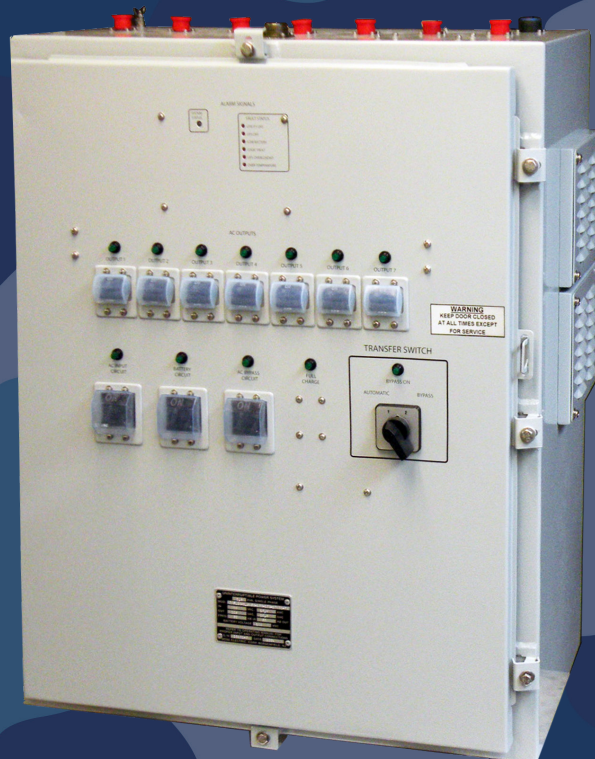




NAVY GALAXY SERIES 1.5-2.5 KVA RUGGED TRUE ONLINE BULKHEAD MOUNT UPS

*Fully Qualified to MIL-STD-1399, MIL-STD-461, MIL-S-901, MIL-STD-167,
MIL-STD-810, MIL-STD-464, and MIL-STD-740*



These units are suitable for applications such as:

- *Submarine Applications*
- *Shipboard Applications*
- *Ground Support*
- *Airborne Applications*
- *Mobile Systems*
- *Military Ground Vehicles*
- *Tactical Systems*
- *Military Shelters*



NOVA ELECTRIC



POPULAR OPTIONS

- Power Distribution Units
- MS Connector Mates
- Multiple Output Outlets
- Shock Mounts
- Floor Mounts
- Internal Transfer Switch
- Custom Enclosures
- Additional Run Time via External Batteries
- 400 Hz Input and / or Output
- CAD Free Connectors
- Non-PVC wiring
- High IP Protection
- 28 VDC Input
- AUX DC Outputs
- Environmental Stress Screening Services

CONTACT

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Bergenfield, NJ 07621 USA

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NAVY GALAXY SERIES

Rugged True Online Bulkhead Mount UPS

GENERAL OVERVIEW

This rugged Navy Galaxy-Series true online UPS System is specifically designed for submarine and shipboard applications in compliance to MIL-STD-1399, MIL-STD-461, MIL-STD-901, MIL-STD-167, MIL-STD-464, MIL-STD-810, AND MIL-STD-740. The example pictured is a compact variation in use on the US Navy DDG-1000, as well as other high profile shipboard and submarine applications on US and US-friendly fleets worldwide. This model has a three-phase power factor corrected (PFC) input of 115 VAC L-L, 50/60 Hz per MIL-STD-1399 Section 300 Type I and a pure sinewave galvanically isolated output of 120 VAC, 60 Hz., Single-Phase. Single-phase input is optional, and output frequency is available in 50, 60, or 400 Hz.

