

As  
Seen In  
Sea Power  
Magazine

The Next Generation in  
Variable Speed Drive  
Technology has Arrived.

30% - 50%

Energy Savings

Over Traditional Motor Controllers

The First New Technology Variable  
Speed Drive in Over 30 Years -  
Qualified Now for Shipboard Use



Earl Industries is proud to announce the completion of a significant milestone in a multiyear development program for a new line of breakthrough technology, energy efficient Variable Speed Drives (VSD) for electric motors. Slated for installation aboard USS Gerald R. Ford, CVN-78, this innovative VSD is expected to provide 30% - 50% energy savings over traditional motor controllers.

Earl's new 10-horsepower VSD, implemented with the breakthrough AC-link\* power conversion and control technology, successfully completed a series of qualification tests proving the drive meets the electromagnetic interference, power quality, and volume requirements of the Navy's rigorous performance standards and specifications. These tests ensure the device can integrate into a ship's electric power system without affecting power quality or injecting noise into other sensitive shipboard equipment and systems. To learn more: [www.earl-ind.com](http://www.earl-ind.com) or contact Ed Goodin at [egoodin@earl-ind.com](mailto:egoodin@earl-ind.com)

**See reverse side for full specifications and details.**

\* AC-link is a trademark of Princeton Power Systems



### The Benefits of Earl's Variable Speed Drive

- + Low Input and Output Emissions
- + Very Low Input Harmonics
- + Low Output Voltage Transients
- + Increased Installation Flexibility  
and Reduced Shipboard Footprint
- + Use With Standard Induction Motors
- + Increased Motor Bearing Life



EARL INDUSTRIES

# EARL VARIABLE SPEED DRIVE

10 HP Variable Speed Drive - Motor Controller  
- Advanced Naval Drive Technology -

## MIL-PRF-32168

Military Part Number	M32168-1A1A1C2BA2
Voltage Rating	440VAC, 3 Ø
Power Rating	10HP to 5HP
Control Scheme	Open Loop Scalar (Current Source)
Cooling Type	Air Cooled
Regeneration	Yes
Front End Type	Other: AC Link
Frequency Range	5-60Hz
Dynamic Braking	No (Dynamic Braking via Software Control, not Resistive Dissipation)
Machine Type	Induction
Load Type	Variable Torque

## MIL STANDARD QUALIFICATIONS

Shock	MIL-STD-901D: Grade A, Unrestricted, Deck (8 & 14Hz)
Vibration	MIL-STD-167-1: 4-25Hz
EMI	MIL-STD-461E: CE102, RE101, RE102, CS101, CS114, CS116, RS101, RS103
Shipboard Power	MIL-STD-1399: Sections 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.3.7, 5.3.8, 5.3.9

## ENVIRONMENTAL / PHYSICAL

Temperature	0-50° C Operational
Humidity	0-95% (Non-Condensing)
Degree of Protection	Drip Proof - 45 Degree Inclination
Airborne Noise	63.5 dB Max at 2kHz
Size	35 x 24 x 12" (H, W, D)
Weight	250 Lbs

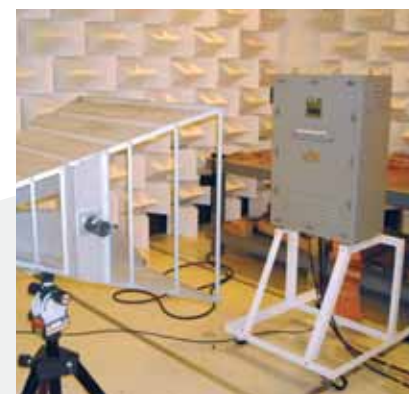
## INTERFACE

Front Panel Interface	Toggle Switch Controls, 4 Line LCD, Power, Run & Fault LED's
Communications	Modbus RTU Profibus DP Copper or Fiber Ethernet (Web User Interface)
I/O	Analog Inputs (2), Discrete Inputs (4), Relay Outputs(2 DPST)

\* AC-link Drive Technology by  PRINCETON POWER SYSTEMS



Heavy Weight Barge Testing  
(MIL-STD-901D)



Electromagnetic Interference Testing  
(MIL-STD-461E)

Earl Integrated Power & Controls • 912 Ventures Way  
Chesapeake, VA 23320 • 757.312.0574 • [www.earl-ind.com](http://www.earl-ind.com)

