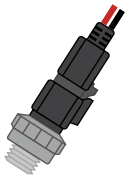
Omega Drive - Quick Start Guide

INTUITIVELY ENGINEERED

PHASE TECHNOLOGIES

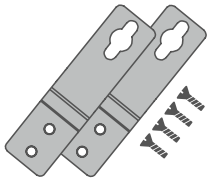
What's Included

Omega Drive

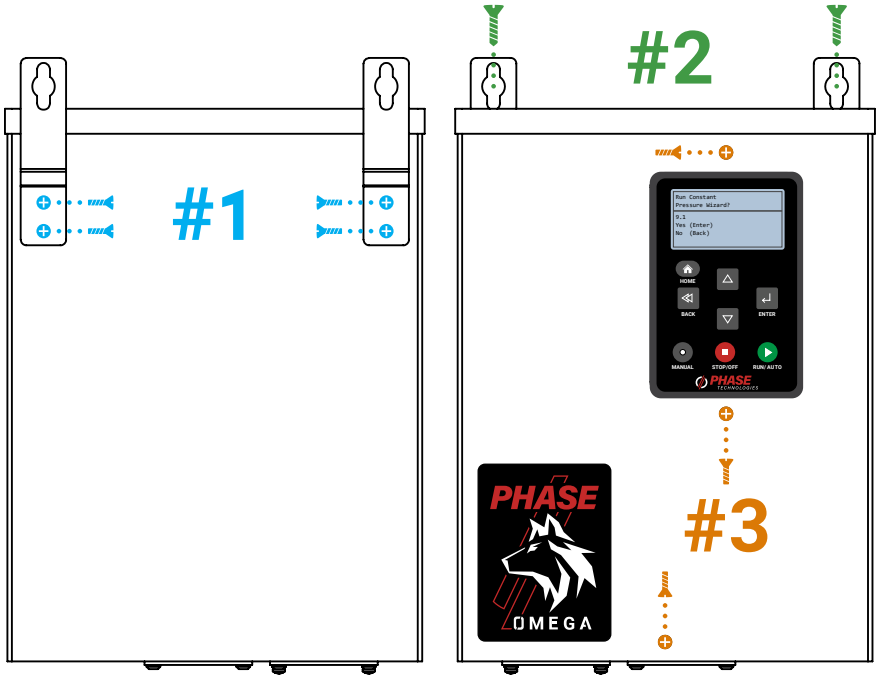


Pressure Transducer

Cord Grip

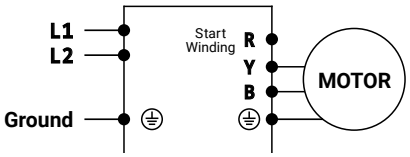


Mounting Tabs w/ Screws

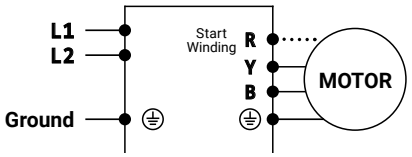


Wiring Diagrams

2-Wire Single-Phase Motor



3-Wire Single-Phase Motor



Mounting the Omega Drive

#1 Attach the Mounting Tabs

- ► Locate the four small holes near the top rear of the enclosure on the left and right sides.
- ► Secure both left and right mounting tabs using the provided screws.

#2 Mount to the Wall

- ► Allow for drive ventilation by maintaining at least 6" (152 mm) of clearance below the drive and 3" (76 mm) of clearance on all other sides.

Wiring Connections

⚠ **WARNING** – Installation must be performed by a qualified electrician. High voltage is present.

#3 Remove the Front Cover

- ► Unscrew the front screws and carefully pull the cover up and away from the enclosure.

#4 Connect Ground

- ► Secure the ground wire into the lugs marked with the ground symbol.
- ► Ensure ground resistance is 4 ohms or less to earth ground.

#5 Connect Output to Motor

- ► Connect motor leads to the LOAD **J2** terminal block (R/Y/B). See wiring diagram for single-phase two or three-wire setup.

#6 Connect Input Power

- ► Connect incoming power leads to the LINE **J1** terminal block (L1 and L2)

⚠ **IMPORTANT** – Use crimped or soldered connections only.

⚠ Do NOT use wire nuts. Poor connections can cause faults or damage.

⚠ Inadequate/high-resistance connections can cause nuisance faults or damage to the pump and VFD.

Installing the Pressure Transducer

#7 Install the Transducer

- ► Thread the transducer into a 1/4" NPT non-metallic fitting.
- ► Route the wire back to the VFD through the cord grip and cut to length.

⚠ **DO NOT** coil excess wire.

⚠ **DO NOT** connect or ground the shielding wire.

⚠ Keep transducer wires separate from motor leads. If crossing is required, do so at a 90° angle only.

⚠ **DO NOT** over-tighten the cord grip.

#8 Connect Transducer Wires to Terminals

Black Wire → **I1-**

White/Red Wire → **I1+**

Powering on the Omega Drive

⚠ **WARNING** – Working with power electronics can be dangerous. Have a licensed electrician install this product.

⚠ **WARNING** – This equipment is connected to line voltages that can create a potentially hazardous situation. Electric shock could result in serious injury or death. This device should be installed only by trained, licensed, and qualified personnel. Follow instructions carefully and observe all warnings.

#9 Replace the Front Cover

- ► Replace the cover securely and then enable power to the VFD.

#10 Energize

- ► Energize the circuit to power on the Omega Drive.

#11 Startup Options

- ► To skip setup, press the HOME button.
- ► To use the Perfect Pressure Wizard, press the UP or DOWN button to find wizard and press ENTER when prompted and go through the setup wizard.
- ► To reset the drive to factory defaults, press and hold BACK + ENTER for 3 seconds.

Analog Constant Pressure Setup

A. Input Voltage
120 V | **240 V**

B. Motor Type
2-Wire Motor | **3-Wire Motor**

C. Motor Manufacturer
Franklin | **Other**
A.Y. McDonald | **Grundfos**
Pentek | **FloWise**

D. Max Analog Sensor Range
This should be set to the maximum value of the 4-20 mA transducer being used for analog control i.e. if the transducer has a range of 0-150 psi, this parameter should be set to 150 psi. (**Factory Default = 150 psi.** Use the arrow keys to change if desired. Press **ENTER** to proceed.)

E. Analog Setpoint 1
This value determines the pressure you want to maintain.(**Factory Default = 50 psi.** Use the arrow keys to change if desired. Press **ENTER** to proceed.)

F. Submersible Pump
This parameter sets the ramp profile for a submersible pump. **"YES"** = Ramps to 30 Hz 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.)

G. Disable Manual Mode
"YES" = disables the MANUAL button run mode.
"NO" = allows manual on/off operation at max frequency.

H. Overcurrent Limit
Set motor overload protection (service factor amp rating for the motor) using the arrows. Press **ENTER** to proceed. Press the **RUN/AUTO** button to start the pump.

Additional Notes

- Motor rotation must be verified upon completion of setup.
- If the VFD is not going to sleep, first check for leaks. If no leaks are present, increase the "Shutoff Frequency" under "Constant Pressure Parameters."
- Set pressure tank psi to 70% of VFD psi Setpoint.
- Any settings can be modified after the initial setup. Refer to the product manual for full parameter list.