SPECIFICATIONS

Electrical

OPTIONAL INPUT VOLTAGES AVAILABLE <i>(SPECIFY)</i>	115, 120, 208, 220, 230, 240 VAC. 1Ø 115/200, 120/208, 220/380 3Ø Delta 3Ø Available
OPTIONAL INPUT FREQUENCIES AVAILABLE <i>(SPECIFY)</i>	50, 60 or 400 Hz
OPTIONAL OUTPUT VOLTAGES AVAILABLE <i>(SPECIFY)</i>	115, 120, 208, 220, 230, 240 VAC 1Ø
OUTPUT FREQUENCY <i>(SPECIFY)</i>	50, 60 or 400Hz
VOLTAGE REGULATION	± 2% NL to FL
FREQUENCY REGULATION	0.1%
HARMONIC DISTORTION	2% THD Typical 5% Max
INPUT POWER FACTOR	0.99
EFFICIENCY AT FULL LOAD	82% Typical
OVERLOAD	125% for 5 Minutes

Protective Features

AC & DC INPUT CIRCUIT BREAKERS
LOW BATTERY SHUT OFF
OVERLOAD
THERMAL PROTECTION
OPTIONAL EPO
AUDIBLE ALARM WITH SILENCE SWITCH

Internal Batteries

Premium wide temp long-life batteries which are sealed, maintenance free, and user replaceable. Extended runtime available.

Environmental

OPERATING TEMP	-20° to +50° C per MIL-STD-810D
STORAGE TEMP RANGE	-40° to +60° C
HUMIDITY	To 95% Non-Condensing
ELEVATION	Operating: 15,000 Ft. (4,572 m) Non-Operating: 40,000 Ft. (12,192 m)
AUDIBLE NOISE	Less than 55 dBA at 5 ft. (1.5 m)
COOLING	Forced Air (Exhaust at Rear)
EMI	Per MIL-STD-461
VIBRATION	Per MIL-STD-167-1
SHOCK	20g for 20ms Half Sinewave per MIL-STD-901 Grade A
STRUCTUREBORNE NOISE	MIL-STD-740B Grade A

Alarms & Diagnostics

SYSTEM STATUS	Green / Red
UTILITY OFF	Red
UPS OFF	Red
LOW BATTERY	Red
LOGIC FAULT	Red
ALARM CONTACTS	Standard
RS 232 OR SNMP	Optional
UPS OVERLOAD	Red
OVER-TEMPERATURE	Red
LOAD ON UTILITY	Red (with XFR SW Option)

MODEL	KVA	INPUT	OUTPUT	UPS LBS	RUNTIME
NGHS11-1.5K60-115(D)-120	1.5	115 VAC L-L	120 VAC	145	10 Min
NGHS11-2.5K60-115(D)-120	2.5	115 VAC L-L	120 VAC	155	10 Min



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POPULAR OPTIONS

- Power Distribution Units
- MS Connector Mates
- Multiple Output Outlets
- Shock Mounts
- Floor Mounts
- Internal Transfer Switch
- Custom Enclosures
- Additional Run Time via External Batteries
- 400 Hz Input and / or Output
- CAD Free Connectors
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SYSTEM COMPLIANCE

MIL-STD-1399 Section 300B: For Type I apparatus

Additional Ruggedization to meet MIL-S-901, MIL-STD-167, and MIL-STD-810: The online UPS System's construction is extremely robust, and ruggedized throughout. All components and modules within the unit are mounted using additional steel brackets and heavy-duty stainless-steel hardware, which is then further secured using Loctite and RTV where required. All boards are conformal-coated (Acrylic MIL-I-46058 Type R) for maximum resistance to potential condensation and fungus growth.

MIL-S-901D for Grade A, Class II, Type B Equipment: Shock test with half sinewave, 20ms duration, 15g peak acceleration shock pulse.

MIL-STD-167-1 for Type I Equipment: Vibration test with range of 4 Hz low frequency to 33 Hz high frequency.

MIL-STD-810D: Operating Temperature Tests including High Temperature Test per Procedure II, Method 501.2, Table 501.2-II Ambient Air, 4 Cycles @ 24 Hours per cycle, Low Temperature Test per Procedure II, Method 505.2, Table 505.2-I Region CO, 4 Cycles @ 24 Hours per cycle, and Temperature Shock Test per Procedure I, Method 503.2, between 0-40 degrees Celsius, 4 Cycles @ 24 Hours per cycle.

