

VFD-1P-220.240-3HP-15A-DCM

3HP Variable Frequency Device - 220-240V AC 1PH Input/Output - 15 Amps - 2.2kW

Product ID: 150222



Image: VFD-1P-220.240-3HP-15A-DCM

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

VFD-1P-220.240-3HP-15A-DCM Variable Frequency Device

Unit Type: Variable Frequency Device

Dimensions: 6.81" x 5.31" x 9.44"

Weight: 2.65 lbs

Input/Output Voltage: 220-240V AC 1PH

Output Current: 15 Amps

Operating Frequency: 0 to 3000 Hz

HP: 3

Starting Torque: 1 Hz/150%

Carrier Frequency: 1.0-16kHz, auto adjusted according to temperature and load

Frequency Accuracy: Digital setting: 0.01Hz, Analog Setting: Max frequency X 0.05%

Torque boost: Automatic torque boost; manual torque boost: 0.1%~30.0%

V/f curve: Linear, multiple point and square type (1.2 power, 1.4 power, 1.6 power, 1.8 power, square)

Inputs: 7 on-off programmable digital, 1 high-speed pulse, 2 programmable analog (AI1: 0~10V or 0/4~20mA AI2: 0~10V or 0/4~20mA)

Outputs: 1 programmable open collector, 1 analog (open collector or high-speed pulse), 2 relay, 2 analog (0/4~20mA or 0~10V)

Analog Input/Output: 2 Input (0~10V or 0/4~20mA), 2 Output (0/4~20mA or 0~10V)

Communication Terminal: RS485 communication interface, support MODBUS-RTU communication protocol

Overload: 150% @ 60s, 180% @ 10s, 200% @ 3s

Operating Temp: -20°C to +60°C

Max Operating Humidity: 90% (non condensing)

Materials: -

Mounting: Surface

Features/Ratings

Automatic Voltage Regulation

LED Display

Special Orders - Special Requirements

Contact us for special requirements

Toll Free: 1-800-369-6671

Intl: 1-903-270-1187

Color: Gray

E-mail: sales@larsonelectronics.com

The VFD-1P-220.240-3HP-15A-DCM from Larson Electronics is a Variable Frequency Drive that is suitable for improving AC motor performance in industrial operations. This fan-cooled unit features a single-phase 220-240V AC input/output voltage comparability. Designed for steady speed error, fast torque rise and protection from resonance vibrations, the device provides an output current of 15 amps and an operating frequency range of 0 to 3000 Hz with 3 horsepower.

The VFD-1P-220.240-3HP-15A-DCM offers accurate AC motor control in industrial facilities. This unit is compatible with single-phase 220-240V AC input/output voltage, provides an output current of 15 amps and an operating frequency range of 0 to 3000 Hz. This device supports seven on-off programmable digital inputs, one high-speed pulse input and two programmable analog inputs, as well as one programmable open collector output, one analog output (open collector or high-speed pulse), two relay outputs and two analog outputs. The device also features a total of four operating modes: Keypad control, Terminal control, Serial communication control, and Frequency Setting Mode for digital setting, analog setting, pulse frequency setting, serial communication setting, multi-step speed setting & simple PLC, PID setting, etc.

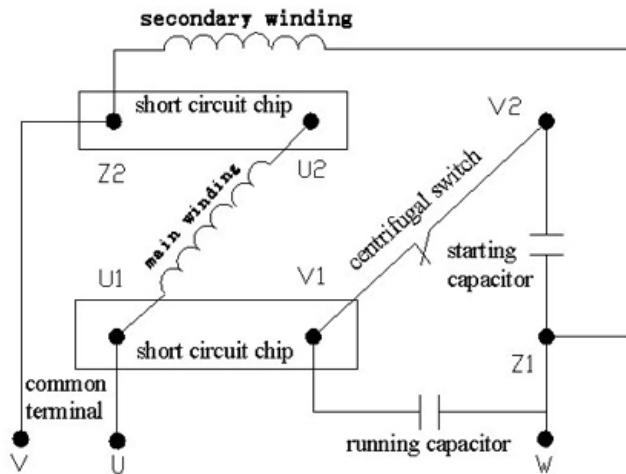
The VFD-1P-220.240-3HP-15A-DCM is designed for indoor applications and operating temperatures ranging between -20°C to +60°C. Operators may mount the variable frequency drive on compatible surfaces. This device measures 6.81" x 5.31" x 9.44" and weighs approximately 8 lbs.

