SENTRY MPS 100-400kVA

Uninterruptible 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 the Inverter output transformer inside, solution that is particularly suitable for high level applications where the immunity of the load from the mains is a real issue. It is available in four ratings: 100, 120, 160 and 200 KVA, 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 up to 3% (MPS Sinus), Sentry MPS represents a load with sine wave input for the source reducing any interference to the other loads connected on the same busbar. For all versions the power factor is > 0,9, while the MPS Sinus version guarantees a power factor up to 0,95 even at partial loads. This means that it is unnecessary to oversize the connection cables and the rating of the upstream MT/BT supply transformers thereby reducing the installation and ownership cost.

Motor Generator friendly

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

Battery care system

Sentry MPS includes the 'Battery Care System' which manages the batteries in order to obtain best performances and prolonged operating life: - Absence of the ripple current with battery charged - Charging on two voltage levels to optimize the recharge current and reduce the times required to restore capacity - Recharging voltage with temperature compensation and protection against deep discharges to protect the battery, minimise aging phenomena and prolong the real battery life - Max recharge time block to reduce electrolyte consumption to improve the lifetime of the VRLA batteries - Battery test to check the performance and make sure the battery is always ready to work Sentry MPS is also compatible with different battery technologies: open lead acid, AGM and Gel VRLA, 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 batteries with 3 hours back ups time in only 10 hours .

Flexibility

Sentry MPS Series is ON-LINE double conversion design but can also operate in: - 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 - 50/60Hz 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

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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) dowstream 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.

SENTRY MPS 100-400kVA

Uninterruptible Power Supply

INPUT	MPS 100	MPS 120	MPS 160	MPS 200
Voltage	380 - 400 - 415 V three-phase			
Voltage tolerance	400 V ±20%			
Input frequency	45÷ 65 Hz			
Accepted frequency	±2% (selectable from ±1% to ±5% from the front panel)			
Current distorsion	MPS: <25%THDI; MPS LH: <5%THDI; MPS Plus: <5%THDI; MPS Sinus: <3%THDI			
Input phases	3			
Soft start (Power Walk In)	0 ÷ 100% in 120' configurable			

BATTERIES	MPS 100	MPS 120	MPS 160	MPS 200
Type	Lead, open vase acid and VRLA AGM / GEL; NiCd			
Ripple current	zero			
Number of Pb elements	198			
Temperature compensation	-0,5 Vx°C			

OUTPUT	MPS 100	MPS 120	MPS 160	MPS 200
Rated power	100000 VA	120000 VA	160000 VA	200000 VA
Active power	80kW	96kW	128kW	160kW
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	± 5% in 10msec.			
Static stability	± 1%			
Crest factor (Ipeak/Irms)	3:1			
Output phases	3			
Overload	110% for 60'; 125% for 10'; 150% for 1'			

SYSTEM	MPS 100	MPS 120	MPS 160	MPS 200
AC/AC efficiency	Up to 94%			
Operating altitude	Up to 1000 m a.s.l. (1% derating each 100 m from 1000 m to 2000 m)			
Noise	63 ÷ 68 dBA at 1 m			
Storing temperature	-20 °C ÷ -70°C (UPS); 20 °C ÷ 30 °C (Batteries)			
Operating temperature	0 ÷ 40 °C			
Relative humidity	<95% non condensing			
Protection degree	IP20			
Protections	Back Feed protection; separated By-pass line			
Communication	no. 2 RS232 + remote contacts + 2 communication interface slots			
Remote signals	Voltage free contacts			
Remote controls	E.P.O. and bypass			
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			

SENTRY MPS 100-400kVA

Technology	On-line double conversion			
Weight (kg)	640 Kg	650 Kg	770 Kg	810 Kg
Dimensions (WxDxH) mm	800x800x1900 mm			
Classification as per IEC 6240-3	(voltage Frequency Independent) VFI - SS - 111			

DATA	MPS 100	MPS 120	MPS 160	MPS 200
Back up time at full load (min)	0 Min.			
Installation	Tower			
Configuration	Parallel Unit	Parallel		

