



**MODULAR POWER SUPPLIES**

# SMT Series

**24-220 VDC/10-1040 ADC**

**24-220 VDC/230 VAC/1-80 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 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 costs, long lifetime

# STATRON Modular Technology SMT

## The standard in modular power supplies

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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 requirement.



### Reliability through diversity and proven design

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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 operation and comprehensive monitoring concept



### Modular Family

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. Main advantages of the modular family are:

- 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, allowing for an easy expansion and a wide range of options for customization.

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



### External controller

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

- 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



### 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 Rectifier / DC/DC Converter Series 24–220 V<sub>DC</sub> / 10–1040 A<sub>DC</sub>

Rectifier Modules						
	SMT RDC-F		SMT RDC-FR		SMT RTS-N (natural convection cooled)	
AC input voltage	230 V <sub>AC</sub> / 120 V <sub>AC</sub>		230 V <sub>AC</sub> / 120 V <sub>AC</sub>		230 V <sub>AC</sub> / 120 V <sub>AC</sub>	
Input frequency	50–60 Hz		50–60 Hz		50–60 Hz	
DC output voltage	24 V <sub>DC</sub>	48 V <sub>DC</sub>	110 V <sub>DC</sub>	220 V <sub>DC</sub>	110 V <sub>DC</sub>	220 V <sub>DC</sub>
DC output current	60 A <sub>DC</sub> (I <sub>max</sub> : 65 A <sub>DC</sub> )	50 A <sub>DC</sub> (I <sub>max</sub> : 55 A <sub>DC</sub> )	20 A <sub>DC</sub> (I <sub>max</sub> : 21 A <sub>DC</sub> )	10 A <sub>DC</sub> (I <sub>max</sub> : 10.5 A <sub>DC</sub> )	20 A <sub>DC</sub>	10 A <sub>DC</sub>
DC output power	1800 W / 1130 W	3000 W / 1200 W	2900 W / 1250 W	2900 W / 1250 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 <sub>AC</sub> )	1040 A <sub>DC</sub> / 29 kW	880 A <sub>DC</sub> / 48 kW	672 A <sub>DC</sub> / 93 kW	352 A <sub>DC</sub> / 93 kW	640 A <sub>DC</sub> / 96 kW	320 A <sub>DC</sub> / 96 kW
Max. possible (120 V <sub>AC</sub> )	752 A <sub>DC</sub> / 18 kW	400 A <sub>DC</sub> / 19 kW	352 A <sub>DC</sub> / 40 kW	176 A <sub>DC</sub> / 40 kW	–	–

DC/DC Converter Modules						
	SMT RDC-F		SMT RDC-FR			
DC input voltage	220 V <sub>DC</sub> / 110 V <sub>DC</sub>		220 V <sub>DC</sub> / 110 V <sub>DC</sub>			
DC output voltage	24 V <sub>DC</sub>	48 V <sub>DC</sub>	110 V <sub>DC</sub>	220 V <sub>DC</sub>		
DC output current	65 A <sub>DC</sub> / 47 A <sub>DC</sub>	55 A <sub>DC</sub> / 25 A <sub>DC</sub>	21 A <sub>DC</sub> / 11 A <sub>DC</sub>	11 A <sub>DC</sub> / 5.5 A <sub>DC</sub>		
DC output power	1800 W / 1130 W	3000 W / 1200 W	2900 W / 1250 W	2900 W / 1250 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 <sub>DC</sub> )	1040 A <sub>DC</sub> / 29 kW	880 A <sub>DC</sub> / 48 kW	672 A <sub>DC</sub> / 93 kW	352 A <sub>DC</sub> / 93 kW		
Max. possible (110 V <sub>DC</sub> )	752 A <sub>DC</sub> / 18 kW	400 A <sub>DC</sub> / 19 kW	352 A <sub>DC</sub> / 40 kW	176 A <sub>DC</sub> / 40 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 65 °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	<95% 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 62477-1, IEC/EN 62368-1, VDE0100 T410, VDE0110, EN50178
EMC	EN55022 Class A, IEC/EN 61000-4 T2-5, IEC/EN 61000-4-8, IEC/EN 61000-4-11

## Technical Specification | SMT Inverter Series 24–220 V<sub>DC</sub> / 230 V<sub>AC</sub>, 1–80 kVA

Inverter Modules MWRI			Static Switch Modules for MWRI Inverters		
	SMT MWRI 24-1.0F		SMT MWRI 48...220-2.0F		SMT STS 24...220-50
DC input voltage	24 V <sub>DC</sub>	-12.5/+20%	48 / 110 / 220 V <sub>DC</sub>	-12.5/+20%	24 / 48 / 110 / 220 V <sub>DC</sub>
AC output voltage	230 V <sub>AC</sub>	± 3%	230 V <sub>AC</sub>	± 3%	230 V <sub>AC</sub> ± 10%
AC output frequency	50 Hz	± 1%	50 Hz	± 1%	50 / 60 Hz ± 10%
AC output current	4.35 A <sub>AC</sub>		8.7 A <sub>AC</sub>		34.8 A <sub>AC</sub>
AC output power	1000 VA / 800 W	pf 0.8	2000 VA / 1600 W	pf 0.8	8000 VA / 6400 W pf 0.8
AC output overload	150%/10 s / 125%/1min		150%/10 s / 125%/1min		150%/10 s / 125%/1min
Mechanics	1/5-19", 3U		1/5-19", 3U		1/5-19", 3U

Inverter Modules MWRI					
	SMT MWRI 24-1.5		SMT MWRI 48...220-2.5		
DC input voltage	24 V <sub>DC</sub>	-20/+45%	48 / 60 / 110 / 220 V <sub>DC</sub>	-20/+25%	
AC output voltage	220 / 230 / 240 V <sub>AC</sub>	± 2%	220 / 230 / 240 V <sub>AC</sub>	± 2%	
AC output frequency	50 / 60 Hz	± 1%	50 / 60 Hz	± 1%	
AC output current	6.5 A <sub>AC</sub>		10.9 A <sub>AC</sub>		
AC output power	1500 VA / 1200W	pf 0.8	2500 VA / 2000 W	pf 0.8	
AC output overload	150% / 15 s		150% / 15 s		
Mechanics	1/4-19", 2U		1/4-19", 2U		

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 65 °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 62477-1, IEC/EN 62368-1, VDE0100 T410, VDE0110, EN50178
EMC	EN55022 Class A/B, IEC/EN 61000-4 T2-5, IEC/EN 61000-4-8, IEC/EN 61000-4-11