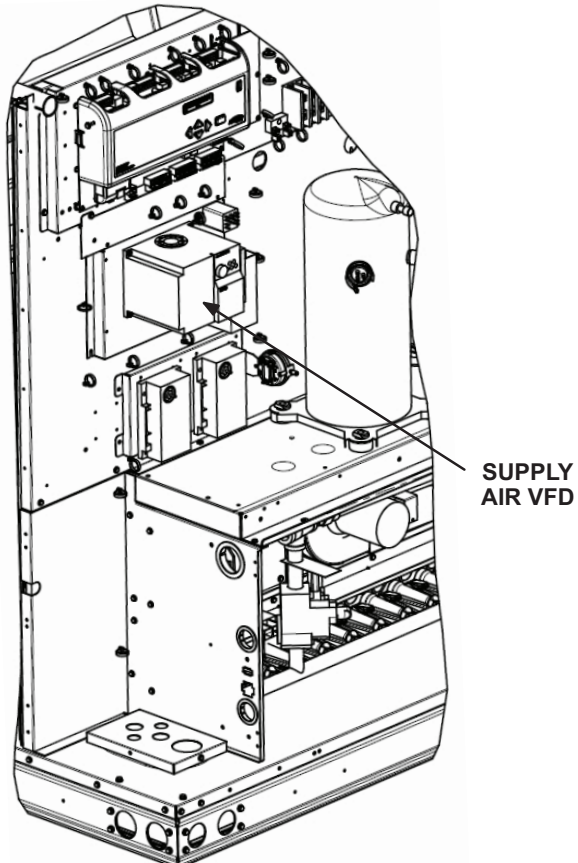
LGH/LCH/092-150  
LGX/LCX/LHX092-150  
KG/KC/KH 092-150



SG/SC120



LGH/LCH156-300S  
KG/KC/KH 180-300



LGH/LCH242H-360H  
SGC/SCC240 & 288

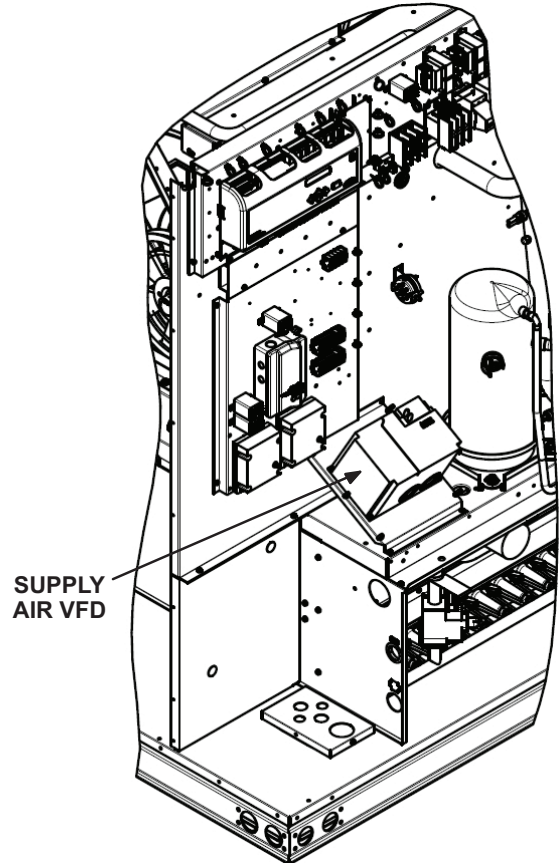
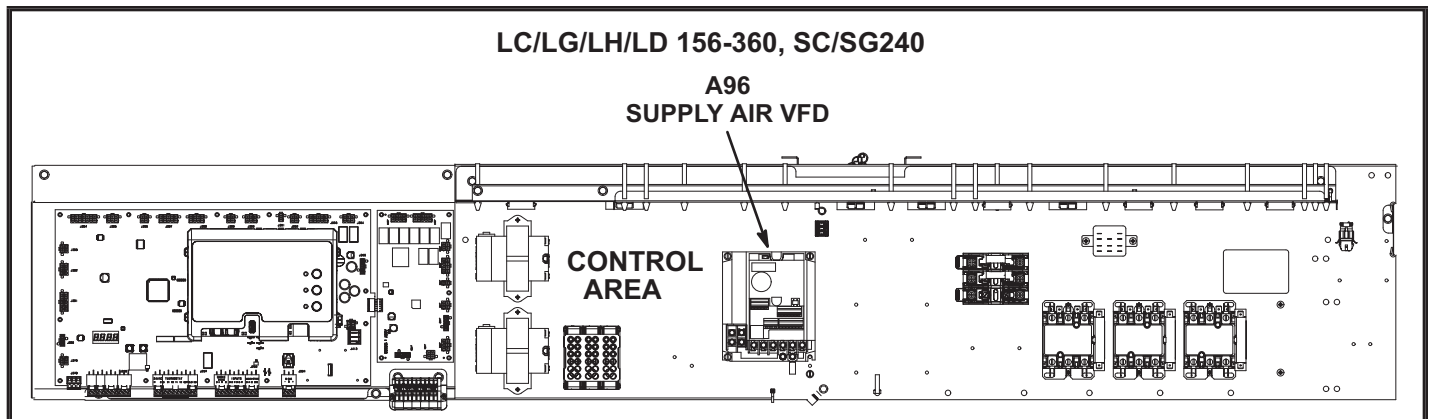


