

SENTRY MPS 100KVA - 400KVA **Uninterruptable Power Supply**



Quality Power Supply

Sentry MPS is an on-line, double conversion UPS of class VFI SS 111 in accordance with IEC EN 62040-3 with an internal Inverter and output transformer. This solution is particularly suitable for high-level applications where the immunity of the load from the mains is a real issue.

The Sentry MPS 100KVA to 400KVA range is available in the following ratings: 100, 120, 160, 200, 250, 300 and 400KVA, each of these are offered in four versions to better match the market requirements:

- MPS
- MPS LH
- MPS Plus
- MPS Sinus

Clean Input

Thanks to the low input current distortion of less than 3% (Sinus model), the Sentry MPS reduces interference to other loads on the same supply. For all MPS variants the power factor is greater than 0,9, whilst the MPS Sinus variant guarantees a power factor of 0.95, even at partial loads. This means that it is unnecessary to oversize the supply cables and the rating of the upstream supply transformers, thereby reducing the installation and ownership costs.

Motor Generator Friendly

The low input current distortion, high input power factor, progressive (configurable) rectifier start-up and battery recharge inhibition makes the Sentry MPS ideal for use with smaller sized generator sets, in some cases close to the UPS rated power.

Battery care system

Sentry MPS includes the “*Battery Care System*” that manages batteries in order to obtain best performances and prolonged operating life. This is achieved through:

- Absence of battery charging current ripple
- Two voltage level charging to optimize the recharge current and reduce recharging time
- Temperature compensated recharging voltage and protection against deep minimise aging phenomena and prolong battery life
- Maximum recharge time block to reduce electrolyte consumption and improve VRLA battery lifetime
- Battery test to check performance and ensure that the batteries are always ready

The Sentry MPS is compatible with different battery technologies such as open lead acid, AGM and Gel VRLA, and NiCd.

Battery recharge capability

Sentry MPS is designed to supply the nominal load and recharge the batteries. At partial loads the spare power can be used to recharge the batteries, therefore Sentry MPS can recharge 3 hours back up batteries in only 10 hours.

Flexibility

Sentry MPS Series is ON-LINE double conversion design but can also operate in the following modes:

- Smart Active
- Stand-by-Off, suitable for Emergency Escape Light (CSS – Central Supply System), as per standard EN50171.

All models can be used as frequency converter – 50Hz to 60Hz and vice versa.

Expandability

The units can be connected in parallel - up to eight modules - to increase power availability or the redundancy. The single module or the system can be expanded at any time depending on the power demand without any impact on the initial investment. Thanks to the peculiarity of the “*Hot System Expansion*” feature, the additional unit can be connected in parallel while the other units are on-line and supplying regular power to the load. The new UPS in on-line and will receive the updated information automatically.

Dual Bus System

The Dual Bus System supplies the priority loads from two independent sources. This configuration increases the redundancy and availability level of a multi-module configuration. Each bus may consist of a single module or up to 8 modules in parallel, kept in synchro by the optional UGS device (UPS Group Synchroniser). This allows the use of the STS (Static Transfer Switch) downstream to power the loads.

Dynamic Dual Bus System

Two independent systems set in Dual Bus configuration can be merged together at any time for system expansion or maintenance. This provides a lot of flexibility in your installation in case of maintenance or when it is necessary to change the redundancy level of both systems. The safety of the operations is guaranteed by the optional device PSJ.

Ease of installation

Sentry MPS has a very small footprint (only 0,64mq for 200kVA). The front access makes it very easy for all servicing operation while upward ventilation makes positioning against the wall possible.

Advanced communication

MPS Series is delivered with the AROS Watch&Save 3000 Software package and is compatible with PowerNETGuard or Teleguard for remote maintenance. The UPS is supplied with two RS232 outputs for remote monitoring and a wide range of communication cards:

- Netman 102 Plus (SNMP Agent)
- Multicom 302 (MODBUS/JBUS)
- Multicom 352 (Serial Duplexer)
- Profibus Converter
- Multi I/O (Modbus Converter of the alarms coming from outside the UPS cubicle)
- 2 alarms cards with relay contacts, alarms are user-programmable through the software.

For more information on the Communication Cards see the CONNECTIVITY area

Application

Sentry MPS guarantees maximum protection and quality of power supply for any type of load and in particular for “mission critical” applications, security and electromedical systems, industrial processes and telecommunications.



