

# SmartVFD Disconnect Panel Assemblies

## INSTALLATION INSTRUCTIONS

### APPLICATION

#### Disconnect Only

The SmartVFD Disconnect Panel Assemblies channel electrical power either through or around the variable frequency drive (VFD).

### INSTALLATION

#### When Installing This Product

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check the ratings given in the instructions, Honeywell SmartVFD manual and on the product to make sure the product is suitable for your application.
3. Verify disconnect panel model is correct; no damage has been incurred; no screws, connections, terminations are loose.
4. Installer must be a trained, experienced service Technician, with VFD operation experience.
5. After installation is complete, check out product operation as provided in these instructions.

#### **WARNING**

##### **Can Cause Serious Injury or Death.**

1. Installation requires work with voltages that may cause serious injury or death.
2. This instruction manual is intended as a guide only. End user is responsible for proper application of this assembly, insuring proper conformance, directives, intended use and maintaining all safety practices as described in Honeywell SmartVFD manual, local codes, local safety authorities.
3. Disconnect power supply before installation, and before any servicing.

#### **CAUTION**

##### **Equipment Damage Hazard.**

##### **Can short equipment circuitry.**

**Disconnect power supply before installation.**

### Location and Mounting

Locate the device in a clean, dry, well-ventilated area with an ambient temperature below 104°F (40°C).

Refer to SmartVFD manual Installation chapter for free air space requirements above and to the sides of SmartVFD's.

Ensure proper branch/short circuit protection is provided.

### WIRING

#### **IMPORTANT**

*All wiring must agree with applicable codes, ordinances and regulations.*

*Variable frequency drive can store energy. Refer to VFD manual for safe work practices and appropriate wait times before servicing after equipment power has been de-energized.*

*All safety, warning and caution information located in Honeywell SmartVFD manual must be read, understood and followed.*

*Before proceeding, make sure proper branch/short circuit protection has been provided (see SmartVFD manual).*

1. Ensure that disconnect panel voltage corresponds with that of the power supply.
2. To access the disconnect panel wiring compartment:
  - a. Ensure the main disconnect handle is in the OFF position.
  - b. Open the cover.
  - c. Test for power.
3. Refer to SmartVFD user manual "Power Cabling" and "Control Unit" for proper power and control wire sizing information.
4. Terminate input three phase power wiring to line side of main fused disconnect. Refer to disconnect panel schematic.
5. Terminate three phase motor wiring to motor terminals "T1", "T2", "T3". Refer to disconnect panel schematic.
6. Terminate all VFD control wiring to the proper terminals on VFD. Refer to disconnect panel schematic.

Refer to schematic for typical wiring.

#### **IMPORTANT**

*Use only copper wire with 167°F (75°C) minimum.*



## OPERATION

1. Make sure disconnect panel and motor are properly grounded.
2. Make sure all connection points are tight; including all disconnect panel connection points.
3. Make sure all safeties (customer option) are connected and in working order.
4. Double check correct voltage is being applied and power and motor wiring are terminated in the correct place.
5. Verify motor FLA does not exceed VFD output amp rating.
6. Verify building automation system is ready for start, stop, speed command; all wires are terminated in the correct location.
7. Make sure all personnel, debris, etc are clear.

Before applying power verify main input disconnect handle is in the "OFF" position.

1. Apply input power, check three phase voltage on line side of main disconnect switch.
2. Press "Loc/Rem" button and program correct parameters for local (keypad) control. See SmartVFD manuals. Check motor rotation.
3. If motor is rotating backwards, shut down power, lock out power source, wait until VFD stored energy has dissipated, switch incoming motor wires on the "T1" and "T2" terminals in the disconnect panel, or motor wires "T1" and "T2" in the motor junction box. Re-energize power and check rotation again.