OPTIONS	MPS 100	MPS 120	MPS 160	MPS 200
Battery cabinets for longer runtimes	Yes			
Empty battery cabinets for longer runtimes	Yes			
Parallel kit	Yes			
Optional filters	Yes			
Isolation transformer module (WxDxH)	Yes			
LCD-based remote control panel	Yes			
LED-based remote control panel	Yes			
Communication software 'professional' versic	Yes			

OPTIONS	MPS 100	MPS 120	MPS 160	MPS 200
MultiCom 351	X	X	X	X
MultiCom 352	X	X	X	X
MultiCom 301	X	X	X	X
MultiCom 302	X	X	X	X
NetMan 101 Plus	X	X	X	X
NetMan 102 Plus	X	X	X	X
Multi I/O	X	X	X	X
AS/400 interface kit	X	X	X	X
UGS - UPS Group Synchronizer	X	X	X	X
PSJ - Power System Joiner	X	X	X	X
MultiCom 401	X	X	X	X

SENTRY MPS 100-400kVA

INPUT	MPS 250	MPS 300	MPS 400
Voltage	380 - 400 - 415 V three-phase		
Voltage tolerance	400 V ±20%		
Input frequency	45÷ 65 Hz		
Accepted frequency	±2% (selectable from ±1% to ±5% from the front panel)		
Current distorsion	MPS Plus: <5%THDI; MPS Sinus: <3%THDI		
Input phases	3		
Soft start (Power Walk In)	0 ÷ 100% in 120' configurable		

BATTERIES	MPS 250	MPS 300	MPS 400
Type	Lead, open vase acid and VRLA AGM / GEL; NiCd		
Ripple current	zero		
Number of Pb elements	240		
Temperature compensation	-0,5 Vx°C		

OUTPUT	MPS 250	MPS 300	MPS 400
Rated power	250000 VA	300000 VA	400000 VA
Active power	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	± 5% in 10msec.		
Static stability	± 1%		
Crest factor (Ipeak/Irms)	3:1		
Output phases	3		
Overload	110% for 60'; 125% for 10'; 150% for 1'		

SYSTEM	MPS 250	MPS 300	MPS 400
AC/AC efficiency	Up to 94%		
Operating altitude	Up to 1000 m a.s.l. (1% derating each 100 m from 1000 m to 2000 m)		
Noise	70dBA at 1 m		
Storing temperature	-20 °C ÷ -70°C (UPS); 20 °C ÷ 30 °C (Batteries)		
Operating temperature	0 ÷ 40 °C		
Relative humidity	<95% non condensing		
Protection degree	IP20		
Protections	Back Feed protection; separated By-pass line		
Communication	no. 2 RS232 + remote contacts + 2 communication interface slots		
Remote signals	Voltage free contacts		
Remote controls	E.P.O. and bypass		
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		

SENTRY MPS 100-400kVA

Technology	On-line double conversion	
Weight (kg)	2200 Kg	2600 Kg
Dimensions (WxDxH) mm	1630x850x1900 mm	1630x1000x1900 mm
Classification as per IEC 6240-3	(voltage Frequency Independent) VFI - SS - 111	

DATA	MPS 250	MPS 300	MPS 400
Back up time at full load (min)	0 Min.		
Installation	Tower		
Configuration	Parallel		

OPTIONS	MPS 250	MPS 300	MPS 400
Battery cabinets for longer runtimes	Yes		
Empty battery cabinets for longer runtimes	Yes		
Parallel kit	Yes		
Optional filters	Yes		
Isolation transformer module (WxDxH)	Yes		
LCD-based remote control panel	Yes		
LED-based remote control panel	Yes		
Communication software 'professional' version	Yes		

OPTIONS	MPS 250	MPS 300	MPS 400
MultiCom 351	X	X	X
MultiCom 352	X	X	X
MultiCom 301	X	X	X
MultiCom 302	X	X	X
NetMan 101 Plus	X	X	X
NetMan 102 Plus	X	X	X
Multi I/O	X	X	X
AS/400 interface kit	X	X	X
UGS - UPS Group Synchronizer	X	X	X
PSJ - Power System Joiner	X	X	X
MultiCom 401	X	X	X