



NOVA ELECTRIC

NGLM Series RTCA/DO-160 Compliant 3-6 KVA Three-Phase Output Pure Sine Wave DC-AC Inverters

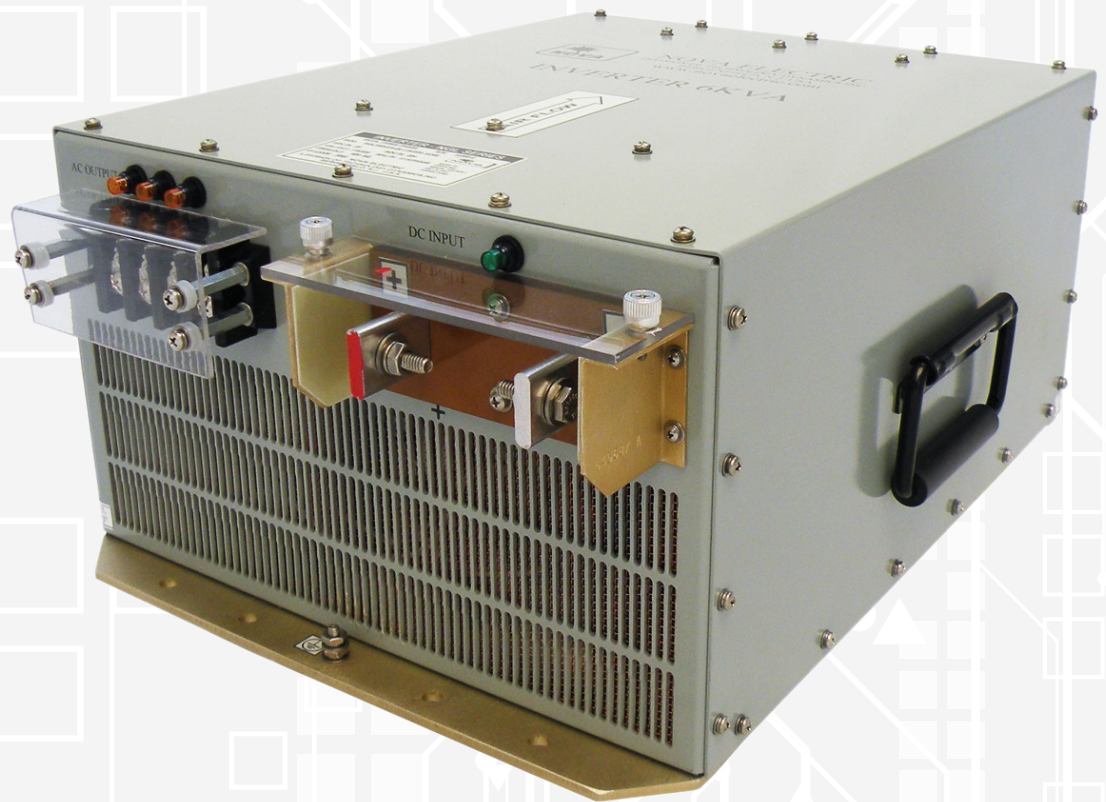


POPULAR OPTIONS

- Ruggedization For RTCA/DO-160 Compliance
- MS Connector and Mates
- Internal Electromechanical Transfer Switch
- EMI Filter (Input or Output)
- SNMP Comm
- Remote ON/OFF
- Output Inhibit
- Input and Output Circuit Breakers
- Circuit Breaker Guards
- Power Distribution Units (PDUs)
- Environmental Stress Screening Services

CONTACT

100 School Street,
Bergenfield, NJ 07621 USA
(201) 385-0500
novaelectric.com
info@novaelectric.com



These units are suitable for applications such as:

- *Airborne Applications*
- *UAVs and Drones*
- *Military Vehicle Applications*
- *Tactical Systems*
- *Ground Support*
- *Naval Applications*
- *Mobile Systems*
- *Communications*

The Leader In Rugged Power Conversion Technology Since 1966

Rev H-April-15-2024



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GENERAL OVERVIEW

Nova Electric's rugged NGLM inverters are extremely reliable, designed to provide many years of service in high shock, vibration, humidity, and EMI environments in compliance to RTCA/DO-160G and MIL-STD-704F. These units accept standard inputs of 28, 48, 120, 230, or 270 Volts DC nominal. They are offered in 3KVA, 4.5KVA and 6KVA output power, and output voltage is tightly regulated with less than 3% total harmonic distortion. The NGLM units are modular, with small footprints and flexible mounting configurations. The inverter chassis measures only 17.75"L x 13"W x 8"H and weighs just 34 pounds total. A mounting plate is integrated into the chassis. Input connection is typically via bus bars with terminal blocks for output, though circular MS-type connectors are available optionally. These inverters use field-proven, cutting edge IGBT-based high frequency switching technology to achieve very high MTBF, and very low mean time to repair. Typical applications include:

- Airborne Applications
- Military Vehicle Applications
- Ground Support
- Mobile Systems
- Tactical Systems
- Naval Applications
- Communications

SPECIFICATIONS

Electrical

INPUT VOLTAGE RANGE <i>(SELECT)</i>	See Model Table for Nominal DC Input. 28 VDC Nominal Range is 22-32 VDC 48 VDC Nominal Range is 42-56 VDC 120 VDC Nominal Range is 105-150 VDC 230 VDC Nominal Range is 210-280 VDC 270 VDC Nominal Range is 240-300 VDC
OUTPUT VOLTAGE <i>(SELECT)</i>	Select 120/208, 115/200, or 220/380 VAC
OUTPUT FREQUENCY	Select 50 Hz, 60 Hz or 400 Hz
OVERLOAD	125% for 5 Minutes
OUTPUT WAVEFORM SINEWAVE	<3% THD
OUTPUT REGULATION	± 2.5%
MTBF	Over 100,000 Hours per Field Data
MTTR	30 Minutes
EMI	Designed to Meet MIL-STD-461
COMPLIANT TO MIL-STD-704	Aircraft Electrical Power Characteristics

Environmental (Standard)

OPERATING TEMP.	-20°C to +50°C Std -40°C to +60°C Optional
STORAGE TEMP.	-40°C to +71°C
SHOCK	Designed to Meet 20g / 11 mS per MIL-STD-810
VIBRATION	Designed to Meet MIL-STD-810 for Airborne or Surface Vehicle and MIL-STD-167 Shipboard
HUMIDITY	Designed to Meet MIL-STD-810 to 95% Non-Condensing



NGLM Rear Panel

Protective Features

OVERLOAD
OVERVOLTAGE
OVERTEMPERATURE

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SYSTEM COMPLIANCE

MIL-STD-704: Aircraft Electrical Power Characteristics

RTCA/DO-160G Compliance (Optional):

- Humidity per RTCA/DO-160G, Section 6, paragraph 6.3.1, Category A, Figure 6-1
- Ground survival low temperature per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, paragraph 4.5.1, Table 4-1, Figure 4-1
- Low temperature (operating) per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, paragraph 4.5.2, Table 4-1, Figure 4-2
- High temperature (operating) per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, paragraph 4.5.4, Table 4-1, Figure 4-4
- Altitude per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, paragraph 4.6.1, Table 4-1, Figure 4-6
- Ground survival high temperature per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, paragraph 4.5.3, Table 4-1, Figure 4-3
- Vibration per RTCA/DO-160G, Section 8, Category S, Fixed-Wing, Figure 8-3, Curve L
- Standard operational shock per RTCA/DO-160G, Section 7, Figure 7-2
- Temperature variation per RTCA/DO-160G, Category B1, Fixed Wing Aircraft, Section 5, Category C, Figure 5-1

3 KVA / 2 KW MODELS

PARTIAL MODEL DESIGNATION	KVA / KW	NOMINAL DC INPUT	THREE-PHASE OUTPUT	SIZE	WEIGHT
NGLM3K3/6-28-120/208	3 KVA / 2.4 KW	28 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/5-28-220/380	3 KVA / 2.4 KW	28 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/4-28-115/200	3 KVA / 2.4 KW	28 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/6-48-120/208	3 KVA / 2.4 KW	48 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/5-48-220/380	3 KVA / 2.4 KW	48 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/4-120-115/200	3 KVA / 2.4 KW	48 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/6-230-120/208	3 KVA / 2.4 KW	120 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/5-230-220/380	3 KVA / 2.4 KW	120 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/4-230-115/200	3 KVA / 2.4 KW	120 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/6-230-120/208	3 KVA / 2.4 KW	230 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/5-230-220/380	3 KVA / 2.4 KW	230 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/4-230-115/200	3 KVA / 2.4 KW	230 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/6-270-120/208	3 KVA / 2.4 KW	270 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/5-270-220/380	3 KVA / 2.4 KW	270 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM3K3/4-270-115/200	3 KVA / 2.4 KW	270 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.