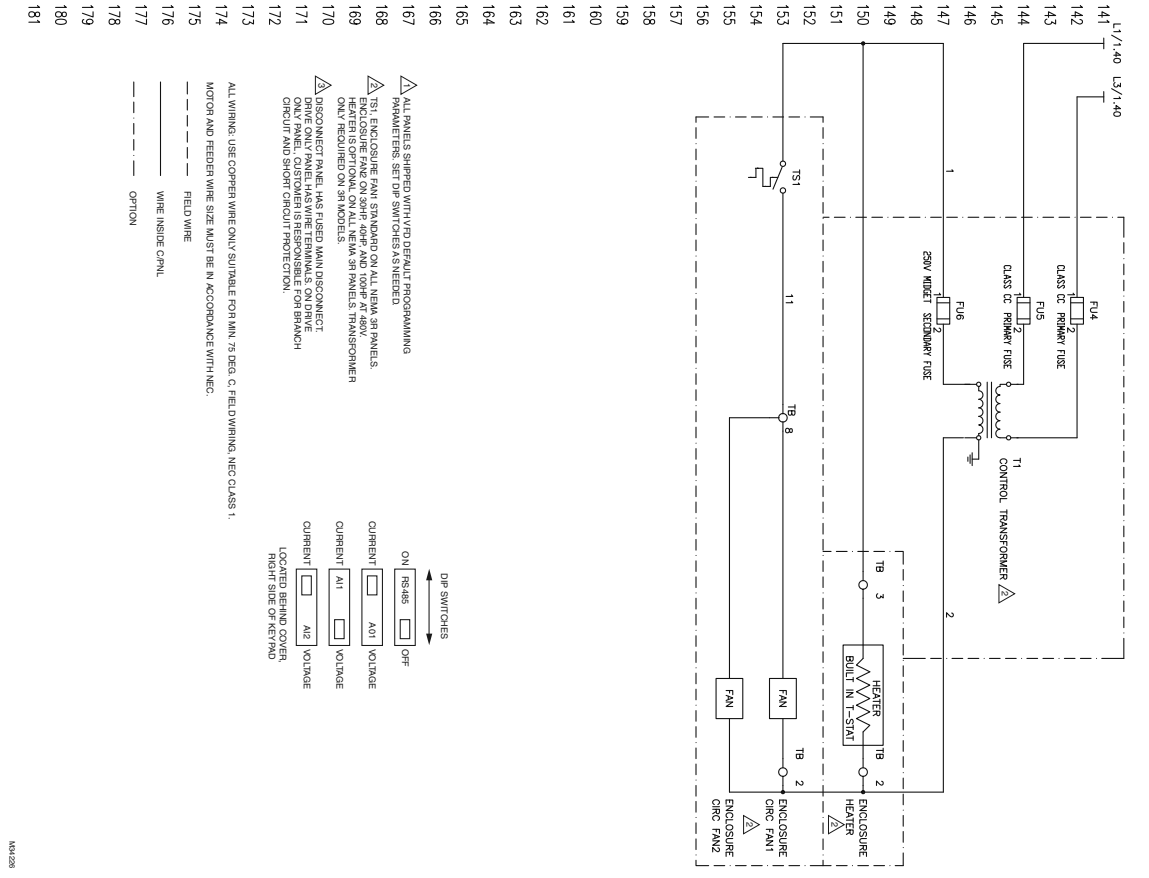
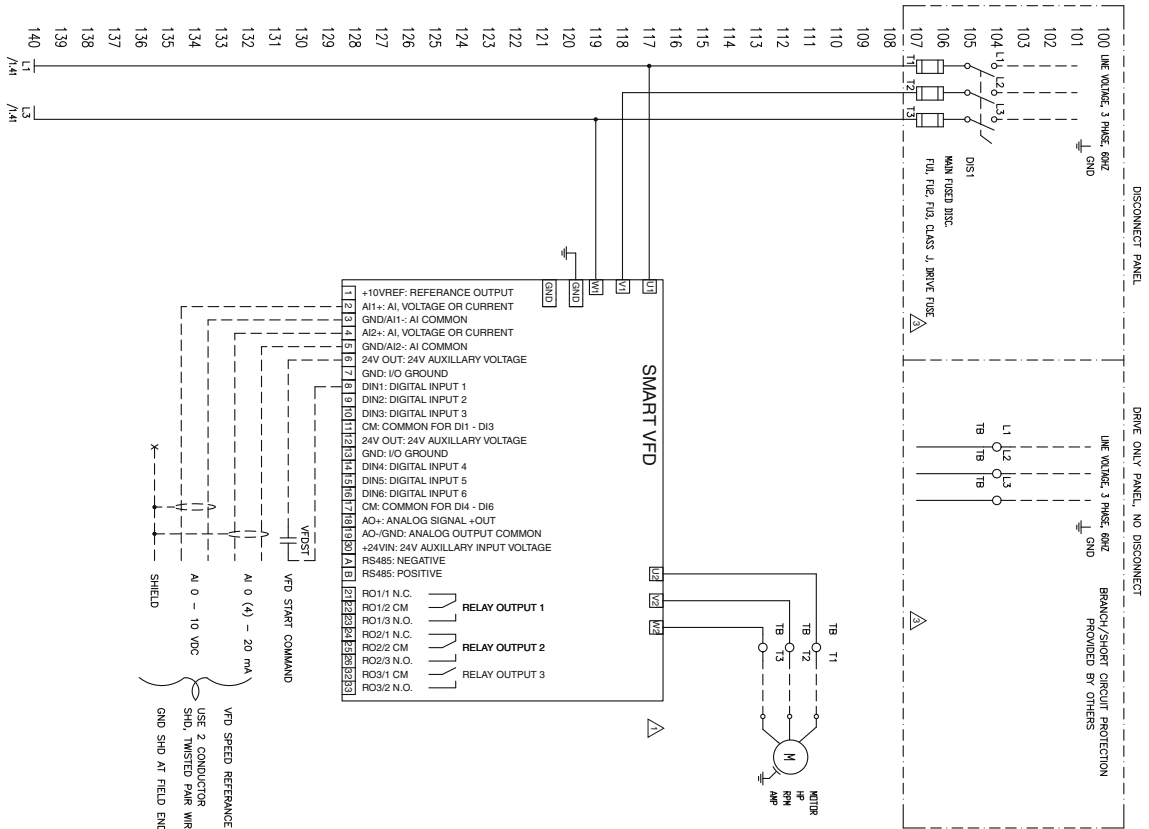


