

MarPower SPC-II Shore Power Converter



MarPower Shore Power Converters convert worldwide available shore voltages and frequencies into a reliable power source. This product series is designed to meet the most stringent requirements of demanding installers and professional users.

The MarPower SPC-II shore power converter is the ultimate alternative for isolation transformers due to its small size and extremely low weight and added functionality. This flexible and ultra-compact system converts worldwide available voltages into a reliable power source to safeguard quality of power on board of yachts and mega yachts.



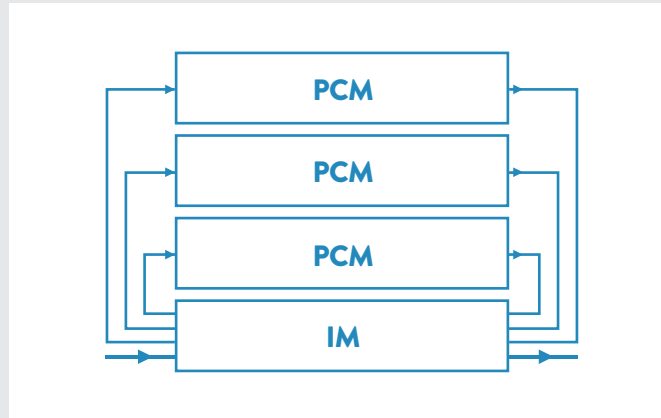
- ✓ World's smallest and lightest Shore Power Converter
- ✓ Small size: up to 25% reduction compared to a transformer
- ✓ Low weight: up to 45% reduction compared to a transformer
- ✓ Easy installation and maintenance
- ✓ The solution for new built and refit
- ✓ Redundancy
- ✓ Optimal logistics
- ✓ Worldwide service and support

Due to its plug-and-play design the MarPower SPC-II facilitates easy and flexible installation, operation and maintenance of shore power converter solutions. The modular concept makes it easy to upgrade or expand the system for future demands. In addition, this advanced solution provides the following benefits:

- ✓ Supports a wide variety of input voltages and frequencies
- ✓ Provides galvanic isolation for optimal safety
- ✓ Provides power conditioning of input power
- ✓ Supports from 25-187kVA in a single tower
- ✓ Supports up to 740kVA from multiple system configuration
- ✓ Supports multiple shore cords from different dockside supplies, without feedback risks.
- ✓ Support a variety of applications, including: Frequency Converter and Power Conditioner
- ✓ Low heat dissipation
- ✓ Contributes to overall system reliability and availability
- ✓ Seamless Power Transfer

System configuration

MarPower Shore Power Converter is a flexible and modular solution. The figure shows a basic conversion system with a single shore cord input and a single connection towards the vessel.



PCM: the power converter module and available in a 25kVA, 31kVA and 37kVA configuration. These PCMs can be paralleled with a maximum of 20 units (5 per system).

IM: the interface module and provides a safe and reliable way to distribute incoming and delivered power over individual PCMs with a maximum of 5 modules.

Single and Dual shore cord can be provided with optionally a switch to make the selection between the input cords. It also provides every powerblock on the input and output with a circuit breaker for safety and ability to disconnect a PCM to run on reduced power.

INPUT

input line voltages	170 – 520V 1 or 3 phase
frequency range	40-70Hz
input power factor	> 0,99 at full load
input current	95A per power module
inrush current	< 100% at rated current
earth leakage current	< 2 mA per power module

OUTPUT

output voltage	3 x 400V rms + neutral 50Hz 3 x 208V rms + neutral 60Hz (other voltages and frequencies on request)
nominal system power	25kVA – 740kVA
nom. module power	25kVA / 31kVA / 37kVA at U _{out} = 400VA
units in parallel	up to 20 modules
overload	120% 15 min 150% 1 min 200% 5 sec
voltage distortion	< 3%
voltage variation	± 1% (at min max load)
frequency accuracy	± 0,05% (at fixed load)
efficiency	> 92%

INTERFACE/DIAGNOSTICS

LCD display	
MOD bus	RTU
USB	
hard wired IO	potential free contacts

MECHANICAL

Power	Weight	Size (HxWxD) in mm**
37kVA*	130 kg	830 x 290 x 660**
75kVA*	280 kg	860 x 800 x 660
112kVA*	405 kg	1115 x 800 x 660
150kVA*	535 kg	1465 x 800 x 660
187kVA*	660 kg	1720 x 800 x 660

*U_{out} = 400V

**excl. mounting profiles and EMI filter

Cooling	forced air, fan speed controlled
Protection degree	IP22 (higher IP value on request)
Temperature	0-45°C, above reduced power
Humidity	0-95% non condensing
Colour	Ral 9010 (other colours on request)
Noise	< 60dBA at 1 mtr per module