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Phoenix EX AC Vector Drive



3 HP to 3500 HP



Standard Features:

- * OPEN OR CLOSED LOOP VECTOR CONTROL
- * EASY TO USE, SIMPLE SETUP
- * PRECISE CONTROL OF MOTOR SPEED AND TORQUE
- * BACKLIT ENGLISH LANGUAGE DISPLAY
- * 50°C AMBIENT TEMPERATURE RATING
- * SHORT CIRCUIT AND GROUND FAULT PROTECTION
- * BUILT IN LINE VOLTAGE SURGE PROTECTION
- * TOLERATES HIGH INPUT AC LINE VOLTAGES
- * MOTOR OVERLOAD PROTECTION, MEETS NEC 430
- * BUILT IN RFI NOISE FILTER
- * POWER DIP RIDE THROUGH
- * AUTO RESTART
- * HIGH PERFORMANCE PID CONTROL
- * 8 PRESET SPEEDS WITH ACCEL/DECEL CONTROL
- * S CURVE ACCEL/DECEL CONTROL
- * MULTI FUNCTION I / O
- * PROGRAMMABLE THRESHOLD DETECTORS
- * KW / KWH METERING
- * BI-DIRECTIONAL FLYCATCHER (CATCH SPINNING MOTOR)
- * CUSTOM V/Hz PROGRAMMING
- * AUTOLOGGING FAULT HISTORY
- * FIXED OR VARIABLE CARRIER FREQUENCY
- * MUCH, MUCH, MORE

THREE YEAR WARRANTY

MADE IN USA



ENGINEERING SPECIFICATIONS

ELECTRICAL

Rated Input Voltage: 200-250VAC, 380-500VAC, 500-600VAC
 -10% of minimum, +10% of maximum.
Rated Input Frequency: 48 to 63HZ.
Number of Phases: 3
Displacement Power Factor: .95 or greater.
Efficiency: 97% or greater at rated current.

CONTROL

Speed Range: Open Loop: 100:1
 Closed Loop: 1000:1
Control Modes: Speed Control
 Torque Control
 Speed Control with Torque Limit
 Torque Control with Speed Limit
Control Method: Sine Coded PWM with Programmable Carrier.
 Open Loop/Closed Loop Vector Control
 0 to input voltage.
Output Voltage: 0 to 600 Hz.
Output Frequency Range: 0 to 600 Hz.
Frequency accuracy: Analog reference: 0.1% of max frequency.
 Digital reference: 0.01% of max frequency.
Frequency resolution: Analog reference: 0.06Hz at 60Hz.
 Digital reference: 0.0005Hz at 60Hz.
Accel / Decel: Adjustable 0.1 to 3276 sec.
Drive Overload: High Overload Capacity Drives:
 150% of drive rated output for one (1) minute.
 Normal Overload Capacity Drives:
 120% of drive rated output for one (1) minute.
Inverse Time Overload: Programmable for class 10, 20 and 30 protection
 to comply with N.E.C. Article 430.
Current limit: Proactive current limit programmable in % of motor
 rated current.
Braking torque: 5 to 20% without modification, Braking Modules
 available for added braking to 150%.
Control power ride-thru: Two seconds (typical) depending on load.

ENVIRONMENTAL

Ambient Temperature: -10°C to 50°C (14°F to 122°F)
 Without derating.
Storage Temperature: -40°C to 70°C (-40°F to 158°F)
Altitude: Sea level to 3300 Feet [1000m]
 Without derating.
Humidity: 95% relative humidity
 non-condensing.
Vibration: 9.8m/sec² (1.0G) peak.
Surge Protection: Line Transients to 6000V
 IEEE C62.41-1991 Category B
Noise Immunity: Showering Arc - 2000V Peak
 EN50082 - 1, 2
Input R.F.I Filter: Standard on all models.

PHYSICAL ATTRIBUTES

Mounting: Wall Mount: Through hole or panel mount.
Nema Rating: Type 1 (IP20) as Standard.
 Type 12 (IP54) Optional.
 Type 4 (IP65) Optional.
Construction: Steel Enclosure (Reduces E.M.I.).

AVAILABLE OPTIONS

- Encoder Feedback Card
- Signal Conditioners/Isolators
- Communications Cards: RS-232/422/485, Modbus RTU,
 Metasys N2, Others Available
- Analog Signal Conditioner/Isolation Cards
- Digital Input/Output Expansion/Conditioning Cards
- Hand/Off/Auto, Local/Remote, Auto/Manual Selection
- Many Additional Modifications Available

Phoenix EX AC Drive Dimensions¹

Input Voltage	Motor HP ²		Nema 1 VFD Only	Nema 12 VFD Only	Nema 1 w Disconnect & Fuses	Nema 12 w Disconnect & Fuses	Nema 1 w Bypass	Nema 12 w Bypass
	High Overload Capacity ³ (HT)	Normal Overload Capacity ⁴ (NT)						
200-250 VAC (208/230/240)	3-7.5	5-10	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	34.02"x9.0"x10.9"	34.02"x9.0"x10.9"
	10-20	15-20	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	34.02"x9.0"x10.9"	34.02"x9.0"x10.9"
	25-30	25-30	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	38.4"x11.6"x11.1"	38.4"x11.6"x11.1"
	40-100	40-100	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	65"x20.1"x13.5"	65"x20.1"x13.5"
	125-250	125-250	44.2"x31.1"x16.8"	72"x36"x23.5"	86.5"x31.5"x18"	72"x36"x23.5"	72"x72"x23.5"	72"x72"x23.5"
380-500 VAC (380/400/415/480)	5-15	7.5-20	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	34.02"x9.0"x10.9"	34.02"x9.0"x10.9"
	20-40	25-40	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	34.02"x9.0"x10.9"	34.02"x9.0"x10.9"
	50-60	50-60	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	38.4"x11.6"x11.1"	38.4"x11.6"x11.1"
	75-200	75-200	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	65"x20.1"x13.5"	65"x20.1"x13.5"
	250-500	250-500	44.2"x31.1"x16.8"	72"x36"x23.5"	86.5"x31.5"x18"	72"x36"x23.5"	72"x72"x23.5"	72"x72"x23.5"
525-600 VAC (525/572/600)	5-15	7.5-20	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	24"x24"x14.2"	24"x24"x14.2"
	20-40	25-40	13.05"x9.0"x10.9"	13.05"x9.0"x10.9"	20.74"x9.0"x10.9"	20.74"x9.0"x10.9"	24"x30"x14.2"	24"x30"x14.2"
	50-75	50-75	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	25"x11.6"x11.1"	38.4"x11.6"x11.1"	38.4"x11.6"x11.1"
	100-200	100-200	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	32.5"x20.1"x13.5"	65"x20.1"x13.5"	65"x20.1"x13.5"
	250-600	250-600	44.2"x31.1"x16.8"	72"x36"x23.5"	86.5"x31.5"x18"	72"x36"x23.5"	72"x72"x23.5"	72"x72"x23.5"

(1) All Dimensions in Inches (HxWxD)

(2) Horsepower Rating based on 230, 460, and 575VAC Motors

(3) High Overload Capacity Drives produce 150% of Rated Drive Output Current for 1 minute.

(4) Normal Overload Capacity Drives produce 120% of Rated Drive Output Current for 1 minute.

(5) Consult Factory for Higher HP Drive Dimensions.