

LHX

LOW HARMONIC

VARIABLE FREQUENCY DRIVES



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VARIABLE FREQUENCY DRIVE

An American-manufactured drive with capabilities for applications up to 500 HP, Phase Technologies' LHX (Low Harmonic) variable frequency drives are the solution to your power distribution needs. Purchase as a standalone drive or customize your unit in an enclosed panel configuration using our 508A panel shop. Additionally, take advantage of extra add-on components to increase the efficiency and performance of your unit.

Protect your investment with our all-steel, NEMA 3R enclosures, guaranteed to keep out the elements while allowing your drive to operate at peak performance. We also offer options in Open and NEMA 1 configurations. All our enclosures are made in-house at our metal fabrication shop, ensuring the highest quality products, proudly made in America.



**12-DAY
LEAD TIMES**



**MADE IN THE
USA**

LOW HARMONIC
VARIABLE FREQUENCY DRIVES



PERFECT FOR ALL APPLICATIONS

- ▶ Available as a stand alone drive and enclosed panel configuration
- ▶ Power Conditioning for smooth power input
- ▶ Easy Setup Wizards preprogrammed in your system for quick and easy startup
- ▶ IEEE-519 compliant without need for an external harmonic filter
- ▶ Phase Converting and Voltage Doubling capabilities for single phase or three phase input

Common Applications

AGRICULTURE	<ul style="list-style-type: none"> ▶ Irrigation ▶ Livestock
MUNICIPAL	<ul style="list-style-type: none"> ▶ Sewer Bypass ▶ Lift Stations
MINING & CONSTRUCTION	<ul style="list-style-type: none"> ▶ Dewatering ▶ Slurry & Tailings Removal ▶ Wasterwater Reuse ▶ Dust & Fire Supression ▶ Evaporation Equipment ▶ Process Water
INDUSTRIAL	<ul style="list-style-type: none"> ▶ Constant Torque ▶ Rotating Equipment ▶ Conveyor Belts ▶ Rock Crushers ▶ Compressors
HVAC	<ul style="list-style-type: none"> ▶ Circulating Pumps ▶ Cooling Towers ▶ Supply Fans ▶ Exhaust Fans ▶ Air Handlers
OIL & GAS	<ul style="list-style-type: none"> ▶ Water, Oil & Mud Transfer ▶ Drilling Mud Recirculation ▶ Fuel Storage Tank Booster ▶ Downhole Pumps



CRAFT YOUR CUSTOM UNIT

Our LHX drives come in Open, NEMA 1 and NEMA 3R enclosure options so no matter your need or use, Phase Technologies has a drive that can be catered to your specific operation.

Low Harmonic Drive

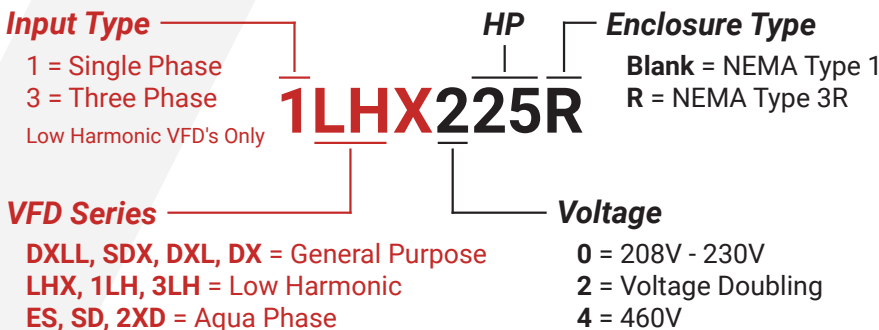
Our LHX model variable frequency drive (VFD) featuring low harmonic technology for improved power quality, offers efficient phase conversion, enabling single-phase to three-phase power transformation, and includes voltage doubling capabilities to boost output voltage.

This VFD is designed to reduce harmonic distortion, making it ideal for applications requiring enhanced energy efficiency and reliable operation in both industrial and commercial environments.

Panel Shop Additional Options

- ▶ AuxPower
- ▶ MCCB - Service Rated
- ▶ HOA & Speed Pot
- ▶ Run & Fault Light
- ▶ Output Filters
- ▶ Surge Protection
- ▶ Leg Kit

Nomenclature



Physical / Environmental

Operating Temperature Range	-40 °C – 50 °C (-40 °F – 104 °F) *Heater in enclosure may be required below –40 °C, de-rating required above 40 °C
Storage Temperature Range	-40 °C – 57 °C (-40 °F – 135 °F)
Enclosure	NEMA Open, Nema Type 1 : Indoor
Altitude	Altitude Derate by 1% every 400 ft above 3300 ft elevation

Input Power

Input Phase	Single-Phase or Three-Phase
Input Voltage	230 V 460 V
Input Voltage Range	190 V – 264 V 440 V – 520 V
Input Frequency	50/60 Hz

Output Power

Output Phase	Three-Phase
Nominal Output Voltage	230 V 460 V
Output Voltage Range	100 V – 270V 200 V – 530 V
Output Frequency	5 Hz – 120 Hz
Horsepower	5 HP - 500 HP
Output Power	1.5 - 409 kW
Switching Frequency	2 kHz – 5 kHz
Output	V/f control or torque Control (Optional)

Electrical

Short Circuit Withstand Rating	65 kA RMS symmetrical Amps
Efficiency	> 98%
Startup Ramp Time	1 – 120 s
Shutdown Ramp Time	1 – 120 s or Coast to Stop
Overload Capacity	110% for 60 s



Analog Inputs

Quantity	(3) Programmable
Current Reference	4 – 20 mA, (2) Inputs
Voltage Reference	0 – 10 VDC, (1) Input
Terminal Block Size	26 - 12 AWG

Digital Inputs

Quantity	(4) Programmable, Expandable
Ratings	< 5 V, Galvanically Isolated
Terminal Block Size	26 - 12 AWG

Relay Outputs

Quantity	(4) Programmable
Rating	Relay 1 : 30 VDC or 277 VAC, 10 A Relay 2 : 30 VDC or 277 VAC, 10 A Relay 3 : 30 VDC, 2 A or 125 VAC, 0.5 Relay 4 : 30 VDC, 2 A or 125 VAC, 0.5
Terminal Block Size	26 - 12 AWG

Features

Certification	ETL listed to UL 61800-5-1 and CSA C22.2 No. 274-17
IEEE-519 Compliat	IEEE-519 complaint with no additional harmonic filter needed
User Interface	Push button membrane keypad with backlit graphic display



INTUITIVELY ENGINEERED



**DIGITAL PHASE
CONVERTERS**

**VARIABLE
FREQUENCY
DRIVES**

**MOTOR
PROTECTION**

**STARTER
PANELS**

OUR MISSION

Relentlessly seek to provide Uncommon Value, solutions, innovation, and support for the industries that we serve.

