



US Drives Inc.  
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 Visit us at [www.usdrivesinc.com](http://www.usdrivesinc.com)

**US Drives, Inc. offers a Wide Range of Products to meet your specific Application Requirements:**

**PHOENIX DX AC DRIVE  
 3 HP TO 3500 HP**

The Phoenix DX AC Drive is truly the most rugged, most reliable ac drive on the market today. It was designed to easily handle the tough applications that cause other ac drives to trip or fail. Sensorless AC Vector Drive technology means higher starting torque, improved speed regulation, and better overall drive performance. Phoenix DX is suitable for most conventional ac drive applications from pumps and fans to more sophisticated material processing applications. You should be using our Phoenix DX AC Drive if you are currently experiencing any problems due to high input ac line voltage, ac power line transients, high ambient temperature, or difficult loads including shock loads, impact loads, and loads with very high starting torque.



**PHOENIX EX AC DRIVE  
 3 HP TO 3500 HP**

The Phoenix EX AC Drive is a high performance AC Vector Drive with Closed Loop (Encoder Feedback) capability. Phoenix EX offers precise control of both motor speed and motor torque, improved speed regulation, and enhanced low speed performance with operation to and through zero speed. Phoenix EX includes the ability to follow an external frequency reference signal and position synchronize two or more ac motors with zero drift over time. Like our other products, Phoenix EX stands up to high ac line voltages, nasty ac power line transients, high ambient temperatures, and difficult loads.



**PHOENIX DX CLEAN POWER AC DRIVE  
 40 HP TO 1000 HP**

The Phoenix DX Clean Power AC Drive uses 18 Pulse Rectification to minimize harmonic distortion on the ac power line. It easily meets the stringent requirements of IEEE 519 1992 for Total Harmonic Current and Total Harmonic Voltage Distortion without the use of additional harmonic filters, ac line reactors, or drive isolation transformers. Our Phoenix Clean Power AC Drive includes all the same features that make our Phoenix DX AC Drive a truly outstanding product.



**REGENERATIVE AC DRIVES  
 5 HP TO 1750 HP**

Regenerative AC Drives are available for those applications that require precise control of both motoring torque and braking torque. Typical applications include test stands, high inertia loads that must be stopped quickly, uncoilers and payoffs, hoists and cranes, downhill conveyors, and holdback rolls in process line applications. For applications that require a Sensorless AC Vector Drive, choose the Phoenix DX Regenerative AC Drive. For applications that require a Closed Loop AC Vector Drive, choose the Phoenix EX Regenerative AC Drive.



**AC LINE REGEN MODULE 5 HP TO 1750 HP**

Our AC Line Regen Module is a unique product that turns any PWM AC Drive into a Line Regenerative AC Drive. Regenerative energy from the AC Motor is efficiently returned to the AC Power Line eliminating the need for inefficient braking resistors. Our AC Line Regen Module is easy to install and simple to use with no user adjustments to worry about.



**THREE YEAR WARRANTY**

**MADE IN USA**



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## AC DRIVE PRODUCT LINE SUMMARY

