



US DRIVES, INC.  
P.O. Box 281  
2221 Niagara Falls Boulevard  
Niagara Falls, New York 14304-0281  
Tel: (716) 731-1606  
Visit us at [www.usdrivesinc.com](http://www.usdrivesinc.com)

## Phoenix ES AC Drives

- Microprocessor Based Digital Control Circuitry
- Latest Generation IGBT Power Devices and Surface Mount Printed Circuit Boards
- Open Loop AC Vector Control
  - 100 to 1 Speed Range, 0.1% Speed Regulation - Open Loop Control (Standard)
- Closed Loop AC Vector Control
  - 1000 to 1 Speed Range, 0.01% Speed Regulation - Closed Loop Control (with Encoder Feedback Card)
  - Speed Control, Torque Control, Speed Control with Torque Limit, Torque Control with Speed Limit
  - Rigid and non-rigid position control including orientation
  - Permanent Magnet Motor Control
- Full Torque at Zero Speed – Hold Position / Hold Zero Speed
  - High Overload Capacity Drives produce 150% Rated Current (150% Rated Torque) for 1 Minute
  - Normal Overload Capacity Drives produce 120% Rated Current (120% Rated Torque) for 1 Minute
- Continuous Automatic Tuning – Provides Optimal Performance Under All Conditions
  - No Need to Perform Auto-tune Routine or Disconnect the Motor from the Load or During Drive Start-Up
  - Easily Switch Between Open/Closed Loop Control without Changing or Entering New Drive Parameters
- Operator Keypad with Back-Lit English Language Display – 2 Line, 32 Character
  - Easily Display any parameter including Motor Speed, Motor Current, Motor Voltage, Kw and Kwh
  - User Programmable Parameter Scaling and Formatting – Display “Real World” Values – GPM, CFM, PSI
  - Includes Speed Increase/Decrease Keys, Start/Stop, Forward/Reverse and Fault Reset Keys
  - LED’s for “ Current Limit”, “Fwd/Rev”, “Run” and “Fault.”
- 50°C Ambient Temperature Rating (Nema 1 Enclosed Drives)
- Ground Fault and Line to Line Short Circuit Protection
- Tolerates High Input AC Line Voltages – 250/500/600 VAC +10% (240/480/575 VAC Input)
- Line Voltage Surge Protection - Transients to 6000V - Meets IEEE C62.41-1991 Cat B
- High Electrical Noise Immunity – Meets EN50082-1,2 – Showering Arc, 2000 V Peak
- Programmable Speed Sensitive Motor Overload Protection to Comply with UL 508C Sections 43.3, 43.4 and 43.5
- Built In Radio Frequency Noise (RFI) Filter
- 8 Preset Speeds with Individually Adjustable Accel/Decel Rates for Each Speed
- Speed Increase / Decrease (MOP) Function
- Bi-Directional Flycatcher (Start Into a Rotating Motor) – No Inertia Limits
- Built In Kw / Kwh Metering and Total Cost of Power Calculator
- Linear or S Curve Accel/Decel Control with up to 16 Different Accel/Decel Ramp Rates
- Programmable Time Based Function Generator and Programmable Threshold Detectors
- Programmable time delay and logic functions (AND, OR, NOR) of bit parameters, digital inputs and outputs
- Adding, subtracting, multiplying, dividing, ramping, limiting and/or filtering functions of parameters and analog inputs and outputs
- Run Time and Power on Time Countdown Timers with Alarms plus Run Time and Power on Time Totalizers
- Critical Speed Rejection, 3 Bands – Individually Programmable Bandwidth
- User Programmable Auto-Restart Function
- Metal Enclosure (Reduces EMI) – Nema Type 1 as Standard, Nema 12/4/4X Optional
- Auto logging Fault History - Last 10 Faults Saved in Order of Occurrence
- 8 Digital Inputs, 24 VDC (7 Programmable Inputs and 1 Fixed Stop/Enable Input)
- 2 Programmable Digital Outputs – Two Form C Dry Contacts rated 5 Amps at 115VAC
- 2 Programmable Analog Input Signals, -10 VDC to +10 VDC or 4 to 20 ma
- 2 Programmable Analog Output Signals, -10 VDC to +10 VDC
- DC Braking, Fixed or Variable Carrier Frequency



**3 Year Warranty**

**Made In USA**