FIGURE 5



**FIGURE 6**

### Installation No MODBUS

- 1 - Disconnect all power to unit and **WAIT AT LEAST 10 MINUTES** before opening the VFD cover. See FIGURE 1 through FIGURE 6 for location.
- 2 - Open the lower cover on the VFD to access wire connections. Disconnect the wires from the terminals, making special note of the wire color and stamping that was connected to each terminal. See FIGURE 7 through FIGURE 10.
- 3 - Remove the top two screws which secure the existing VFD to the mounting bracket. Loosen the lower two securing screws and remove the existing VFD from the controls compartment.

**NOTE** - It is not necessary to completely remove the two lower screws to remove the VFD.

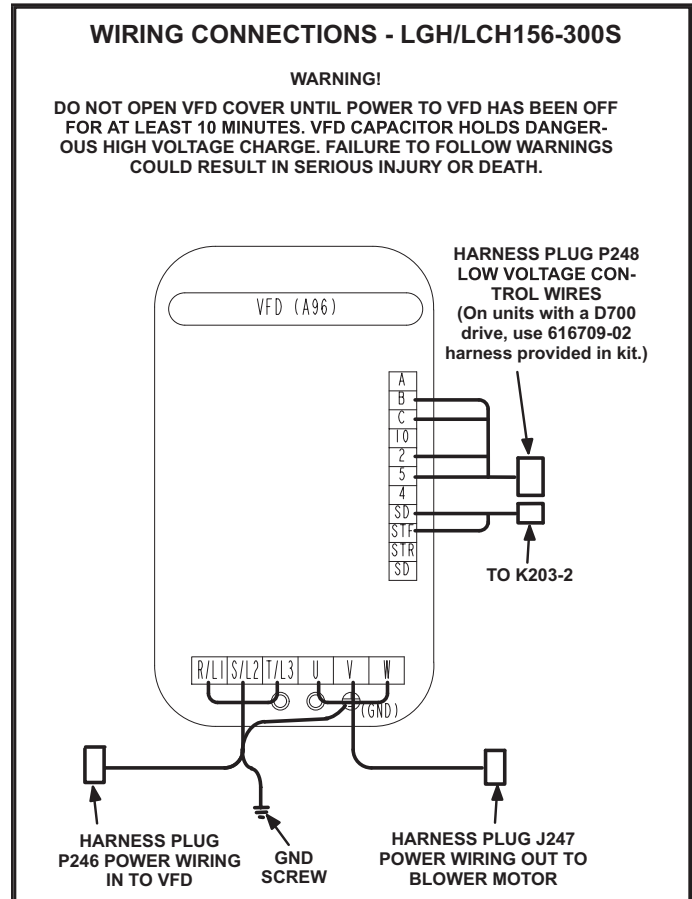
**NOTE** - If the existing VFD is model E520 or E540 it may be necessary to drill new mounting holes in the VFD mounting plate. The model number is located on the VFD nameplate.

- 4 - Slide keyholes on replacement VFD over lower securing screws. Reinsert and tighten two upper screws, then tighten lower screws.

### **! WARNING**

**Power wiring must be connected properly. Improperly connected power wiring may result in damage to the VFD.**

- 5 - Carefully connect existing wires to the replacement VFD. On units without harnesses, take care to properly connect the power wiring going into and out of the VFD.
- 6 - Close access panel and restore power to the unit.