DESIGN FEATURES	PHOENIX DX			PHOENIX EX			PHOENIX DX CLEAN POWER		
Drive Type	PWM - Sine Coded			PWM - Sine Coded			PWM - Sine Coded		
Control Method	Sensorless Vector			Closed Loop Vector			Sensorless Vector		
Input Rectification	6 Pulse (Standard) 12 Pulse (Optional)			6 Pulse (Standard) 12 Pulse (Optional)			18 Pulse		
Input Voltage +/- 10% Voltage +/- 2 Hz	200 to 250 3 Ph 50/60 Hz	380 to 500 3 Ph 50/60 Hz	525 to 600 3 Ph 50/60 Hz	200 to 250 3 Ph 50/60 Hz	380 to 500 3 Ph 50/60 Hz	525 to 600 3 Ph 50/60 Hz	200 to 250 3 Ph 50/60 Hz	380 to 500 3 Ph 50/60 Hz	525 to 600 3 Ph 50/60 Hz
Horsepower Range	3 to 250	5 to 3000	5 to 3500	3 to 250	5 to 3000	5 to 3500	20 to 250	40 to 1000	40 to 1000
Output Frequency	0 to 600 Hz			0 to 600 Hz			0 to 600 Hz		
Speed Regulation	0.5% of Max Speed			0.01% of Max Speed with Encoder			0.5% of Max Speed		
Speed Range	50 to 1			To Zero Speed with Encoder			50 to 1		
Overload Capability: - Normal Overload Capacity (VT) - High Overload Capacity (CT)	120% for 1 Minute 150% for 1 Minute			120% for 1 Minute 150% for 1 Minute			120% for 1 Minute 150% for 1 Minute		
Dynamic Braking	Optional - To 150% of Rated			Optional - To 150% of Rated			Optional - To 150% of Rated		
Regenerative Braking	Optional 100% Continuous 150% for 1 Minute			Optional 100% Continuous 150% for 1 Minute			Not Available		
Drive Features	<ul style="list-style-type: none"> <li>- Local Operator Keypad (can be mounted remotely)</li> <li>- English Language Display for Easy Programming</li> <li>- High Performance PID (Setpoint) Control</li> <li>- Adjustable Accel / Decel Control (to 3276 Sec)</li> <li>- 8 Preset Speeds with 16 Accel / Decel Rates</li> <li>- Scan Timer for Customized Speed Profiles</li> <li>- Speed Increase / Decrease (MOP) Function</li> <li>- Programmable S Curve Accel / Decel Control</li> <li>- Ground Fault / Short Circuit Protection</li> <li>- Fault History Log &amp; Maintenance Timers</li> <li>- Flycatcher (Start Into a Rotating Motor)</li> <li>- Critical Speed Rejection (3 Points)</li> <li>- Control Power Ride Through (approx 2 sec)</li> <li>- Kw / Kw-Hr Metering</li> <li>- Coast to Rest, Ramp Stop, and/or DC Braking</li> <li>- Programmable Threshold Detectors</li> <li>- PLC Functions: AND, OR, NOT, Timers, +, -, x, /</li> <li>- Torque or Speed Control</li> <li>- Auto Restart after Power Loss and/or Fault</li> <li>- Motor Overload Protection - Meets NEC430</li> <li>- Adjustable Control Limit</li> <li>- Isolated Control Circuitry</li> <li>- Programmable V/Hz</li> <li>- Analog or Digital Speed References</li> <li>- 2 Analog Inputs (-10V to +10V or 4 to 20 ma)</li> <li>- 2 Analog Outputs (0 to 10 VDC - Programmable)</li> <li>- 8 Digital Inputs (Programmable)</li> <li>- 2 Digital Outputs (Programmable)</li> <li>- Built in RS-232 Drive Programming Port</li> <li>- Free Drive Configuration Software</li> <li>- Password Protection</li> <li>- UL and cUL Listed</li> <li>- High Input Power Factor (&gt;0.95)</li> <li>- Many, Many Other Features</li> </ul>								
Power Options	Input AC Line Disconnect Switch with Fuses Input AC Line Circuit Breaker Manual or Automatic Contactor Bypass Input and Output Line Reactors Input and Output Contactors Many Others								
Control Options	Communication Cards - RS-232/422/485, Modbus RTU, Metasys N2, Ethernet, Many Others Available I/O Expansion Card - Analog and Digital Encoder Feedback and Second Encoder Follower Card (Closed Loop Vector Drives Only) Process Input / Output Signal Isolation Cards (4 to 20 ma or - 10VDC to + 10VDC) 115 VAC Operator (Digital Input) Interface Card Operator Devices: Manual Speed Pot, Hand/Off/Auto, Local/Remote, Auto/Manual Switches Pneumatic Signal Follower Card (0 to 15 PSI) Many Others								
Enclosures: - Nema 1 - Nema 12 - Nema 4 / 4X - Nema 3R	Standard Optional Optional Optional			Standard Optional Optional Optional			Standard Optional Optional Optional		
Surge Suppression	Line Transients to 6000 Volts - IEEE C62.41-1991 Category B								
Noise Immunity	Showering Arc to 2000 Volts Peak - EN50082-1.2								
Ambient Temperature	-10°C to 50°C (14°F to 122°F)			-10°C to 50°C (14°F to 122°F)			-10°C to 50°C (14°F to 122°F)		
Input RFI Filter	Standard			Standard			Standard		