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POPULAR OPTIONS

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4.5 KVA / 3.6 KW MODELS

PARTIAL MODEL DESIGNATION	KVA / KW	NOMINAL DC INPUT	THREE-PHASE OUTPUT	SIZE	WEIGHT
NGLM4.5K3/6-28-120/208	4.5 KVA / 3.6 KW	28 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/5-28-220/380	4.5 KVA / 3.6 KW	28 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/4-28-115/200	4.5 KVA / 3.6 KW	28 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/6-48-120/208	4.5 KVA / 3.6 KW	48 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/5-48-220/380	4.5 KVA / 3.6 KW	48 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/4-48-115/200	4.5 KVA / 3.6 KW	48 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/6-120-120/208	4.5 KVA / 3.6 KW	120 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/5-120-220/380	4.5 KVA / 3.6 KW	120 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/4-120-115/200	4.5 KVA / 3.6 KW	120 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/6-230-120/208	4.5 KVA / 3.6 KW	230 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/5-230-220/380	4.5 KVA / 3.6 KW	230 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/4-230-115/200	4.5 KVA / 3.6 KW	230 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/6-270-120/208	4.5 KVA / 3.6 KW	270 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/5-270-220/380	4.5 KVA / 3.6 KW	270 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM4.5K3/4-270-115/200	4.5 KVA / 3.6 KW	270 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.

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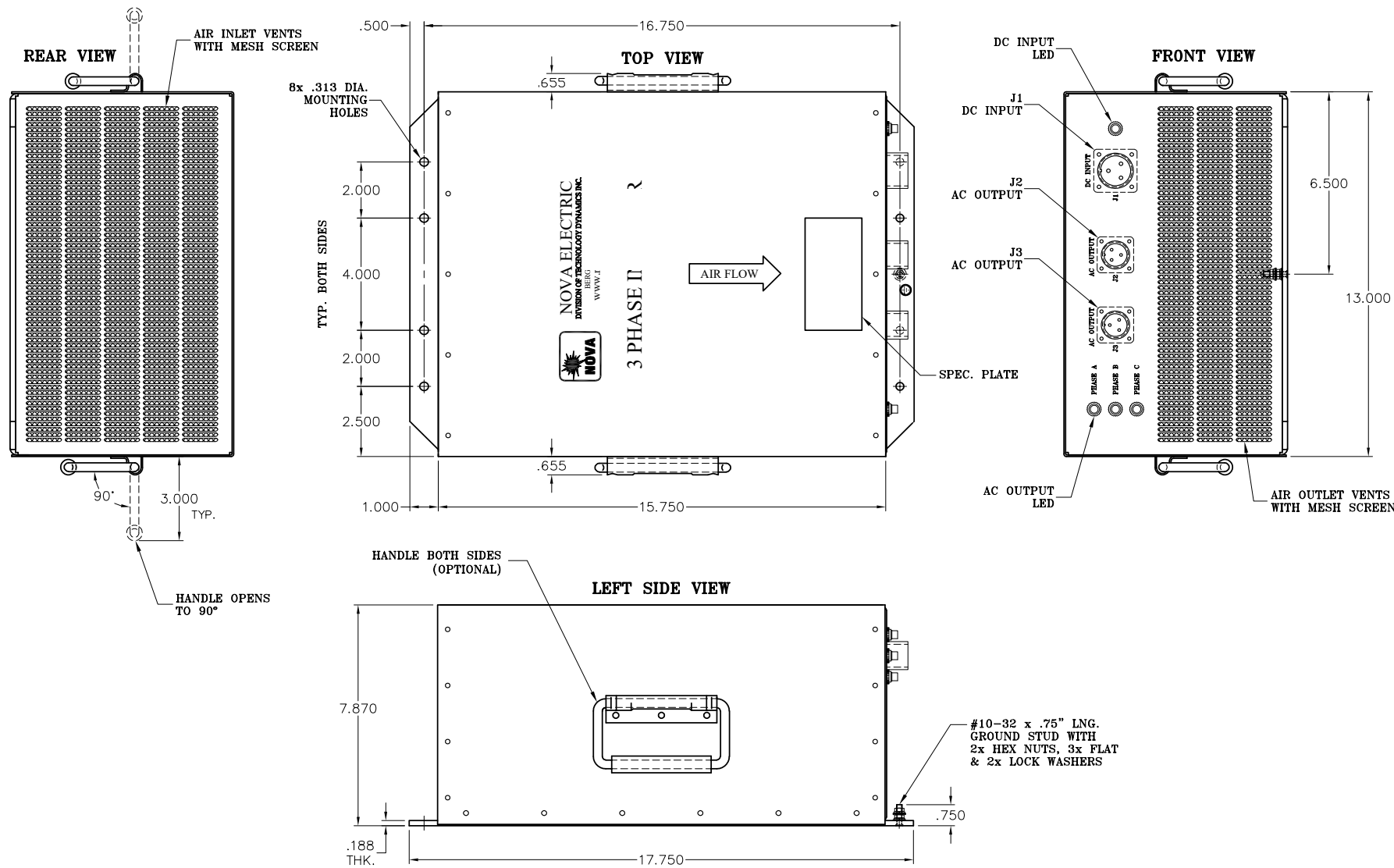