Internal EMI Reduction Package to meet

MIL-STD-461: The design of this unit is specifically focused on reducing EMI emissions. The UPS contains substantial internal filtering to minimize EMI emissions. Inputs which may be susceptible to transients are protected by several methods, including MOVs. All internal magnetics are shielded with copper and mu-metal to further minimize emissions. The cabinet is specifically treated with low surface resistivity finishes on the interior. All aluminum parts are treated with clear irridite. The steel parts are treated with zinc plate, followed by a clear chromate. All exterior portions (except for mating surfaces) are then painted with glossy ANSI-61 gray to assure excellent bonding of mating sheet metal parts. All input and output ventilation filters include metal honeycomb-style filters.

MIL-STD-461 for surface ship applications: CE101, CE102, CS101, CS114, C116, RE101, RE102, RS101, RS103.

Super-Rugged, Long Life Hawker Energy Batteries: Internal Hawker Energy sealed, maintenance free batteries provide 10 minutes back up time at full load. These batteries are extremely resistant to shock, vibration, and wide temperature ranges. Also, they have a very long service life (8-10 years measured at 25 degrees Celsius ambient temperature) for a minimum of maintenance. The batteries are user replaceable.

Structureborne and Airborne Noise: The rugged Navy Galaxy-Series UPS System was tested and qualified to MIL-STD-740B for Grade A Type III Equipment.

Pressure Tests for Submarine Usage: The Navy Galaxy Series online UPS System was tested to atmospheric pressure within the range of 750-1250 millibars, and maintained standard operation to specification to the following test pressures for 1 hour:

250 millibars above ambient (*applied within 30 seconds and released within 30 seconds*)

250 millibars below ambient (*applied within 30 seconds and released within 30 seconds*)

Ambient pressure of 1000 millibars

OPTIONAL

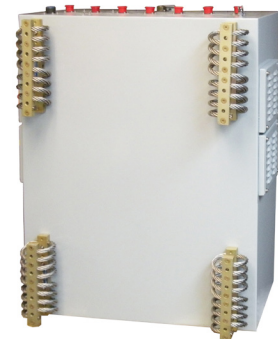
MIL-STD-464: for EMP/E3 verification, including RS116

