

# ATLAS MARINE SYSTEMS

## Ultra HP™ Series **ShorPOWER®** FREQUENCY CONVERTERS 50Hz and 60Hz 150-200 kVA



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 onboard Frequency Converters available to the yachting community.

### APPLICATION:

The ShorPOWER Ultra HP frequency converter utilizes state-of-the-art technology including the latest generation of power semiconductors and transformers controlled by an ultra-high speed digital system to create precisely regulated output power. This technology allows the converter to be very compact and lightweight while being electrically powerful and highly efficient.

The Ultra HP will automatically connect to any marina power source worldwide and provide clean, stable and reliable power for the yacht. This is especially important due to ever increasing regulations regarding the use of onboard diesel engine generators while docked at a marina. Noise and air pollution caused by these generators, coupled by increased operational and maintenance costs, make the use of the ShorPOWER Ultra HP frequency converter a must.

Additionally, the ShorPOWER Ultra HP produces a highly regulated output regardless of fluctuations in the dockside power or changes in load onboard. This regulation protects the onboard electrical system by eliminating voltage spikes, surges, voltage drops or sags, and harmonic distortions typical of dock power.

The Ultra HP is designed to be the most reliable converter on the market by manufacturing the converter using only the highest quality components and by engineering the converter for actual marine use, such as operating continually at 100% load in high ambient temperatures.

The Ultra HP is available in output power ratings of 150 to 200kVA. (Consult factory for details)

### STANDARD DIFFERENTIATING FEATURES:

- Input power factor correction - maximizes the amount of power obtainable from the dock
- Regulation of unbalanced phases - protects equipment onboard
- Output stabilized when step loads are applied - protects equipment onboard
- Unbalanced loads are not reflected on the input – maximizes the amount of power obtainable from the dock
- Generous overload capability - power boost for peak usage times - no need to start generators or load shed
- Precise output voltage and frequency regulation - protects equipment onboard
- Voltage transient and lightning protection - protects equipment onboard
- High reliability with a sophisticated diagnostic and protection system
- Any required service can be completed from access through the front panel
- Alarm indication when input current exceeds programmed dock breaker rating
- Multi Language Display (Arabic, Asian, English, French, German, Italian, Russian and Spanish - others, specify)

### OPTIONS AVAILABLE:

- Paralleable for increased capacity or redundancy
- Seamless power transfer between ShorPOWER and generator
- Remote touchscreen or control panel
- RS485 or Ethernet (Modbus and webpage) communications
- Output load disconnect
- TecPOWER switchboard data link interface
- Web Interface - remote diagnostic access

### MECHANICAL SPECIFICATIONS:

Size: See Figure 1  
Cooling: Forced Convection



# ATLAS MARINE SYSTEMS - ShorPOWER® Ultra HP™ Series

## GENERAL SPECIFICATIONS

### INPUT:

Voltage	177 to 528 volts, 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 50% 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%, non-condensing

### ENERGY FACTORS:

Efficiency	92% typical at full load, 90% typical at half load; varies depending on configuration
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### OUTPUT:

Unit Power Ratings	150, 180, or 200 kVA (Specify)
System Power Ratings	300 to 2 MVA (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, and over/undervoltage

