THREE PHASE MOTOR AND VFD WITH EMC FILTER

VRPM053F145 with VFD480V05030A-4KW450

DISCONNECT POWER
BEFORE INSTALLING OR SERVICING.

ALL ELECTRICAL WORK IS TO BE COMPLETED BY A LICENSED AND CERTIFIED ELECTRICIAN AND MEET NATIONAL (NEC), REGIONAL AND LOCAL ELECTRIC CODES.

IT IS THE RESPONSIBILITY OF THE CUSTOMER TO ENSURE THAT INSTALLATIONS MEET THIS AND ANY ADDITIONAL PROVIDED ELECTRICAL REQUIREMENTS.

J&D Manufacturing is not liable for issues arising from non-compliant wiring or installation by unqualified personnel.

General Wiring Instructions:
- Wiring should only be performed by a trained electrician to prevent injury or death.
- Failure to follow the mentioned recommendations can lead to stray voltage and/or increased electrical interference.
- Only permit power to unit when guards are properly installed to prevent injury.
- Refer to motor/VFD specific instructions included with motor/VFD.
- Install manual disconnect switch inside building adjacent to fan.
- Route wire to motor with drip loop and secure. Drip loop will drain accumulated moisture away from the motor.
- Use four conductor 26AWG (or heavier), shielded, dual twisted pair, signal wire with drain wire from J&D control to motor/VFD.

Apply the following as applicable to this unit.

Fans using a VFD:
- Use line reactors to minimize voltage spikes and harmonics.
- Use VFD-rated shielded cable between the drive and motor.
- Ground the shield wire only at the VFD end to avoid ground loops.
- Follow the VFD's wiring instructions and nameplate ratings.
- All equipment must be wired to meet IEEE 519-2022 standard for harmonic distortion.
- Use dedicated overcurrent and overload protection (motor circuit breaker) for each fan.
- Input power must be within +/-5% of nominal voltage.

Single Phase Fans using an Electronic Voltage Control *(i.e. TRIAC)*:
- Do not reduce voltage below 40% of the motor's rated voltage.
- This control method may cause motor humming.
- Fan speed may fluctuate and not remain consistent.

INSTALLATION

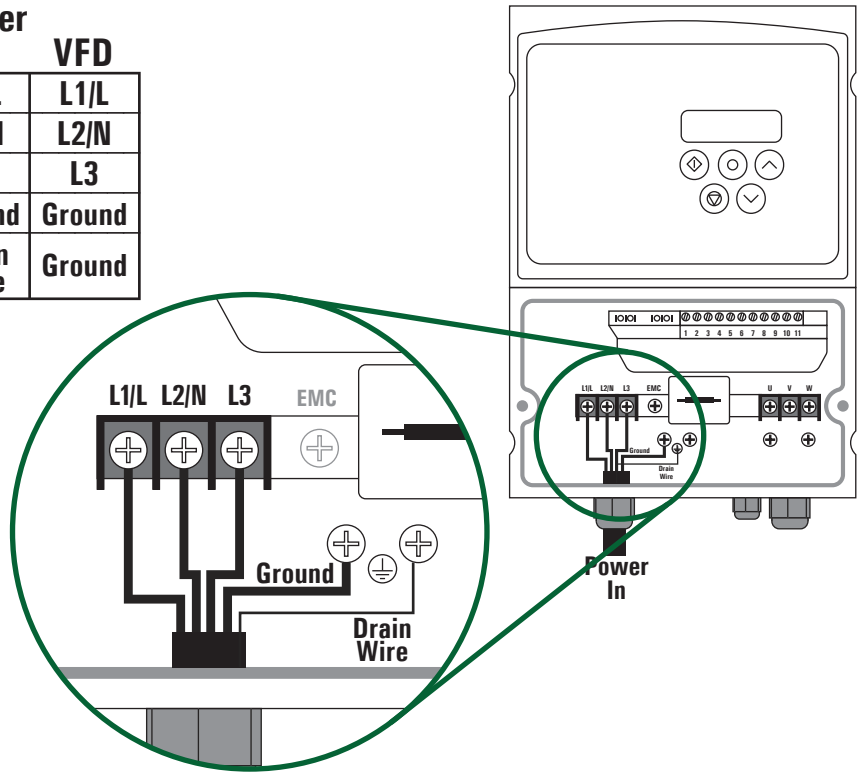
Please read over ALL instructions carefully before you begin.
If you have any questions please call your local J&D reseller, or contact J&D Manufacturing at 1-800-998-2398.

