MAINSTREAM ENGINEERING CORPORATION

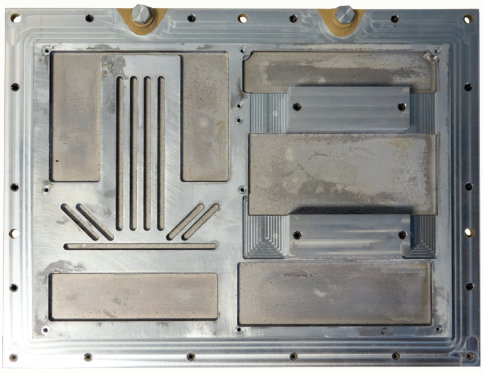
Variable Frequency Drive

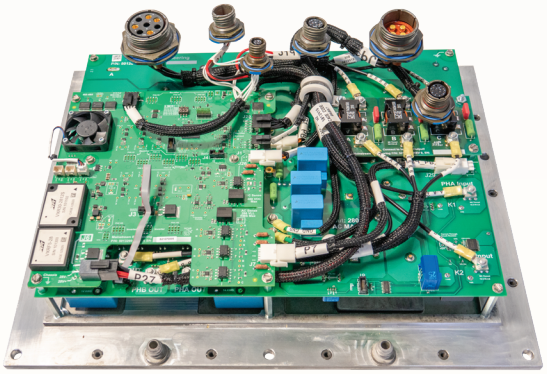
Three-Phase Asynchronous Induction Motors (ASIM) and Permanent Magnet Synchronous Motors (PMSM)

Solutions Through Advanced Technology®
MAINSTREAM ENGINEERING

Mainstream's variable frequency drive is a liquid cooled motor drive with an integrated active PFC rectifier for meeting the strict requirements of MIL-STD 461. It can be powered by a 208/230 Vac, 50/60 Hz source (such as the AC grid, a generator, or a tactical microgrid) or modified to operate from a DC source. The motor drive can be used with fluid inlet temperatures from -40° to 70°C and drive AC induction motors or AC permanent magnet synchronous motors using advanced sensorless field-oriented control.

- Designed for military environment
- RS485 serial port for control and data reporting
- Diagnostic reporting for easy troubleshooting
- Software upgradeable without disassembly
- V/Hz scalar control or sensorless field-oriented control is selectable through the control port
- Active PFC rectifier or passive diode rectifier is selectable through the control port
- Meets MIL-STD 461 CE102 requirements for AC input





Typical Applications

- Pumps
- Compressors
- Fans
- Thermal management systems
- HVAC

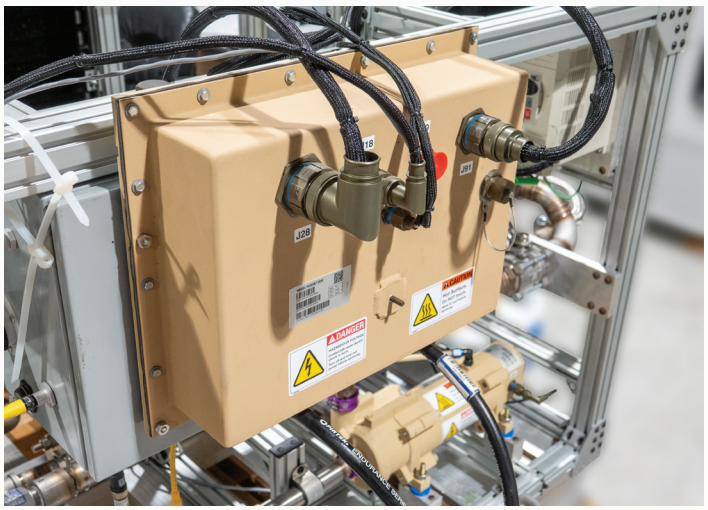
Value Added Features

- IP66 enclosure rated to 12,000 ft altitude and rapid decompression
- Rugged D38999 military connectors
- Integrated dV/dt filter for use with longer wire runs
- PC graphical user interface available for control, monitoring, and data logging
- Hour meter totalizes time at various operating speed ranges to enable condition-based maintenance

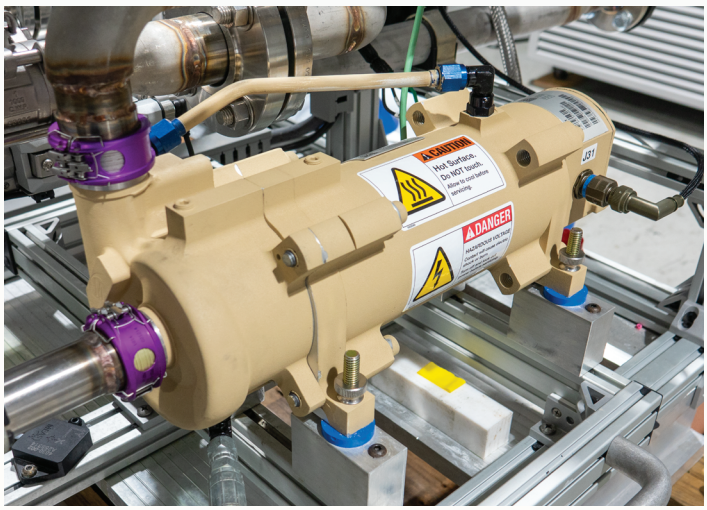
VFD Specifications

Specification	Min	Nominal	Max	Units
Dimensions (L x W x H)			17.5 x 13.5 x 4.25	Inches
Weight		31		lbs
AC Input Voltage	183	208	240	Vline-line rms
AC Input Frequency	45	50/60	66	Hz
Line Voltage Unbalance	-5%	0	5%	
Input Current			25	Arms per line
Inrush Current			< 25	Apeak per line
Input Power			10000	W
Input Power Factor (DPF)		0.99		Displacement power factor
Input Power Factor (HPF)		0.99		Harmonic power factor
AC Output Voltage	0		230	Vline-line rms
AC Output Frequency	0		1000	Hz
AC Output Current	0		25	Arms per line
Output Voltage dV/dt			2.5	kV/µs

VFD with Mainstream's OptiPump



Mainstream's OptiPump



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Made in the USA

www.mainstream-engr.com

200 Yellow Place • Rockledge, FL 32955
321.631.3550 • *fax* 321.631.3552
sales@mainstream-engr.com