Models

Power VA	Model	Output phases	Dimensions WxDxH (mm)	Weight (kg)
100000	MPS 100	3+N	800x800x1900	640
120000	MPS 120	3+N	800x800x1900	650
160000	MPS 160	3+N	800x800x1900	770
200000	MPS 200	3+N	800x800x1900	810
250000	MPS 250	3+N	1630x850x1900	2200
300000	MPS 300	3+N	1630x850x1900	2200
400000	MPS 400	3+N	1630x1000x1900	2600

Specifications

INPUT	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
Voltage	380 - 400 - 415 V three-phase						
Voltage tolerance	400 V $\pm 20\%$						
Input frequency	45 \div 65 Hz						
Accepted frequency	$\pm 2\%$ (selectable from $\pm 1\%$ to $\pm 5\%$ from the front panel)						
Current distortion	MPS: <25%THDI; MPS LH: <5%THDI; MPS Plus: <5%THDI; MPS Sinus: <3%THDI				MPS Plus: <5%THDI; MPS Sinus: <3%THDI		
Input phases	3						
Soft start (Power Walk In)	0 \div 100% in 120" configurable						
BATTERIES	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
Type	Lead, open vase acid and VRLA AGM / GEL; NiCd						
Ripple current	zero						
Number of Pb elements	198				240		
Temperature compensation	-0,5 Vx°C						
OUTPUT	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
Rated power	100000 VA	120000 VA	160000 VA	200000 VA	250000 VA	300000 VA	400000 VA
Active power	80kW	96kW	128kW	160kW	200kW	240kW	320kW
Phases number	3+N						
Waveform	Sinusoidal						
Rated voltage	380 - 400 - 415 V threephase + N						
Voltage distortion with distorting load	< 3%						
Voltage distortion with linear load	< 1%						
Frequency	50/60 Hz configurable						
Dynamic stability	$\pm 5\%$ in 10msec.						
Static stability	$\pm 1\%$						
Crest factor (I _{peak} /I _{rms})	3:1						
Output phases	3						
Overload	110% for 60'; 125% for 10'; 150% for 1'						
SYSTEM	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
AC/AC efficiency	Up to 94%						
Operating altitude	Up to 1000m (1% derating each 100 m from 1000 m to 2000 m)						
Noise	63 \div 68 dBA at 1 m				70dBA at 1 m		
Storing temperature	-20 °C \div -70°C (UPS); 20 °C \div 30 °C (Batteries)						
Operating temperature	0 \div 40 °C						
Relative humidity	<95% non condensing						
Remote controls	E.P.O. and bypass						
Remote signals	Voltage free contacts						
Protection degree	IP20						
Protections	Back Feed protection; separated By-pass line						
Communication	no. 2 RS232 + remote contacts + 2 communication interface slots						
Cooling	Forced air						
Colour	Light grey RAL 7035						
Standards	Directives EEC 73/23 - 93/68 - 89/336 Safety IEC EN 620401; EMC IEC EN 6204-2; Performance IEC EN 62040-3						
Technology	On-line double conversion						
Weight (kg)	640 Kg	650 Kg	770 Kg	810 Kg	2200 Kg	2600 Kg	

Dimensions (WxDxH) mm	800x800x1900 mm			1630x850x1900 mm	1630x1000x1900 mm		
Classification as per IEC 6240-3	(voltage Frequency Independent) VFI - SS - 111						
DATA	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
Back up time at full load (min)	0 Min.						
Installation	Tower						
Configuration	Parallel Unit	Parallel					
OPTIONS	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
Battery cabinets for longer runtimes	Yes						
Parallel kit	Yes						
Optional filters	Yes						
Isolation transformer module	Yes						
LCD-based remote control panel	Yes						
LED-based remote control panel	Yes						
OPTIONS	MPS 100	MPS 120	MPS 160	MPS 200	MPS 250	MPS 300	MPS 400
MultiCom 351	x	x	x	x	x	x	x
MultiCom 352	x	x	x	x	x	x	x
MultiCom 301	x	x	x	x	x	x	x
MultiCom 302	x	x	x	x	x	x	x
NetMan 101 Plus	x	x	x	x	x	x	x
NetMan 102 Plus	x	x	x	x	x	x	x
Multi I/O	x	x	x	x	x	x	x
AS/400 interface kit	x	x	x	x	x	x	x
UGS - UPS Group Synchronizer	x	x	x	x	x	x	x
PSJ - Power System Joiner	x	x	x	x	x	x	x
Profibus DP Gateway	x	x	x	x	x	x	x