WARNING

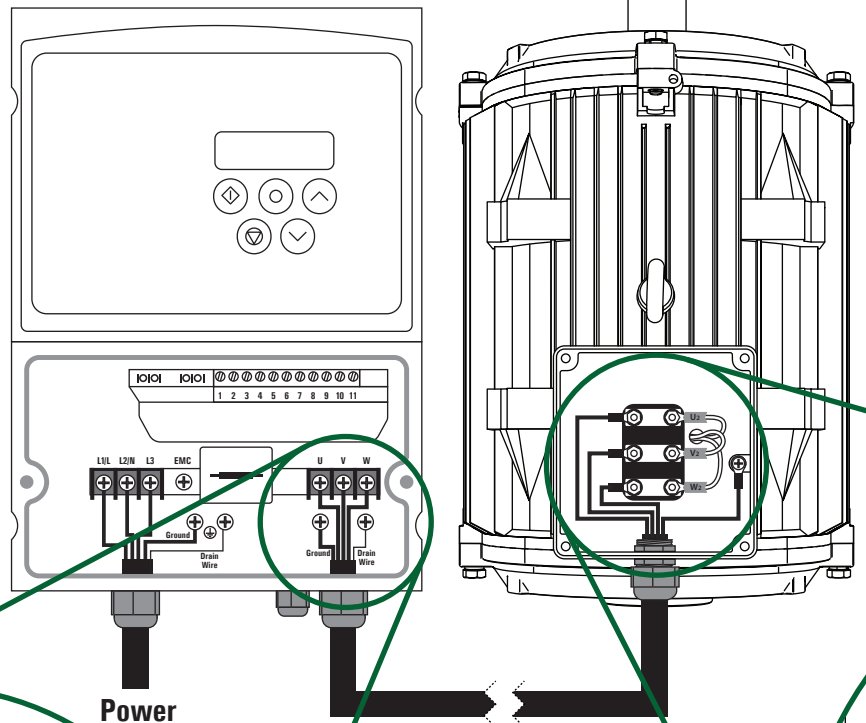
For additional warnings, cautions, and notices refer to motor label/s.