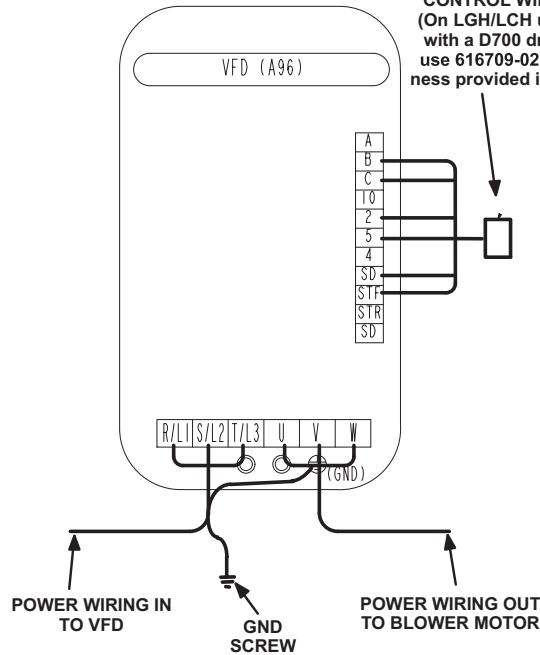
**FIGURE 7**

**WIRING CONNECTIONS -  
LGH/LCH092-150 & 242H-360H; SGC/SCC120-288;  
LGH/LCH420-600**

**WARNING!**

DO NOT OPEN VFD COVER UNTIL POWER TO VFD HAS BEEN OFF FOR AT LEAST 10 MINUTES. VFD CAPACITOR HOLDS DANGEROUS HIGH VOLTAGE CHARGE. FAILURE TO FOLLOW WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH.

**HARNESS PLUG P248 LOW VOLTAGE CONTROL WIRES**  
(On LGH/LCH units with a D700 drive, use 616709-02 harness provided in kit.)



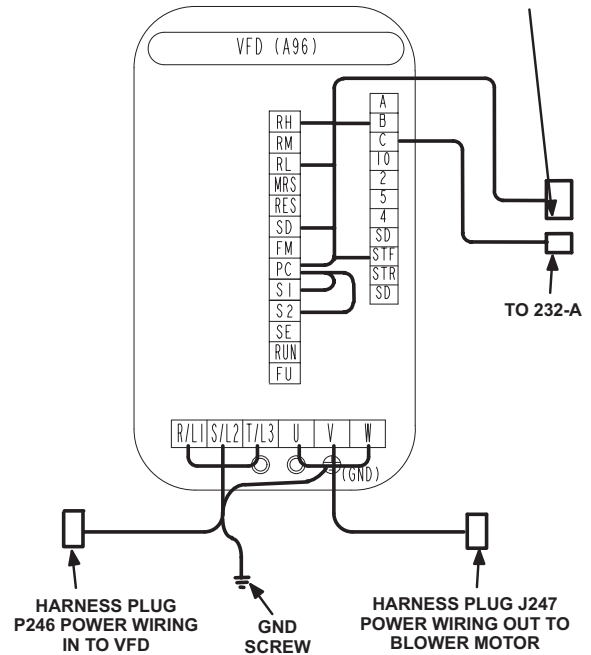
**FIGURE 8**

**WIRING CONNECTIONS - KG/KC/KH 180-300**

**WARNING!**

DO NOT OPEN VFD COVER UNTIL POWER TO VFD HAS BEEN OFF FOR AT LEAST 10 MINUTES. VFD CAPACITOR HOLDS DANGEROUS HIGH VOLTAGE CHARGE. FAILURE TO FOLLOW WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH.