6 KVA / 4.8 KW MODELS

PARTIAL MODEL DESIGNATION	KVA / KW	NOMINAL DC INPUT	THREE-PHASE OUTPUT	SIZE	WEIGHT
NGLM6K3/6-28-120/208	6 KVA / 4.8 KW	28 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/5-28-220/380	6 KVA / 4.8 KW	28 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/4-28-115/200	6 KVA / 4.8 KW	28 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/6-48-120/208	6 KVA / 4.8 KW	48 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/5-48-220/380	6 KVA / 4.8 KW	48 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/4-48-115/200	6 KVA / 4.8 KW	48 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/6-120-120/208	6 KVA / 4.8 KW	120 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/5-120-220/380	6 KVA / 4.8 KW	120 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/4-120-115/200	6 KVA / 4.8 KW	120 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/6-230-120/208	6 KVA / 4.8 KW	230 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/5-230-220/380	6 KVA / 4.8 KW	230 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/4-230-115/200	6 KVA / 4.8 KW	230 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/6-270-120/208	6 KVA / 4.8 KW	270 VDC	120/208 VAC, 60 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/5-270-220/380	6 KVA / 4.8 KW	270 VDC	220/380 VAC, 50 Hz	17.75"L x 13"W x 8"H	34 lbs.
NGLM6K3/4-270-115/200	6 KVA / 4.8 KW	270 VDC	115/200 VAC, 400Hz	17.75"L x 13"W x 8"H	34 lbs.

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NGLM SERIES THREE-PHASE OUTPUT PURE SINE WAVE DC-AC INVERTERS OUTLINE DRAWING



NOTES:

- 1. ALL DIMENSIONS ARE IN INCHES.
- 2. ALL UN-DIMENSIONED PICTORIAL CONFIGURATIONS ARE FOR REFERENCE ONLY.
- 3. FRONT AND REAR MARKING FOR REFERENCE ONLY.
- 5. FINISH: IRRIDITATED, THEN PRIME & PAINT ALL SURFACES AND ALL EDGES - ANSI #61 GRAY SEMI-GLOSS.
- 6. SILK-SCREENED IN BLACK EPOXY INK.
- 7. OTHER CONNECTOR TYPES AVAILABLE OPTIONALLY.

CONNECTOR PIN DESIGNATION

J1 DC INPUT		J2 AC OUTPUT		J3 AC OUTPUT	
MS3452L20-19P		MS3452L16-10S		MS3452L16-10SX	
PIN	DESCRIPTION	PIN	DESCRIPTION	PIN	DESCRIPTION
A	DC (+)	A	PHASE A	A	PHASE A
B	DC (-)	B	PHASE B	B	PHASE B
C	GROUND	C	PHASE C	C	PHASE C





RUGGED AC POWER SYSTEMS



SELECT UNITS QUALIFIED TO MIL-STD-810, MIL-S-901, MIL-STD-1399, MIL-STD-461, MIL-STD-167, MIL-STD-740, RTCA/DO-160, AND MORE

RUGGED TRUE ONLINE UPS



500 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

PURE SINEWAVE DC-AC INVERTERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

SOLID-STATE FREQUENCY CONVERTERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

50, 60, and 400 Hz.

POWER DISTRIBUTION UNITS (PDUs)



Basic, Switched, Auto-Transfer Switching, and Metered Configurations

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

CUSTOM EMI FILTERS



For MIL-STD-461 Compliance

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

RUGGED PORTABLE TRANSFORMERS



100 W – 500+ KW

Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

EXTERNAL MAINTENANCE BYPASS SWITCHES (MBSSs)



Rack Mount, Bulkhead Mount, and Freestanding

Single and Three Phase

CUSTOM DESIGNS



Designed & Built to Spec

Integrated AC & DC Capabilities

Multiple Outputs

RELIABLE AC POWER WHEN AND WHERE YOU NEED IT SEVERE ENVIRONMENT PRODUCTS



- AIRBORNE
- SHIPBOARD
- MOBILE
- RACK MOUNT & FREESTANDING

- 50, 60, AND 400 Hz
- AIR & WATER COOLED
- SINGLE AND THREE PHASE
- LIGHTWEIGHT DESIGNS