WIRING POWER TO VFD - THREE PHASE 380-480V

Power In	VFD
L1/L	L1/L
L2/N	L2/N
L3	L3
Ground	Ground
Drain Wire	Ground

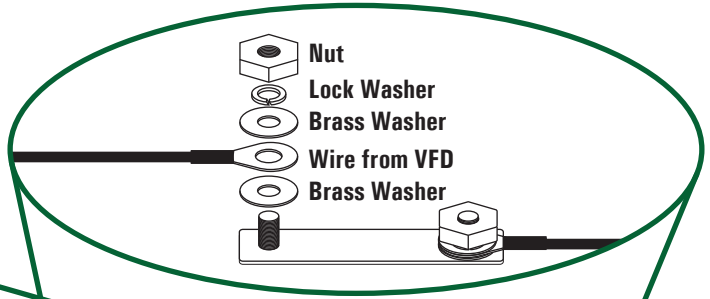


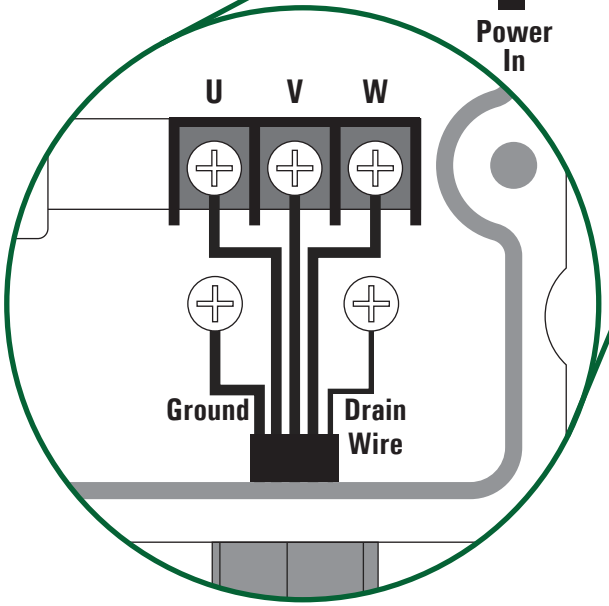
Wiring VFD to Motor



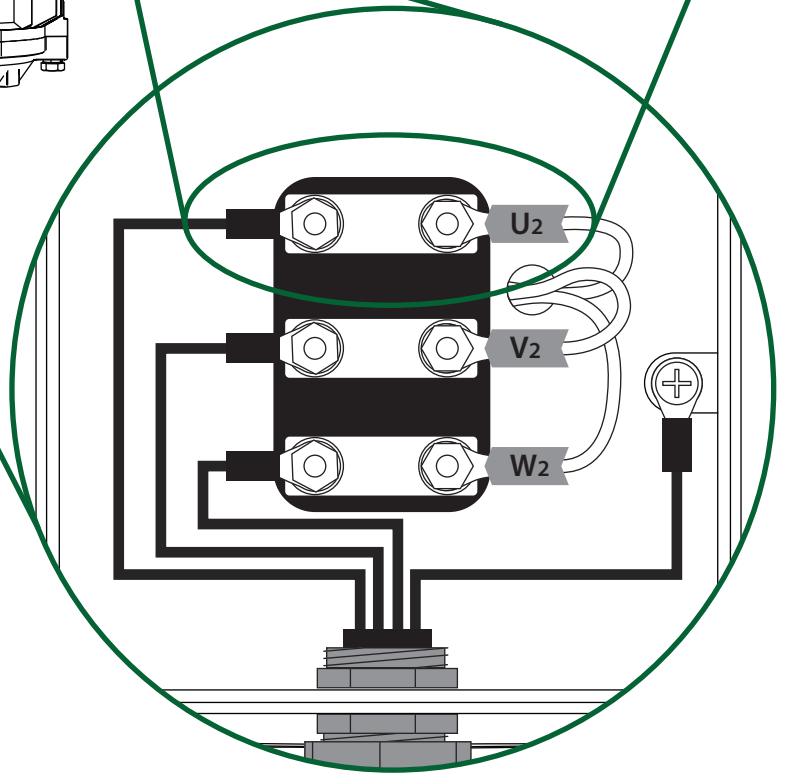
Power In

When connecting wires from VFD to motor terminals, follow visual guide for assembly order of hardware, as shown below.



