US Drives Inc.
2221 Niagara Falls Boulevard
P.O. Box 281
Niagara Falls, NY 14304-0281
Tel: (716) 731-1606 Fax: (716) 731-1524
Visit us at www.usdrivesinc.com

Phoenix Regenerative AC Drive
25 HP to 1000 HP

The Phoenix Regenerative AC Drive is the perfect choice for those applications that require both motoring torque and braking torque (regeneration). Typical applications that require regeneration include:

- High Inertia Loads that must be stopped or slowed down quickly - Saws, Fans, Flywheels and
- Centrifuges.
- Unwind Stands of all types - Uncoilers, Payoffs
- Overhauling Loads - Hoists, Cranes, Downhill Conveyors and
- Holdback Rolls in Process Line Applications.
- Machine applications with fast cycle times that require rapid
- deceleration.

Standard Features:

- Open or Closed Loop Vector Controls
- Easy to Use , Simple Setup
- Precise Control of Motor Speed and Torque
- Backlit English Language Display
- 50ºC Ambient Temperature Rating
- Short Circuit and Ground Fault Protection
- Tolerates High Input AC Line Voltages
- Built in Line Voltage Surge Protection
- Motor Overload Protection. Meets NEC 430
- Built in RFI Noise Filter
- Power Dip Rid Through
- Auto Restart
- High Performance PID Control
- 8 Preset Speeds w/ 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**

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ENGINEERING SPECIFICATIONS

CONTROL

Control Method: Sine coded PWM with programmable carrier. Space Vector control.
Output Voltage: 0 to rated voltage
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: 0.001Hz 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 with speed sensitive 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%

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: 0.95 or greater
Efficiency: 97% or greater at rated current

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.

AVAILABLE OPTIONS

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

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.)

Input Voltage	Motor HP		Nema 1 Enclosed VFD			Nema 12 Enclosed VFD		
	High Overload Capacity (CT)	Normal Overload Capacity (VT)	Approximate Dimensions (HxWxD)	Mounting	Approximate Weight	Approximate Dimensions (HxWxD)	Mounting	Approximate Weight
200 - 250VAC (208/230/240)	3-20	5-20	30" x 30" x 12"	Wall	100 Lbs.	30" x 30" x 12"	Wall	100 Lbs.
	20-30	25-30	36" x 30" x 12"	Wall	140 Lbs.	36" x 30" x 12"	Wall	140 Lbs.
	30-60	40-75	60" x 36" x 16"	Wall	600 Lbs.	60" x 36" x 16"	Wall	600 Lbs.
	75-100	100	60" x 48" x 18"	Floor	600 Lbs.	60" x 48" x 18"	Floor	600 Lbs.
	125-250	125-250	72" x 72" x 24"	Floor	870 Lbs.	72" x 72" x 24"	Floor	870 Lbs.
380 - 500 VAC (380/400/415/480)	5-40	7.5-40	30" x 30" x 12"	Wall	100 Lbs.	30" x 30" x 12"	Wall	100 Lbs.
	40-60	50-60	36" x 30" x 12"	Wall	140 Lbs.	36" x 30" x 12"	Wall	140 Lbs.
	60-125	75-150	60" x 36" x 16"	Wall	600 Lbs.	60" x 36" x 16"	Wall	600 Lbs.
	150-200	200	60" x 48" x 18"	Floor	600 Lbs.	60" x 48" x 18"	Floor	600 Lbs.
	250-500	250-500	72" x 72" x 24"	Floor	1500 Lbs.	72" x 72" x 24"	Floor	1500 Lbs.
	600-1000	600-1000	84" x 144 x 25"	Floor	3800 Lbs.	84" x 144" x 25"	Floor	3800 Lbs.
525 - 600 VAC (525/575/600)	5-40	7.5-40	30" x 30" x 12"	Wall	100 Lbs.	30" x 30" x 12"	Wall	100 Lbs.
	40-75	50-75	36" x 30" x 12"	Wall	140 Lbs.	36" x 30" x 12"	Wall	140 Lbs.
	75-200	100-200	60" x 36" x 16"	Wall	600 Lbs.	60" x 36" x 16"	Wall	600 Lbs.
	250-600	250-600	72" x 72" x 24"	Floor	1500 Lbs.	72" x 72" x 24"	Floor	1500 Lbs.
	700-1250	700-1250	84" x 144" x 25"	Floor	3800 Lbs.	84" x 144" x 25"	Floor	3800 Lbs.

(1) All Dimensions in Inches (HxWxD)
(2) Drive Horsepower Rating is based on the NEC Rated Full Load Current for 230, 460, and 575VAC Motors
(3) High Overload Capacity Drives (CT) will produce 150% of Rated Drive Output Current for 1 minute
(4) Normal Overload Capacity Drives (VT) will produce 120% of Rated Drive Output Current for 1 minute
(5) Consult Factory for Higher HP Drive Dimensions