

What is included

			
SD and ES VFD	Transducer	Cord Grip	Mounting Tabs

Mounting the VFD

1. Fasten mounting brackets to back of enclosure with supplied screws.
2. Install fasteners to wall 7.5" (190mm) center to center. Max fastener size 1/4".
Note: 18" (450mm) clearance below and 6" (150mm) around required for ventilation.

Connect Wiring

1. Remove (3) front screws and remove cover.
2. Connect motor leads to the J2 terminal block.
Note: Connector is removable for easier access
3. Connect power leads to the J1 terminal block.

Caution: Crimp or solder (NO WIRE NUTS) any connections when splicing motor leads. Inadequate/high-resistance connections can cause nuisance faults or damage to the pump and VFD.

SD002, SD003R, SD005R	
Terminal	Description
U, V, W	3-phase motor output terminals

ES3R-A	
Terminal	Description
Y, B	2-wire motor output terminals
R, Y, B	3-wire motor output terminals
R	Auxiliary/Start/Run winding
Y	Motor winding common



Removable J1 and J2 terminal blocks inside chassis

4. Secure the ground wire into the lug marked with the ground symbol.
Note: 4ohms or less to earth ground recommended

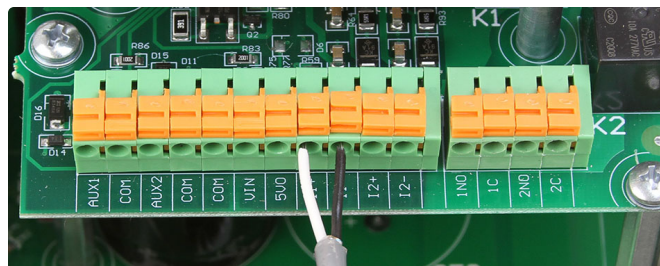


5. Install transducer into a 1/4" NPT **non-metallic** fitting and run the wire back to the VFD, through the cord grip up to the terminal area and cut to length.

Note: Cut transducer leads to length, DO NOT coil extra wire or connect shielding ground wire. DO NOT run transducer leads next to motor leads. If necessary, only cross transducer and motor leads at a 90 degree angle.

Caution: Do not over tighten cord grip

6. Install the Black wire into the spring loaded I1- terminal and the remaining White or Red wire into the I1+ terminal.



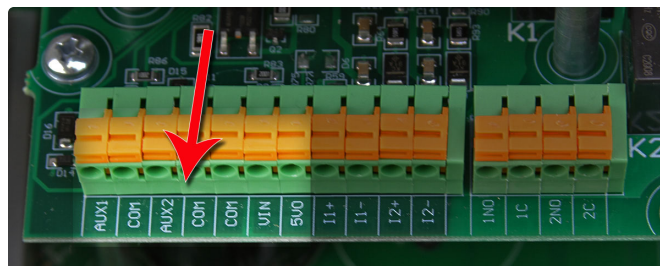
Tool-free terminal blocks with transducer connected

Powering up the VFD

1. Replace the cover securely and then enable power to the VFD.
2. To bypass initial setup, press the HOME button, **or**, to use the Perfect Pressure wizard, choose Yes (ENTER) when prompted.
Note: Hold the BACK and ENTER buttons for 3 seconds to reset the VFD to default configuration

Optional: To add an overpressure switch or float switch, make those connections to AUX2 and COM.

Caution: No voltage may be introduced on these terminals.



AUX2 and COM connections on tool-free terminal blocks



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SD002/3/5

Analog Constant Pressure Setup

1. "SETUP CONST PRES" - Press the **ENTER** key to proceed.
2. "psi SETPOINT" - This value determines the pressure you want to maintain. The factory default is 50 psi. Use the arrow keys to change if desired. Press **ENTER** to proceed.
3. "SUBMERSIBLE PUMP" - This parameter sets the ramp profile for a submersible pump. "YES" = ramps to 30HZ in the first second to prevent excessive wear on the thrust bearing. "NO" = The frequency will increase in a linear fashion from zero to max frequency. Use the arrow keys to toggle between the two settings. Press **ENTER** to proceed.
4. "Disable Manual Mode" - The "Yes" value allows you to disable the **MANUAL** button run mode. "No" allows you to run the VFD manually on/off at max frequency.
5. "OVERCURRENT LIMIT" - Setting for motor overload protection (service factor amp rating for the motor) using the arrows to toggle. Press **ENTER** to proceed.
6. Press the **RUN/AUTO** button to start the pump.

Additional Notes:

1. Motor rotation must be verified upon completion of setup.
2. If the VFD is not going to sleep, first check for leaks. If there are no leaks present in the system, you may need to increase the "Shutoff Frequency" within "Constant Pressure Parameters."
3. Set pressure tank psi to 70% of VFD psi Setpoint.
4. Any of these settings can be modified if needed after the initial setup completes. For a full listing of available parameters, please refer to the product manual.

ES3R-A

Analog Constant Pressure Setup

1. "SETUP CONST PRES" - Press the **ENTER** key to proceed on this and each subsequent option.
2. "Measured Input Voltage ???V" - Choose between 240V or 120V dependent on the supply voltage. Use the arrow keys to choose the value for this and each subsequent option.
3. "Motor Type" - Configures the VFD for operation with either a 2 wire or 3 wire motor.
4. "Motor Manufacturer" - Choose between Franklin, Pentek, Grundfos, AY McDonald, or other.
5. "psi SETPOINT" - This value determines the pressure you want to maintain. The factory default is 50 psi.
6. "SUBMERSIBLE PUMP" - Set the ramp profile for a submersible pump. "YES" = Ramp to 30HZ in the first second to prevent excessive wear on the thrust bearing. "NO" = Increase frequency linearly from zero to max.
7. "Disable Manual Mode" - The "Yes" value allows you to disable the **MANUAL** button run mode. "No" allows you to run the VFD manually on/off at max frequency.
8. "OVERCURRENT LIMIT" - Setting for motor overload protection (service factor amp rating for the motor).
9. Press the **RUN/AUTO** button to start the pump.



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