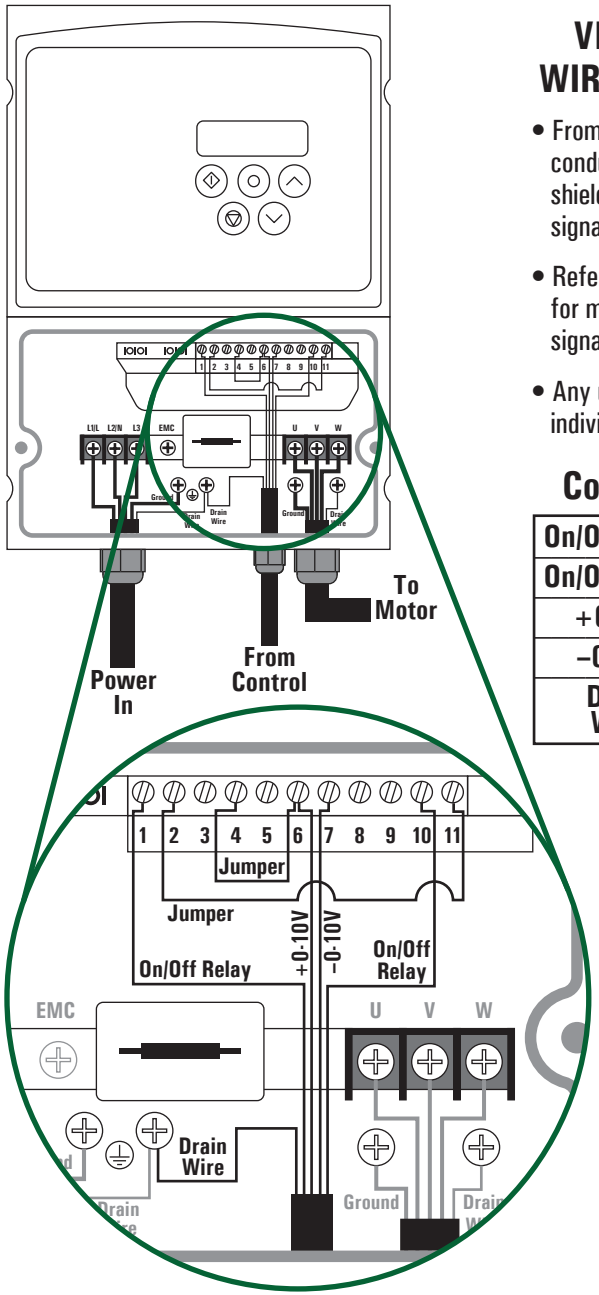


VFD	Motor
U	U_2
V	V_2
W	W_2
Ground	Ground
Ground	Drain Wire



COMMON VARIABLE SPEED CONTROL WIRING OPTIONS

0-10V Speed Control and On/Off Relay

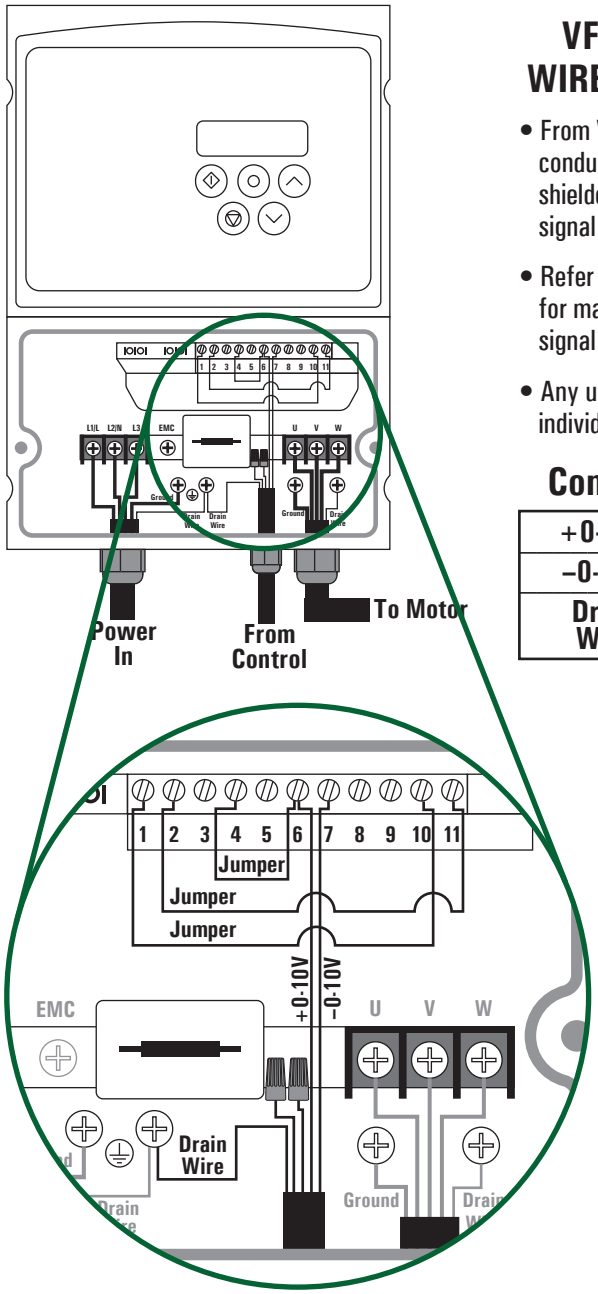


VFD TO CONTROL WIRE REQUIREMENTS

- From VFD to control use four conductor, 26AWG (or heavier), shielded, dual twisted pair, signal wire with drain wire.
- Refer to control information for maximum wire length for signal travel.
- Any unused wires must be individually capped.