**HARNESS PLUG P248 LOW VOLTAGE CONTROL WIRES**  
(On units with a D700 drive, use 106074-02 harness.)

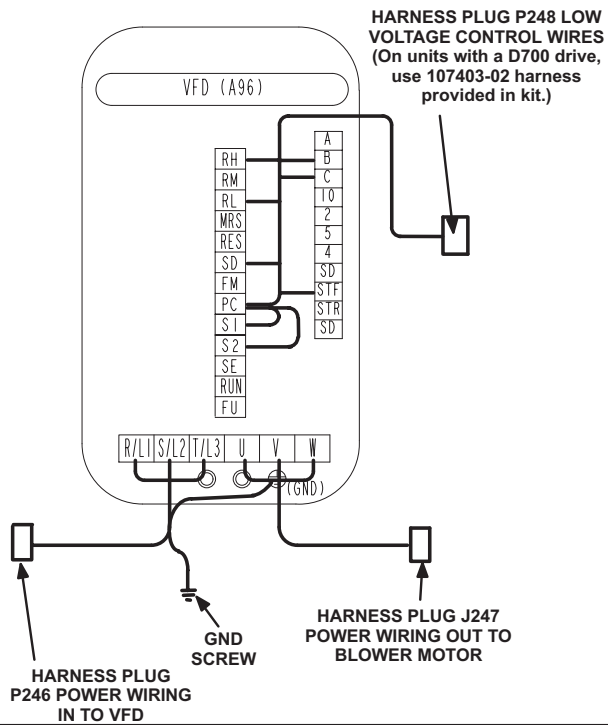


**FIGURE 9**

# **WIRING CONNECTIONS - EL 072-240XA & KG/KC 092-150**

## **WARNING!**

DO NOT OPEN VFD COVER UNTIL POWER TO VFD HAS BEEN OFF FOR AT LEAST 10 MINUTES. VFD CAPACITOR HOLDS DANGEROUS HIGH VOLTAGE CHARGE. FAILURE TO FOLLOW WARNINGS COULD RESULT IN SERIOUS INJURY OR DEATH.



**FIGURE 10**



### Installation With MODBUS Cable

- 1 - Disconnect all power to unit and WAIT AT LEAST 10 MINUTES before opening the VFD cover. See figure 10 for location.
- 2 - Mark the wires leading to the terminal block on the bottom of the VFD with appropriate terminal name. Disconnect wires from the terminal block. See FIGURE 11.
- 3 - Disconnect MODBUS from VFD.
- 4 - Remove and retain four screws securing VFD to control panel.
- 5 - Install the replacement VFD and secure with retained screws.
- 6 - Reconnect MODBUS cable and terminal block wires.
- 7 - Restore power to the unit.

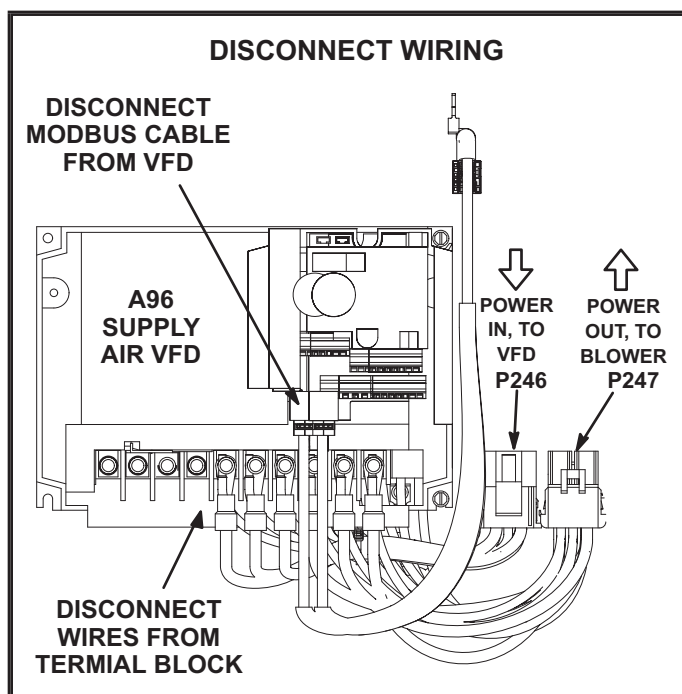


FIGURE 11

### Verify Proper Operation - All Units

#### If the blower is not rotating in the proper direction:

- 1 - Disconnect all power to the unit and open the compressor / controls compartment access panel.
- 2 - Reverse any two power wires going from the VFD to the blower motor.
- 3 - Check all field wiring to the VFD. No wires should be connected to TB2-STR.
- 4 - Check to ensure that wiring connections are secure.
- 5 - Close access panel and restore power to unit.

#### Verify proper operation of VFD:

Refer to staged supply air blower unit start-up instructions in unit installation instructions.

**NOTE** - Operate unit in the heating mode or mode which operates at the highest blower speed. Measure amp draw to blower motor between the VFD and blower motor. Verify that the amperage does not exceed the FLA value listed on the motor nameplate.