STATRON
NON STOP POWER

Power Generation

Transmission & Distribution

Oil & Gas

Industry

Infrastructure

Telecom

MODULAR POWER SUPPLIES

SMT Series

24-220 VDC/11-1950 ADC

24-220 VDC/230 VAC/1-24 kVA

Key features

- Rectifiers, DC/DC converters, inverters and static switch modules
- Hot swappable modules, easy to expand
- Communication with external controller, expandable
- Compact modular & short-circuit proven design
- Modules with integrated, wide voltage range for batteries

Operational benefits

- Complete modular UPS system for all applications
- Customizable & flexible with low MTTR
- Easy integration with local control system
- Very high reliability
- Very low maintenance cost, long lifetime

STATRON Modular Technology SMT
The standard in modular power supplies

The SMT range of modular power supplies (MPS) is designed for industrial operating environments, meeting the most stringent requirements in applications such as Oil & Gas and petrochemical plants, power generation- and T&D systems, as well as any other industrial application throughout the world. The flexible system concept and full range of options provides a fully customized solution capable to meet any specific reqirement.

Reliability through diversity and proven design

The excellent reliability of the SMT is ensured by a combination of the Statron proven design and the diversity which is common for this product:

- Hot swapping functionality of the devices
- On-board earth fault monitor
- Dedicated I/O board with numerous configurable analogue and digital inputs
- RS485 communication bus
- TCP/IP communication bus
- Fully segregated, independent and redundant measuring facilities
- Real-time temperature display and monitoring
- High frequency switch mode technology
- User friendly operaton and compre-hensive monitoring concept
- Fully segregated, independent and redundant measuring facilities
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Modular Technology

The SMT family offers full flexibility and customisability through a wide range of available modules, including rectifiers/chargers, DC/DC converters, inverters, as well as static switches.

- System power easily expanded by paralleling of modules
- n+1 (up to n+n) redundancy to increase system availability (high MTBF -> single module fail does not compromise system operation)
- Easy system expansion
- All modules work without need of controller devices

Hot plug-in

Devices can be added and removed to the system during operation.

- Replacement of modules without system shutdown (very low MTTR)
- Built-in communication bus ensures load sharing without need of external controller

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External controller

The SMT family can be expanded with additional controllers to enlarge and customise the basic functions of the SMT modules.

- Switching between operation modes (float/boost/initial charge)
- Limiting output current
- Additional indications and monitorings/ metering
- Active control of SMT modules
- In case of controller fail, SMT modules continue to operate according to default settings

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Reliable battery use and management

Battery monitoring and management are key factors for a reliable and durable power backup. Statron SMT built-in features include:

- Multi-string battery current and voltage monitoring
- Battery availability check
- Battery discharge test (manual or automatic)
- Three individual programmable battery charge voltages
- Temperature-dependent charging voltage

Technical Specification | SMT Recifier / DC Converter Series 24–220

Rectifier Modules

	SMT RTS-F		SMT RTS-FR		SMT RTS-N (natural convection cooled)	
AC input voltage	230 V_{AC} / 120 V_{AC}		230 V_{AC} / 120 V_{AC}		230 V_{AC} / 120 V_{AC}	
Input frequency	50–60 Hz		50–60 Hz		50–60 Hz	
DC output voltage	24 V_{DC}	48 V_{DC}	110 V_{DC}	220 V_{DC}	110 V_{DC}	220 V_{DC}
DC output current	60 A_{DC} (I_{max}: 65 A_{DC})	50 A_{DC} (I_{max}: 55 A_{DC})	20 A_{DC} (I_{max}: 21 A_{DC})	10 A_{DC} (I_{max}: 11 A_{DC})	20 A_{DC}	10 A_{DC}
DC output power	1800 W / 1200 W	3000 W / 1200 W	2860 W / 1200 W	2860 W / 1200 W	3000 W	3000 W
Mechanics	1/5-19", 2.5 U	1/5-19", 2.5 U	1/5-19", 3 U	1/5-19", 3 U	1/3-19", 6 U	1/3-19", 6 U
Max. possible (230 V_{AC})	1950 A_{DC} / 54 kW	1650 A_{DC} / 90 kW	630 A_{DC} / 85.8 kW	330 A_{DC} / 85.8 kW	600 A_{DC} / 90 kW	300 A_{DC} / 90 kW
Max. possible (120 V_{AC})	1200 A_{DC} / 36 kW	600 A_{DC} / 36 kW	250 A_{DC} / 36 kW	125 A_{DC} / 36 kW	–	–