Control	VFD	
On/Off Relay	1	
On/Off Relay	10	
+0-10V	6	
–0-10V	7	
Drain Wire	Ground	
	2 to 11	Jumper
	4 to 6	Jumper

0-10V Speed Control Only



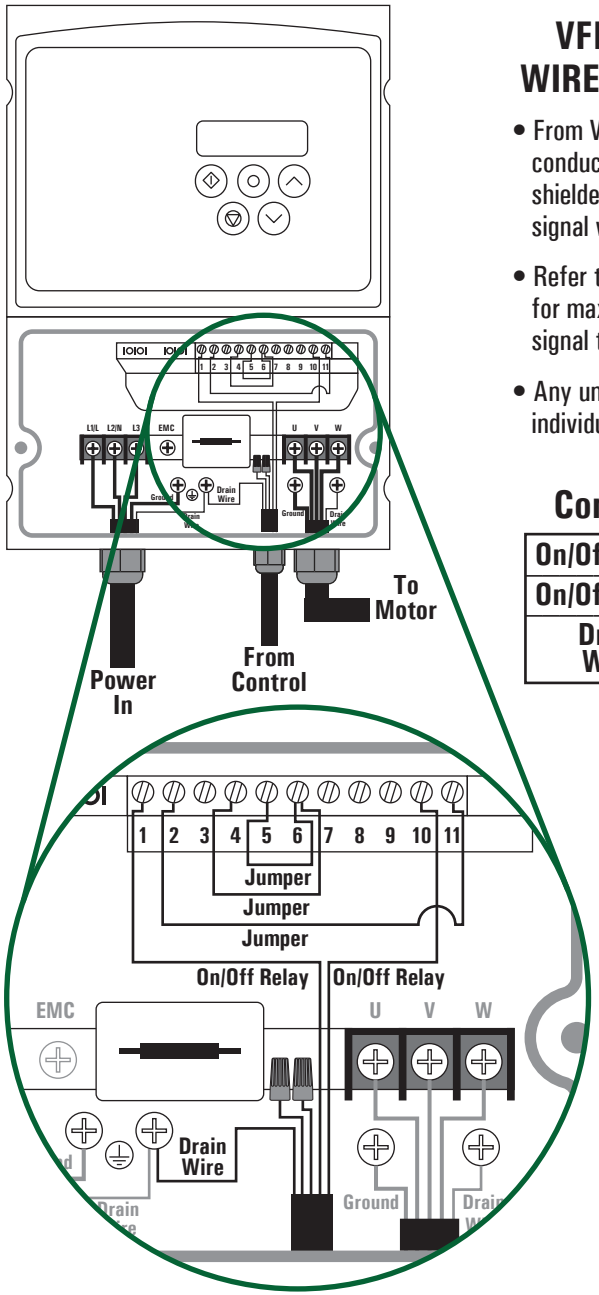
VFD TO CONTROL WIRE REQUIREMENTS

- From VFD to control use four conductor, 26AWG (or heavier), shielded, dual twisted pair, signal wire with drain wire.
- Refer to control information for maximum wire length for signal travel.
- Any unused wires must be individually capped.

Control	VFD	
+0-10V	6	
–0-10V	7	
Drain Wire	Ground	
	1 to 10	Jumper
	2 to 11	Jumper
	4 to 6	Jumper

ON/OFF WIRING OPTION

On/Off Relay - No Speed Control (Fan Will Run at Full Speed)



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- Any unused wires must be individually capped.

Control	VFD	
On/Off Relay	1	
On/Off Relay	10	
Drain Wire	Ground	
	2 to 11	Jumper
	4 to 6	Jumper
	5 to 6	Jumper