Applications: Speed control of AC motors, industrial machines, large compressors, energy savings and more.

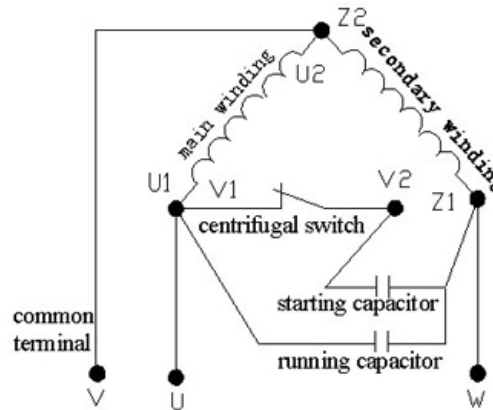
At Larson Electronics, we do more than meet your lighting needs. We also provide replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message sales@larsonelectronics.com for more information about our custom options tailored to meet your specific industry needs.

VFD wiring instruction for single phase induction motor

Single phase induction motor has specific wiring requirements in connecting with ATO single phase VFD to enable your single phase motor running properly, please follow below instructions step by step:



VFD output



VFD output

Step 1: Single phase motor has one or two capacitors, disassemble them. The VFD output can't have capacitor.

Step 2: VFD Common Terminal: Running the VFD at 50Hz without connecting loads, measuring the output voltages of U-V, U-W, and V-W, two of three voltage values are the same, their common port is VFD's common terminal. Usually the default common terminal is V phase. (The output voltage is a bit higher for the non-common terminal)

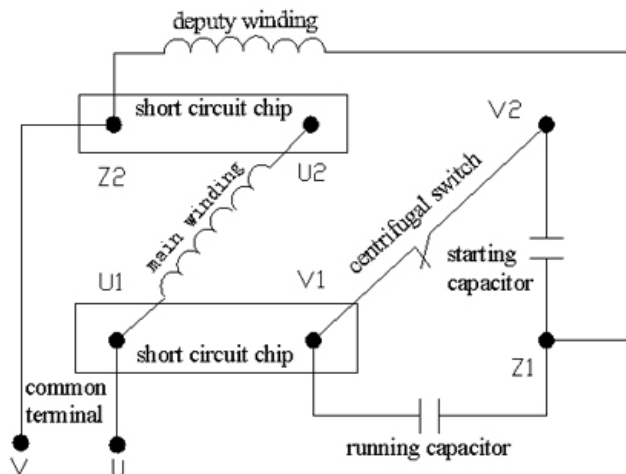
Step 3: Single phase motor has 3 windings and 6 taps. Base on the measuring results of the resistance by a multimeter, the biggest resistance is the secondary winding (Z1, Z2), the smaller resistance is the main winding (U1, U2), the smallest resistance (conducting) is centrifugal switch (V1, V2).

Step 4: The Coupling End of the single phase motor secondary winding (Z2) and main winding (U2) is connected to the VFD's output common terminal (V phase).

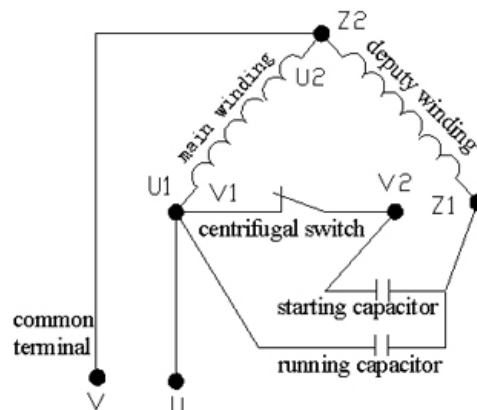
Step 5: The Coupling End of the single phase motor main winding (U1) and centrifugal switch (V1) is connected to the VFD's U phase. The Coupling End of the secondary winding (Z1) and capacitor is connected to the VFD's W phase. In case of the induction motor running in reverse, please exchange the VFD's U phase and W phase.

ATO VFD wiring instruction for single phase motor without disassembling capacitors

Connecting the single phase motor input lines (L, N) to ATO VFD's V, U or W terminals. Generally V Phase should be connected, U or W is optional. Refer to below wiring picture:



VFD output



VFD output











Frequently Asked Questions (FAQ)

There are no Faqs