



Marine & Industrial DC Power Solutions 1-20 kW



General Description

Seapower MT Rectifiers – Dual Output provide reliable and efficient DC power for both load supply and battery charging in marine and industrial applications. With modular architecture, the system can scale from 1 kW up to 20 kW. Advanced IGBT rectifier technology, active PFC, and robust protection functions ensure maximum efficiency, low THDi, and high reliability. Integrated battery charger output ensures seamless power availability and intelligent charging.

Highlights

- Dual Output: Load Supply + Battery Charging
- Independent dual output
- Galvanic isolation
- Adjustable battery charging modes
- Soft start capability
- Modular design, scalable from 1 to 20 kW
- Wide Input Range: 180–505 VAC, 3P + PE and 90–264 VAC, 1P + PE
- High Efficiency (up to 94%)
- Low Input Current Distortion (THDi <5%)
- Active Power Factor Correction (PFC, >0.95 at full load)
- Comprehensive Protection (OVP, OCP, OTP, SCP, Fan Fail)
- Marine & Industrial grade design
- Easy maintenance, long service life

TECHNICAL SPECIFICATIONS 1-20 kW

INPUT

Voltage Range (Single-Phase)	90 – 264 VAC, 47 – 63 Hz
Voltage Range (Three-Phase)	180 – 505 VAC, 47 – 63 Hz
Power Factor	>0.95 at full load
Harmonic Distortion (THDi)	<5%
Leakage Current	<2 mA / 230 VAC

OUTPUT

Nominal Voltage	24 VDC $\pm$ 1%	48 VDC $\pm$ 1%
Adjustment Range	23.5 – 30 VDC	47.5 – 58.8 VDC
Battery Voltage Range (Adjustable)	21 – 42 V	42 – 80 V
Ripple & Noise (max)	$\leq$ 300 mVp-p	$\leq$ 480 mVp-p
Efficiency	Up to 94%	
Power Range	1 – 20 kW	

PROTECTIONS

Protections	Over/Under Voltage, Overcurrent, Short Circuit, Overtemperature (auto recovery), Fan Fail
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COMMUNICATION

Interfaces	RS232, RS485, Modbus, Dry Contact
Functions	Remote Sense, Remote ON/OFF, Alarm Signals (DC-OK, T-Alarm), Auxiliary Power (5 V @ 0.3 A, 12 V @ 0.8 A)

GENERAL

Operating Temperature	-10 °C ~ +55 °C
Storage Temperature	-15 °C ~ +55 °C
Humidity	0 – 95% non-condensing
Operating Height	up to 3000 m (derating applies)
Galvanic Isolation	Yes
IP Protection	IP20 (IP23-IP54 optional)
Display	LCD Panel
Alarms / Event Log	1500 historical event records

STANDARDS

Standards	EN62040-3, EN60950, ISO9001/14001, Marine Approvals (Türk Loydu, Lloyd's, RINA, BV Optional)
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DIMENSION & WEIGHT

Cabinet Dimensions (mm)	Contact us for Dimensions.
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Seapower reserves the right to change or modify product design, construction, specifications, or materials without prior notice.

Marine & Industrial DC Starter Power Solutions 400A – 2000A



MARINE



INDUSTRY



TRANSPORT



DATA CENTER



EMERGENCY

General Description

Seapower MSR Series Starter Rectifiers provide reliable and robust DC power for heavy-duty starting applications in marine, defense and industrial environments. Designed with modular architecture and high overload capability, the rectifiers can supply nominal currents up to 1000 A with 2.5x overload capability for transient starting demands. Advanced microprocessor control, galvanic isolation and comprehensive monitoring functions ensure maximum reliability, while optional communication interfaces and event logging provide enhanced diagnostics.

