

ATLAS MARINE SYSTEMS

Ultra HF Series **ShorPOWER®** FREQUENCY CONVERTERS 50Hz and 60Hz 90-125 kVA



Vertical Configuration

Atlas Marine Systems is the world leader in the design of marine electrical power systems. Atlas also provides electrical engineering services to define the electrical distribution system of vessels and to assure the appropriate application of its TecPOWER® series switchboards, load management and power management systems. Additionally, the Atlas ShorPOWER® product line provides the widest selection of on-board Frequency Converters available to the yachting community.

APPLICATION:

The *Ultra HF Series* ShorPOWER® is a product line of Frequency Converters designed for onboard use utilizes state-of-the-art IGBT technology and a high frequency pulse-width modulated (PWM) control system. An *Ultra HF Series* unit when installed onboard a yacht makes it possible for the vessel to enter marinas worldwide without concerns about a marina having a compatible power grid with the yacht's onboard electrical system. Because of the *Ultra HF Series'* ability to provide a ship-to-shore electrical interface for the yacht with any standard 3Ø electrical 50Hz or 60 Hz utility source ranging from 380 to 480 volts, the number of marinas to choose from is increased many times over. This reduced concern about to ship-to-shore interface with marinas made possible through the use of an Atlas *Ultra HF* unit is especially important due to ever increasing regulations and compliance statements regarding the use of onboard diesel engine generators while docked at a marina. Noise and air pollution caused by these diesel engine generators, coupled by increased operational and maintenance costs, make the use of the ShorPOWER® *Ultra HF* Frequency Converter a must. Reduced use of diesel fuel at the dock will pay for the *Ultra HF* in a matter of years. Additionally, the ShorPOWER® *Ultra HF* can regulate and condition dockside power, which protects the onboard electrical system by eliminating voltage spikes, surges, voltage drops or sags, and harmonic distortions typical of dock power. The *ULTRA HF* is available in output power ratings from 50 - 125 kVA (contact factory for details).

STANDARD FEATURES:

- $\leq 5\%$ Input Current Distortion
- Input auto-ranging from 380-480V, +10%, -15%, 3Ø, 50 or 60 Hz
- ≥ 0.999 Power Factor
- Voltage transient and lightning protection
- Single Cord Input
- 3Ø, delta or wye outputs, 50 or 60 Hz
- Light weight; small footprint design
- Digital display and control panel
- Precise output voltage and frequency regulation
- Multi Language Display (English, French, German, Italian, Portuguese, Russian and Spanish)
- Input safety disconnect
- Sine wave output
- Fully integrated input / output electronic protection package
- State-of-the-art IGBT and PWM technology
- Input emergency power off (EPO)
- Auto return to operating mode after power failure
- Built-in self-diagnostics system, 8000 Event Log
- No periodic calibration required
- USB, ETHERNET, RS 485, RS 232 (MODBUS/JBUS) communications

OPTIONS:

- Fully integrated ShorPOWER® to generator, seamless power transfer system
- Output load disconnect
- Indoor touch-screen display and control panel
- Remote display and control panels
- Remote start / stop / reset switch control box
- TecPOWER® switchboard data link interface
- Alternate input voltages
- Paralleable for increased capacity or redundancy
- Output voltage and frequency field programming changes – contact factory for specific download and nameplate changes
- Web Interface

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ATLAS MARINE SYSTEMS - ShorPOWER® Ultra HF Series

GENERAL SPECIFICATIONS

INPUT:

Voltage*	380 to 480 volts, +10%, -15%, 3Ø, 3 or 4 wire plus ground
Frequency	50 - 60 Hz ± 10%
Input Current Distortion	≤ 5%
Power Factor	≥ 0.999
Phase Rotation	Any
Protection	Over/undervoltage, loss of phase, overcurrent, short circuit. Voltage transient protection IAW IEEE C62.41. Location Cat. B/C
Inrush Current	No greater than 100% of full load current

ENVIRONMENTAL:

Acoustical Noise	< 65 dBA at 5 feet (1.5m)
Temperature Range	-40°C to +55°C
Relative Humidity	10 - 95%
Ingress of Water	IAW NEMA 250, Type 4 Requirements and IP55

ENERGY FACTORS:

Efficiency	95% typical at full load, 93% typical at half load; varies depending on configuration
Energy Efficiency Ratio	20.0 typical

OUTPUT:

Unit Power Ratings	90, 100, or 125 kVA (Specify)
Power Factor Range	0.5 lagging to 0.8 leading
Overload	100% continuous 110% for 60 min 125% for 10 min 150% for 2 min 200% for 20 sec
Voltage (specify)	
▪ *Three-phase, 3-wire:	380, 400, 415, 440, 460, 480 volts
▪ *Three-phase, 4-wire:	220/380, 230/400, 240/415, 265/460, 277/480 volts
Crest Factor	1.414 ± 3%
Voltage Regulation	± 1.0% under all conditions of line, balanced loads and temperature
Frequency (specify)	50 or 60 Hz ± 0.01% under all conditions of line, load and temperature
Frequency Transients	None
Phase Angle Regulation	± 2° for balanced loads; ± 4° for unbalanced loads
Harmonic Distortion	3% maximum, 2% typical (linear loads)
Protection	Overload, short circuit, over/undervoltage and safety disconnect

* Automatically adjusts to input source selected