MIL-STD-889 appendix A for Dissimilar Materials

MIL-STD-1472 for Human Systems Integration

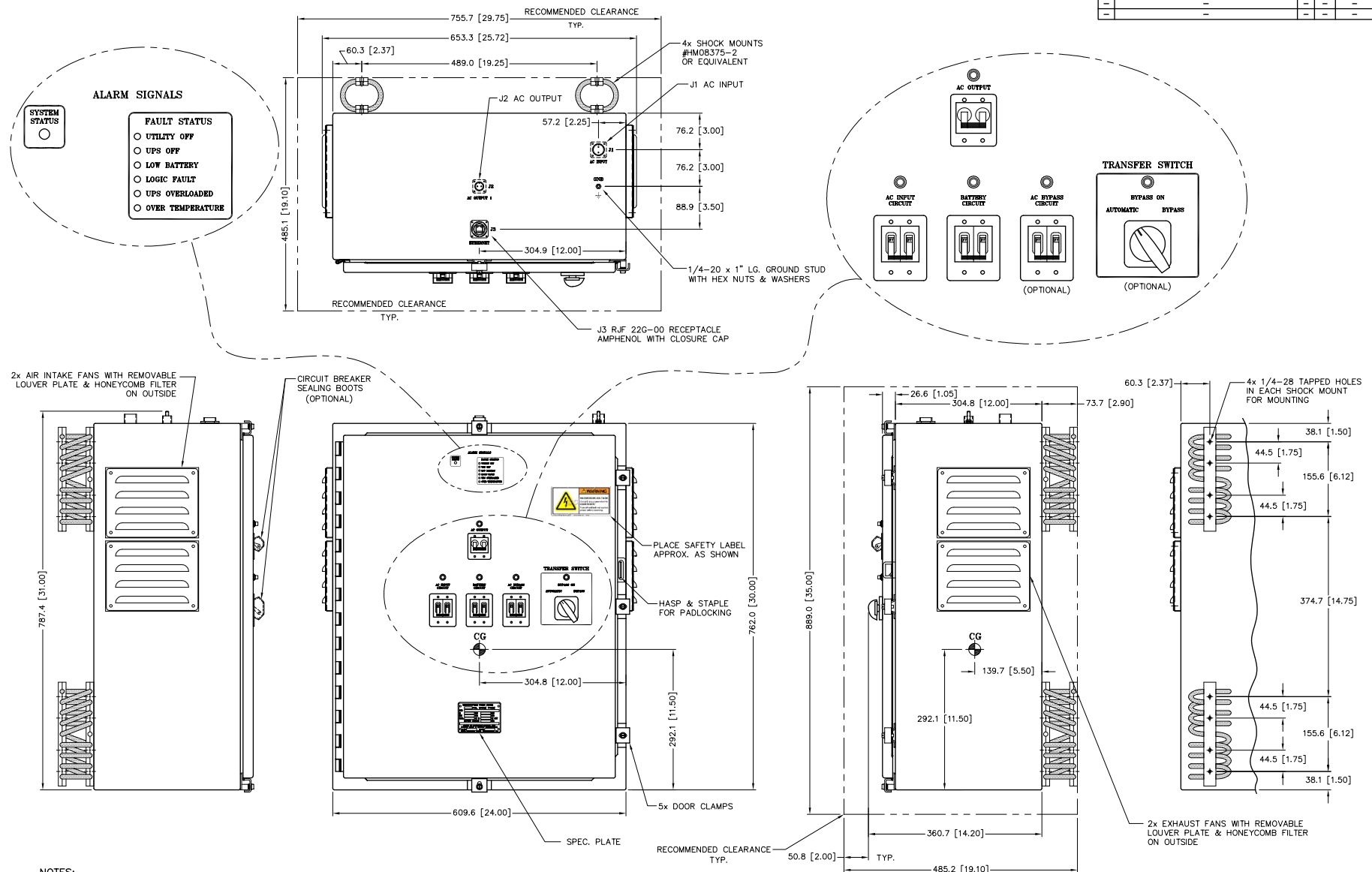
MIL-STD-882 for Systems Safety

MIL-STD-1623 for Fire Performance for Interior Materials and furnishings



Rear View of Navy Galaxy Series Bulkhead Mount UPS with Optional Shock Mounts

REVISIONS			
LTR	DESCRIPTION	BY	DATE
-	-	-	-



NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS & [INCHES], UNLESS OTHERWISE SPECIFIED.
- ALL UNDIMENSIONED PICTORIAL CONFIGURATIONS ARE FOR REFERENCE ONLY.
- FRONT AND TOP MARKINGS FOR REFERENCE ONLY.
- APPROXIMATE WEIGHT = 234 LBS. INCLUDING BATTERIES.
- FINISH: CLEAR ZINC: PER ASTM B633 FE/ZNS TYPE III AND CLEAR CHROMATE PLATE ENTIRE CABINET INSIDE & OUTSIDE. POWDER COAT ENTIRE CABINET WITH DUPONT PFH-502-S8 GREY PAINT (ASA70).
- SHOCK MOUNT MATERIAL: ALUMINUM AND STAINLESS STEEL.
- CABINET MATERIAL: CARBON STEEL.

J1 AC INPUT	
PIN	DESCRIPTION
A	LINE
B	NEUTRAL

J2 AC OUTPUT	
PIN	DESCRIPTION
A	LINE
B	NEUTRAL

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Some optional equipment shown. Specifications subject to change without notice.



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