Highlights

- Nominal Current Options: 400 A / 600 A / 800 A / 1000 A / 2000 A
- Overload Capability: $I_{nominal} \times 2.5$
- Output Voltage: 28.5 VDC
- Microprocessor controlled
- Galvanic isolation
- LCD display with alarms
- 1500 event historical log
- Communication: RS485, Modbus
- High efficiency (>92%)
- Marine & Industrial grade design



TECHNICAL SPECIFICATIONS 400A – 2000A

INPUT

Voltage Range	180 – 505 VAC, 3 Phase, 47 – 63 Hz
Power Factor	>0.95 at full load
Harmonic Distortion (THDi)	<5%
Protection	Input overcurrent and surge protection with integrated fuses

OUTPUT

Nominal Voltage	28.5 VDC
Nominal Current Options	400 A / 600 A / 800 A / 1000 A / 2000 A
Overload Capability	Inominal × 2.5
Efficiency	>95%
Ripple & Noise	<0.8 V rms
Regulation	Precise voltage regulation for stable DC output
Overload Protection	Automatic current limitation with electronic protection

GENERAL

Galvanic Isolation	Yes
Display	LCD Panel
Event Log	1500 historical events
IP Protection	IP20 (IP23–IP54 optional)
Operating Temperature	–10 °C ... +55 °C
Humidity	0 – 95% non-condensing

PHYSICAL PROPERTIES

Acoustic Noise	Low acoustic noise <55 dB (at 1m)
Operation Altitude	Reliable operation up to 2000 m altitude

COMMUNICATION

Interfaces	RS485, Modbus, Dry Contact (alarm relay)
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STANDARDS

Standards	EN62040-3, EN60950, ISO9001/14001, Marine Approvals (Türk Loydu, Lloyd's, RINA, BV optional)
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DIMENSION & WEIGHT

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High Voltage DC Rectifiers
100-1500 VDC

Output Current Range
500 - 5000 A



General Description

The Seapower High Voltage Rectifier provides reliable and modular high-voltage DC rectifier systems, designed for demanding marine, defense, and industrial applications. With output voltage range up to 1000 VDC and scalable current up to 5000 A through parallel configuration, this system offers unmatched performance and flexibility. Advanced monitoring, galvanic isolation, and intelligent cooling ensure long-term reliability and operational safety.

Highlights

- High efficiency up to 95% (size dependent)
- Output DC Voltage Range: 100 – 1000 VDC
- Output Current Range: 500 A – 5000 A
- Modular structure with parallel redundancy (N+1)
- Galvanic isolation for safety and reliability
- Integrated soft start capability and DC bus charging
- LCD display with alarms and 1500-event historical log
- Low ripple output for sensitive loads (<1% with filtering)
- Diagnostic & self-test functions for ease of maintenance
- PLC / SCADA integration via RS485, Modbus, Dry Contact
- Marine & Industrial grade design (IP20 standard, IP23-IP54 optional)
- Low Input Current Harmonic (THDi < 5%)
- High Power Factor (PF ≥ 0.98)



TECHNICAL SPECIFICATIONS

INPUT

Input Voltage Range	180 – 505 VAC, 3 Phase, 47–63 Hz
Line Variation	±5% (±10% optional)
PF	≥ 0.98
THDi	< 5%

OUTPUT

Output Voltage Range	100 – 1500 VDC (configurable)
Output Current Range	500 A – 5000 A (scalable with parallel modules)
Voltage Regulation	±0.5%
Current Regulation	±0.5%
Ripple & Noise	<0.8% typical, <1% with filtering
Efficiency	Up to 95% (typical)

GENERAL

Cooling	Air cooling (intelligent fan control) or optional water cooling
Galvanic Isolation	Yes
Display	LCD Panel with event log (1500 records)
IP Protection	IP20 (IP23–IP54 optional)
Operating Temperature	–10 °C ... +55 °C
Humidity	0–95% non-condensing
Altitude	Up to 2000 m (derating above)
Acoustic Noise	<65 dB at 1 m (air cooled)

COMMUNICATION

Interfaces	RS485, Modbus, Dry Contact (alarm relay)
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PROTECTIONS

Protections	Input undervoltage, Input overvoltage, Output overload/short-circuit, Overtemperature, General fault alarm
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STANDARDS

Standards	IEC/EN 62040-3, IEC/EN 60950; ISO9001/14001/45001 certified; Marine approvals optional (Türk Loydu, Lloyd's, RINA, BV)
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DIMENSION & WEIGHT

Cabinet Dimensions (mm)	Customizable modular cabinets, containerized options available. Contact Seapower for details.
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