Fig. 1. Fused Disconnect Wiring Diagram.

**Table 1. SmartVFD Fused Disconnect.**

Voltage	HP	AMPS	Frame	NEMA1	NEMA12	NEMA3R
				NEMA1 Fused Disconnect	NEMA12 Fused Disconnect	NEMA3R Fused Disconnect
460	1.5 HP	3.4A	4	HVFDSB3C0015G110	HVFDSB3C0015G210	HVFDSB3C0015G310
	2 HP	4.8A	4	HVFDSB3C0020G110	HVFDSB3C0020G210	HVFDSB3C0020G310
	3 HP	5.6A	4	HVFDSB3C0030G110	HVFDSB3C0030G210	HVFDSB3C0030G310
	4 HP	8A	4	HVFDSB3C0040G110	HVFDSB3C0040G210	HVFDSB3C0040G310
	5 HP	9.6A	4	HVFDSB3C0050G110	HVFDSB3C0050G210	HVFDSB3C0050G310
	7.5 HP	12A	4	HVFDSB3C0075G110	HVFDSB3C0075G210	HVFDSB3C0075G310
	10 HP	16A	5	HVFDSB3C0100G110	HVFDSB3C0100G210	HVFDSB3C0100G310
	15 HP	23A	5	HVFDSB3C0150G110	HVFDSB3C0150G210	HVFDSB3C0150G310
	20 HP	31A	5	HVFDSB3C0200G110	HVFDSB3C0200G210	HVFDSB3C0200G310
	25 HP	38A	6	HVFDSB3C0250G110	HVFDSB3C0250G210	HVFDSB3C0250G310
	30 HP	46A	6	HVFDSB3C0300G110	HVFDSB3C0300G210	HVFDSB3C0300G310
	40 HP	61A	6	HVFDSB3C0400G110	HVFDSB3C0400G210	HVFDSB3C0400G310
	50 HP	72A	7	HVFDSB3C0500G110	HVFDSB3C0500G210	HVFDSB3C0500G310
	60 HP	87A	7	HVFDSB3C0600G110	HVFDSB3C0600G210	HVFDSB3C0600G310
	75 HP	105A	7	HVFDSB3C0750G110	HVFDSB3C0750G210	HVFDSB3C0750G310
	100 HP	140 A	8	HVFDSB3C1000G110	HVFDSB3C1000G210	HVFDSB3C1000G310
	120 HP	170 A	8	HVFDSB3C1250G110	HVFDSB3C1250G210	HVFDSB3C1250G310
150 HP	205 A	8	HVFDSB3C1500G110	HVFDSB3C1500G210	HVFDSB3C1500G310	
208	0.75 HP	3.7A	4	HVFDSB3A0007G110	HVFDSB3A0007G210	HVFDSB3A0007G310
	1 HP	4.8A	4	HVFDSB3A0010G110	HVFDSB3A0010G210	HVFDSB3A0010G310
	1.5 HP	6.6A	4	HVFDSB3A0015G110	HVFDSB3A0015G210	HVFDSB3A0015G310
	2 HP	8A	4	HVFDSB3A0020G110	HVFDSB3A0020G210	HVFDSB3A0020G310
	3 HP	11A	4	HVFDSB3A0030G110	HVFDSB3A0030G210	HVFDSB3A0030G310
	5 HP	18A	5	HVFDSB3A0050G110	HVFDSB3A0050G210	HVFDSB3A0050G310
	7.5 HP	24A	5	HVFDSB3A0075G110	HVFDSB3A0075G210	HVFDSB3A0075G310
	10 HP	31A	5	HVFDSB3A0100G110	HVFDSB3A0100G210	HVFDSB3A0100G310
	15 HP	48A	6	HVFDSB3A0150G110	HVFDSB3A0150G210	HVFDSB3A0150G310
	20 HP	62A	6	HVFDSB3A0200G110	HVFDSB3A0200G210	HVFDSB3A0200G310
	25 HP	75A	6	HVFDSB3A0250G110	HVFDSB3A0250G210	HVFDSB3A0250G310
	30 HP	88A	7	HVFDSB3A0300G110	HVFDSB3A0300G210	HVFDSB3A0300G310
	40 HP	105A	7	HVFDSB3A0400G110	HVFDSB3A0400G210	HVFDSB3A0400G310
	50 HP	140 A	8	HVFDSB3A0500G110	HVFDSB3A0500G210	HVFDSB3A0500G310
	60 HP	170 A	8	HVFDSB3A0600G110	HVFDSB3A0600G210	HVFDSB3A0600G310
75 HP	205 A	8	HVFDSB3A0750G110	HVFDSB3A0750G210	HVFDSB3A0750G310	

