

ATLAS MARINE SYSTEMS



SPA-II Series **ShorPOWER®** FREQUENCY CONVERTERS

Atlas Marine Systems is the world leader in the design of marine electrical power systems. Atlas provides electrical engineering services to define the vessel electrical distribution system and 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.



**U.S. PATENT NO.
8,610,308**

APPLICATION:

The SPA Series ShorPOWER® frequency converter utilizes state-of-the-art technology including IGBT power modules integrated into a pulse width modulated (PWM) control system. The enclosure is constructed of a lightweight corrosion-resistant material and designed to minimize installed space requirements. This compact frequency converter is smaller and lighter than competitive products, while offering additional features.

Unique to the SPA 50 is its ability to be operated, through a novel method of controlling airflow needed to maintain the proper system temperature. The compact form factor allows the SPA 50 to be installed where height is restricted, expanding the installation opportunities on board. Because of packaging techniques derived from the aerospace industry, the ShorPOWER® SPA Series system offers the lightest weight to kVA ratio in the market. No other marine frequency converter approximates the low weight of the ShorPOWER® SPA Series units with the standard features included.

DIFFERENTIATING FEATURES:

- Proportional dual shore cords - maximizes the amount of power obtainable from the dock
- 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
- Balanced input phases - on a competitive system, any imbalance on the output is fed directly to the input phases so one high phase can trip the shore breaker
- Unbalanced loads are not reflected on the input
- Generous overload capability - 10% power boost for peak usage times - no need to start generators or load shed
- Reliability with sophisticated diagnostic system
- Any required service can be completed from access through the front and the top panel

OPTIONS AVAILABLE:

- Seamless power transfer between ShorPOWER® and generator
- Generator to generator, seamless power transfer
- Generator auto start for input overload protection (requires seamless power transfer option)
- Parallelable for increased capacity
- Remote touch screen panel
- RS485 communications
- Output contactor
- TecPOWER® switchboard data link interface
- Remote Control Panel

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GENERAL SPECIFICATIONS

INPUT:

Voltage Range: 208 to 480 volts +10%, -15%
(177 to 528 volts)

Phase: Single and three-phase

Phase Rotation: Any

Frequency: 40 to 70 Hz

Power Factor: ≥ 0.99

Inrush Current: < 50% of full load current

Protection: Over/under voltage, loss of phase, over current, short circuit & loss of shore cord

Input Current

Distortion: $\leq 5\%$ at full rated load

ENVIRONMENTAL:

Temperature Range: -40°C to +50°C

Humidity: 0% to 95%, non-condensing

MECHANICAL:

Mechanical specifications vary depending on configuration selected. Contact Atlas Marine Systems to obtain more information.

OUTPUT:

Power Ratings (specify):

- At single-phase: 50 kVA
- At three-phase: 50 kVA from .80 up to 1.0 power factor
- Parallelable up to 400 kVA

Overload:

110% for 2 hours
150% for 30 seconds
225% for 10 seconds (motor starting)

Step Load:

$\pm 1\%$ max voltage fluctuation with 0 to 225% load change

Voltage (specify):

- Single-phase, 2-wire: 110, 115, 120, 200, 220, 230, 240 volts
- Single-phase, 3-wire: 110/220, 115/230, 120/240 volts
- Three-phase, 3-wire: 220, 230, 240, 380, 400, 415, 440, 460, 480 volts
- Three-phase, 4-wire: 115/200, 120/208, 220/380, 230/400, 240/415, 265/460, 277/480 volts

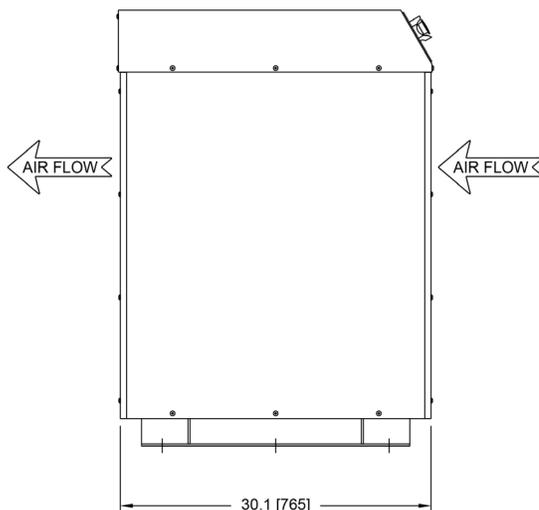
Voltage Regulation: $\pm 1\%$

Phase Imbalance: No Restriction

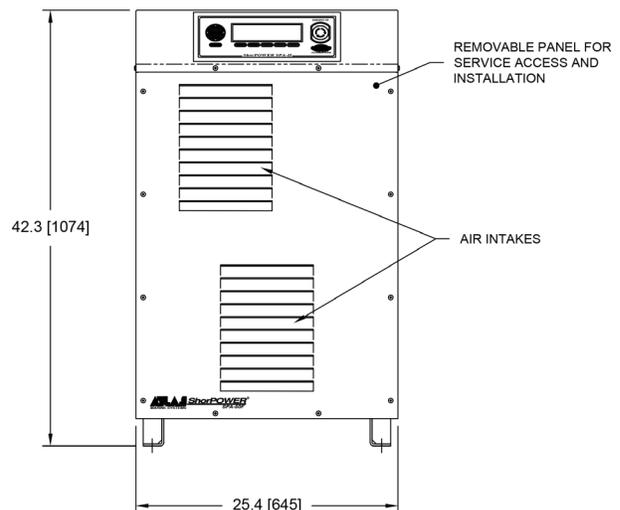
Frequency (specify): 50 Hz or 60 Hz $\pm 0.01\%$

Harmonic Distortion: 3% maximum, 2% typical (linear loads)

Protection: Over/under voltage, over/under frequency, over load, short circuit, & over temperature



SIDE VIEW



FRONT VIEW

Weight: 536lbs (243kg)