

## EXP-VFD-3P-480V-30HP-45A-DCM

**30HP Explosion Proof Variable Frequency Device - C1D1 - 480V 3PH Input/Output - 45 Amps - 22kW**

**Product ID: 336559**

**Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).**

**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.**

### EXP-VFD-3P-480V-30HP-45A-DCM Variable Frequency Device

**Unit Type:** Explosion Proof Variable Frequency Device

**Dimensions:** -

**Weight:** -

**Input/Output Voltage:** 480V AC 3PH

**Voltage Range:**  $\pm 20\%$ , Unbalance Rate:  $< 3\%$

**Output Current:** 45 Amps

**Operating Frequency:** 0 to 1000 Hz

**Frequency Resolution:** 0.01 Hz

**Kilowatts:** 22 kW

**HP:** 30

**Overload Ability:** 150% Rated Current for 1 Minute, 180% Rated Current for 3 Seconds

**Torque Control Accuracy:**  $\pm 5\%$  (FVC)

**Control Mode:** V/F, Sensorless Vector Control (SVC), Speed Sensor Vector Control (FVC)

**Frequency Accuracy:** Digital Setting: Max Frequency  $\pm 0.01\%$ , Analog Setting: Max Frequency  $\times \pm 0.2\%$

**Frequency Resolution:** Digital Setting: 0.01Hz, Analog Setting: Max Frequency  $\times 0.01\%$

**Start Frequency:** 0.4 Hz to 20 Hz

**Torque Boost:** Auto Torque Boost, Manual Torque Boost 0.1%~30.0%

**V/f Curve:** Constant Torque V/F curve, 1- User Defined V/F Curve ,3- Down Torque Curve (2.0/1.7/1.2 Times the Power)

**Acceleration/Deceleration Curve:** Linear Acc./Dec., S-curve Acc./Dec., 7- Acc./Dec. Time, Time Unit (minute/second)

**DC Breaking:** 0 Hz to Max Frequency, 0.0s to 36s, 0 to 100% Braking Action Current Value

**Jog Running:** 0.1 Hz to 50 Hz, 0.1-60s Acc./Dec. Time

**Built-in Double PID:** Constitute a Close Loop Control System

**Multi-stage Speed Running:** Max 16 Multi-stage Speed Running via Built-in PLC or Control Terminals

**Auto Operation:** Automatic Voltage Regulation, Automatic Energy Saving Running, Auto Current Limiting

**Multi Pump Controls:** With Water Supply Card, the Function can Implement Multi Pumps Constant Pressure Water Supply

**Running Command Channel:** Control Panel- Control Terminal, Serial Port- 3 channels switchable

**Frequency Channel:** Potentiometer, Keys, Function Code, Serial Port, Terminal Up/Down, Input Analog Voltage, Input Analog Current, Input Pulse, Combination Settings

**Inputs:** (8) Digital Input Terminals w/ (1) Supporting 100KHZ High Speed Pulse Input, (2)

### Features/Ratings

NRTL Listed for United States and Canada

Class I, Divisions 1 & 2

Class II, Divisions 1 & 2

Automatic Voltage Regulation

LED Display

Analog Input Terminals with (1) Supporting 0-10V Voltage Input, (1) Supporting 0-10V Output or 0-20mA Current Input

**Outputs:** (1) High Speed Pulse Output Terminal, Supporting Square Wave Signal Output of 0~100KHZ, (1) Digital Output Terminal, (2) Relay Output Terminals ( $\geq 5.5\text{kw}$ ), (1) Relay Below 5.5kw, (2) Analog Output Terminals, Support 0~20mA Current Output or 0~10V Voltage Output ( $\geq 5.5\text{kw}$  2 terminals)  $< 5.5\text{kw}$  1 terminal

**Control Panel:** LED Digital Display- Setting Frequency, Output Voltage, Output Current; External Meter Display- Output Frequency, Output Current, Output Voltage; Key Lock; Parameter Copy

**Protection:** Over Current, Over Voltage, Under Voltage, Over Heating, Overload, Input Phase Loss Protection

**Communication Terminal:** Modbus, Profibus, CANlink, CANopen

**Operating Temp:**  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$

**Max Operating Humidity:** 90% (non condensing)

**Materials:** Copper-free Aluminum

**Mounting:** Surface

**Color:** Gray

**Special Orders - Special Requirements**

Contact us for special requirements

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**The EXP-VFD-3P-480V-30HP-45A-DCM from Larson Electronics is an Explosion Proof Variable Frequency Drive that is suitable for improving AC motor performance in combustible work areas. This fan-cooled unit features three-phase 480V AC input/output voltage compatibility. Designed for steady speed error, fast torque rise and protection from resonance vibrations, the device provides an output current of 45 amps and an operating frequency range of 0 to 1000 Hz with 30 horsepower.**

The EXP-VFD-3P-480V-30HP-45A-DCM offers accurate AC motor control in Class I, Division 1 and 2 and Class II, Division 1 and 2 rated jobsites. This 22 kW unit is compatible with three-phase 480V AC input/output voltage, provides an output current of 45 amps and an operating frequency range of 0 to 1000 Hz. This device supports eight digital input terminals and two analog input terminals. The following output channels are available: one high-speed pulse output terminal, one digital output terminal, two relay output terminals and two analog output terminals.

The explosion proof unit features over current, over voltage, under voltage, over heating, over load and input phase loss protection for reliable operation. Communication protocols include Modbus, Profibus, CANlink and CANopen.

This explosion proof VFD is protected by a copper-free aluminum housing. The unit is rated for use in Class I, Divisions 1 & 2 and Class II, Divisions 1 & 2 hazardous locations, making it ideal for indoor or outdoor applications where flammable vapors, gases or dust exist or stand the potential to exist. Operators may mount the variable frequency drive on compatible surfaces.

**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](mailto:sales@larsonelectronics.com) for more information about our



custom options tailored to meet your specific industry needs.

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## Frequently Asked Questions (FAQ)

There are no Faqs



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**Export Control Classification Number (ECCN):** EAR99



Links (Click on the below items to view):

- **Video1** ( <https://www.youtube.com/watch?v=FM7BXInKJaY> )
- **Video4** ( <https://www.youtube.com/watch?v=FM7BXInKJaY> )
- **ISO 9001 Certification** ( <http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF> )
- **Business Certificate** ( <https://www.larsonelectronics.com/images/pdfdocs/w9.PDF> )
- **Shipping Time Map** ( <https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf> )