**Table 1. SmartVFD Fused Disconnect. (Continued)**

Voltage	HP	AMPS	Frame	NEMA1	NEMA12	NEMA3R
				NEMA1 Fused Disconnect	NEMA12 Fused Disconnect	NEMA3R Fused Disconnect
230	0.75 HP	3.7A	4	HVFDSB3B0007G110	HVFDSB3B0007G210	HVFDSB3B0007G310
	1 HP	4.8A	4	HVFDSB3B0010G110	HVFDSB3B0010G210	HVFDSB3B0010G310
	1.5 HP	6.6A	4	HVFDSB3B0015G110	HVFDSB3B0015G210	HVFDSB3B0015G310
	2 HP	8A	4	HVFDSB3B0020G110	HVFDSB3B0020G210	HVFDSB3B0020G310
	3 HP	11A	4	HVFDSB3B0030G110	HVFDSB3B0030G210	HVFDSB3B0030G310
	5 HP	18A	5	HVFDSB3B0050G110	HVFDSB3B0050G210	HVFDSB3B0050G310
	7.5 HP	24A	5	HVFDSB3B0075G110	HVFDSB3B0075G210	HVFDSB3B0075G310
	10 HP	31A	5	HVFDSB3B0100G110	HVFDSB3B0100G210	HVFDSB3B0100G310
	15 HP	48A	6	HVFDSB3B0150G110	HVFDSB3B0150G210	HVFDSB3B0150G310
	20 HP	62A	6	HVFDSB3B0200G110	HVFDSB3B0200G210	HVFDSB3B0200G310
	25 HP	75A	6	HVFDSB3B0250G110	HVFDSB3B0250G210	HVFDSB3B0250G310
	30 HP	88A	7	HVFDSB3B0300G110	HVFDSB3B0300G210	HVFDSB3B0300G310
	40 HP	105A	7	HVFDSB3B0400G110	HVFDSB3B0400G210	HVFDSB3B0400G310
	50 HP	140 A	8	HVFDSB3B0500G110	HVFDSB3B0500G210	HVFDSB3B0500G310
	60 HP	170 A	8	HVFDSB3B0600G110	HVFDSB3B0600G210	HVFDSB3B0600G310
75 HP	205 A	8	HVFDSB3B0750G110	HVFDSB3B0750G210	HVFDSB3B0750G310	





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