DC Converter Modules

	SMT DDC-F		SMT DDC-FR	
DC input voltage	220 V_{DC} / 110 V_{DC}		220 V_{DC} / 110 V_{DC}	
DC output voltage	24 V_{DC}	48 V_{DC}	110 V_{DC}	220 V_{DC}
DC output current	65 A_{DC} / 40 A_{DC}	55 A_{DC} / 20 A_{DC}	21 A_{DC} / 8.4 A_{DC}	11 A_{DC} / 4.2 A_{DC}
DC output power	1800 W / 1200 W	3000 W / 1200 W	2860 W / 1200 W	2860 W / 1200 W
Mechanics	1/5-19", 2.5 U	1/5-19", 2.5 U	1/5-19", 3 U	1/5-19", 3 U
Max. possible (220 V_{DC})	1950 A_{DC} / 54 kW	1650 A_{DC} / 90 kW	630 A_{DC} / 85.8 kW	330 A_{DC} / 85.8 kW
Max. possible (110 $_{DC}$)	1200 A_{DC} / 36 kW	600 A_{DC} / 36 kW	250 A_{DC} / 36 kW	125 A_{DC} / 36 kW

General data

Efficiency	89–93% depending on module and DC load
Noise level	40–50 dB(A)
Operating temperature	-10 to 40 °C (up to 55 °C optional with derating)
Altitude	up to 1500 masl without derating (up to 2500 masl with derating)
Ventilation	self-cooled (inbuilt fan) or natural convection cooled modules
Relative humidity	<90% non condensing
Protection degree	IP20 (within cabinet up to IP54, depending on system rating)
Colour / paint	RAL7035
Tropicalisation	Available on request
Conformity	CE label
Quality / environmental	ISO 9001:2008 / ISO 14001:2004
Safety	IEC/EN 60950-1, IEC/EN 62368-1, VDE0100 T410, VDE0110, EN50178, VDE0868-1
EMC	EN55022 Class A, IEC/EN 61000-4 T2-5, IEC/EN 61000-4-8, IEC/EN 61000-4-11

Technical Specification | SMT Inverter Series 24–220 V_{DC} / 230 V_{AC}, 1–24 kVA

Inverter Modules

	SMT MWRI 24 / 230-1.0F		SMT MWRI 48–110 / 230-2.0F		SMT MWRI 48–110 / 230-3.0F	
DC input voltage	24 V_{DC}	-12.5/+20%	48 / 110 / 220 V_{DC}	-12.5/+20%	48 / 110 / 220 V_{DC}	-12.5/+20%
AC output voltage	230 V_{AC}	± 2%	230 V_{AC}	± 2%	230 V_{AC}	± 2%
AC output frequency	50 Hz	± 1%	50 Hz	± 1%	50 Hz	± 1%
AC output current	4.35 A_{AC}		8.7 A_{AC}		13.1 A_{AC}	
AC output power	1000 VA / 800 W	pf 0.8	2000 VA / 1600 W	pf 0.8	3000 VA / 2400 W	pf 0.8
AC output overload	150%/10sec / 125%/1min		150%/10sec / 125%/1min		150%/10sec / 125%/1min	
Mechanics	1/5–19'', 3U		1/5-19'', 3U		1/1-19'', 2U	
Max. possible	4 kVA / 3.2 kW		16 kVA / 12.8 kW		24 kVA / 19.2 kW	

Static Switch Modules

	SMT SSW 24 / 230-4.0F		SMT SSW 48–110 / 230-8.0F		SMT SSW 48–110 / 230-12.0-24.0F	
DC supply voltage	24 V_{DC}	-15/+25%	48 / 110 / 220 V_{DC}	-15/+25%	48 / 110 / 220 V_{DC}	-15/+25%
AC output voltage	230 V_{AC}	-20/+15%	230 V_{AC}	-20/+15%	230 V_{AC}	-20/+15%
AC output frequency	50 Hz	± 10%	50 Hz	± 10%	50 Hz	± 10%
AC output current / AC output power	17.4 A_{AC} / 4 kVA (3.2 kW)	Shortcircuit 1000%/10ms	34.8 A_{AC} / 8 kVA (6.4 kW)	Shortcircuit 1000%/10ms	52.1 A_{AC} / 12 kVA (9.6 kW) 69.9 A_{AC} / 16 kVA (12.8 kW) 104.4 A_{AC} / 24 kVA (19.2 kW)	Shortcircuit 1000%/10ms
Mechanics	1/5-19'', 3U		1/5-19'', 3U		1/1-19'', 2U	
Transfer time	< 8 ms after detection		< 8 ms after detection		< 8 ms after detection	

General data

Efficiency	88–90% for Inverter Modules / >99% Static switch in Mains mode
Noise level	<55 dB(A)
Operating temperature	-10 to 40 °C (up to 60 °C optional with derating)
Altitude	up to 1500 masl without derating (up to 2500 masl with derating)
Ventilation	self-cooled (inbuilt fan)
Relative humidity	<95% non condensing
Protection degree	IP20 (within cabinet up to IP54, depending on system rating)
Colour / paint	RAL7035
Tropicalization	Available on request
Conformity	CE label
Quality / environmental	ISO 9001:2008 / ISO 14001:2004
Safety	IEC/EN 60950-1, VDE0100 T410, VDE0110, EN50178
EMC	EN55022 Class A, IEC/EN 61000-4 T2-5, IEC/EN 61000-4-8, IEC/EN 61000-4-11