

# Sentry Multistandard



SENTRY MULTISTANDARD provides maximum protection for critical data processing networks and security applications, thanks to its advanced design, selectable operating modes and communications capabilities. Operating modes include: On-line, Economy, Smart-Active, Standby/Off and Voltage Stabilisation. Standard communications features include a front panel LCD with 128 potential messages, RS232 interfaces, EPO input, communications interface slot and Watch&Save 3000 management software.

## LOW POWER CONSUMPTION

- On-line Mode: up to 92% efficiency can be achieved due to the use of IGBT technology, increasing to 98% in one of the other operating modes
- Economy Mode: uses Line Interactive (LI) technology to power less critical loads from the mains supply for certain periods
- Smart Active Mode: if the mains supply is out of range, the UPS will power the load from the inverter as an On-line UPS. When the mains supply returns to within range again, the UPS will monitor this for a certain period before selecting Line Interactive operation.

The SENTRY MULTISTANDARD series includes 60-80 kVA three-phase models, and uses on-line double conversion technology (VFI). The load is powered continuously by the inverter with a filtered, stabilised and regulated sinewave supply. The input and output filters considerably increase the immunity of the load to mains disturbances and surges, even on bypass.



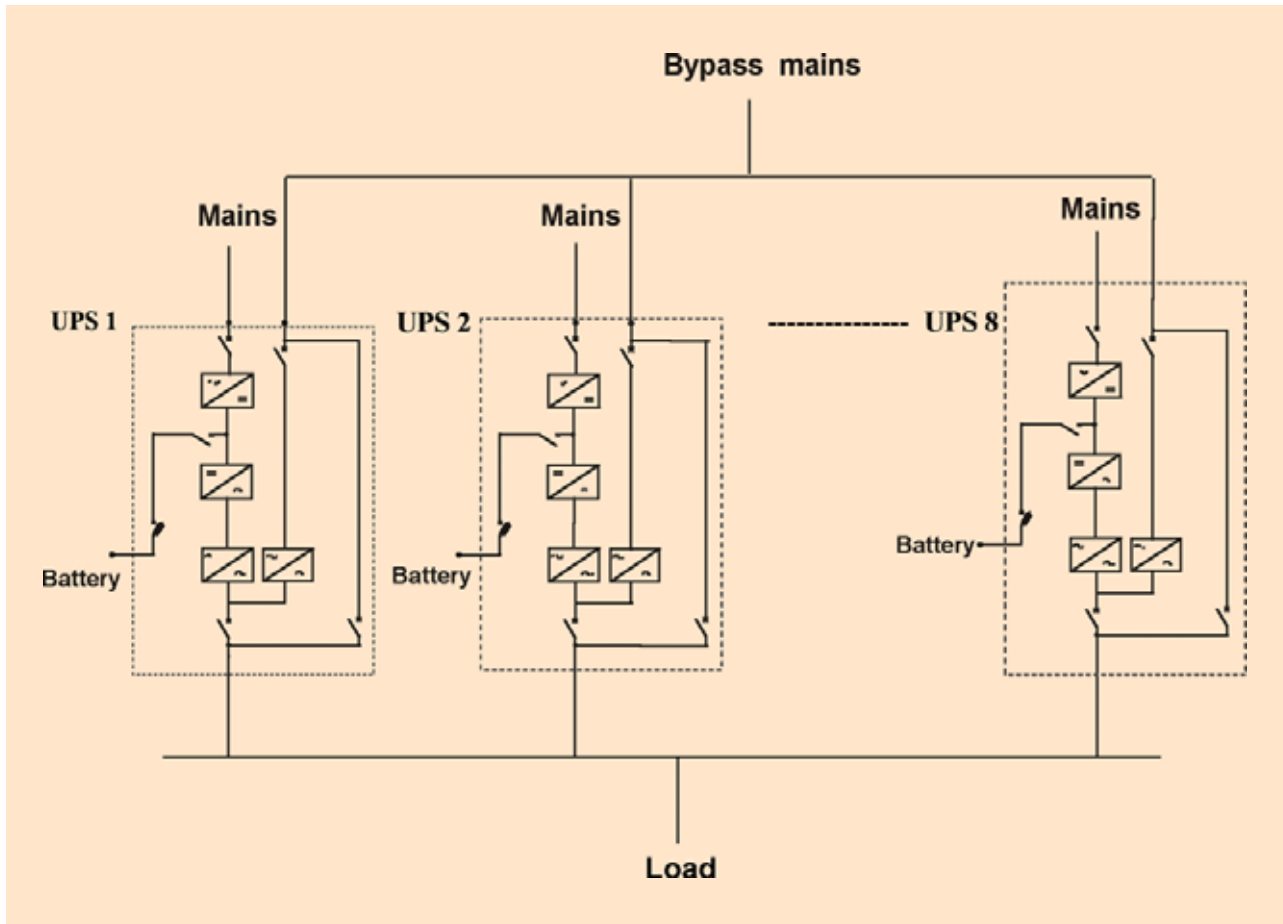


Fig. 1 – Block diagram UPS in parallel up to 8 units

### MAXIMUM RELIABILITY AND AVAILABILITY

- Connect up to 8 units in parallel or N+1 redundancy, of even different power ratings.

### HIGH LEVEL BATTERY RELIABILITY

- Automatic battery test
- Recharge compensated for temperature
- Automatic or manual rapid charge (boost) – duration programmable

### MAINTENANCE SIMPLICITY = LOW MTTR

Open the door and remove the protective panel (standards requirement) and the power components - mounted on a sliding tray - can be pulled out to provide easy access to all the electrical and electronic components for maintenance and repair work. This particular feature means that the MTTR (Mean Time To Repair) is much lower than traditional UPS designs with less easily reached assemblies, which has longer times due to the compact size of the products and difficult access to the parts.

A large amount of maintenance information is available from the front mimic panel and LCD. In addition system operating parameters are software configurable via a local PC to allow new functions to be added or adjustments made to operating specifications.

### SENSITIVE SUPPLY COMPATIBLE

For power supply sources that are particularly sensitive to harmonics (generator sets or transformers of low power with respect to that of the UPS) it is often a good idea to take action to limit the harmonics injected back into the supply by the UPS.

SENTRY MULTISTANDARD series is also available with built-in active filter using high frequency Isolated Gate Bipolar (IGBT) Technology with Digital Signal Processor (DSP) control. The Active Filter helps to reduce harmonics generated by the UPS into the supply which could disrupt the operation of downstream generators and transformers whose rating is closely matched to that of UPS.

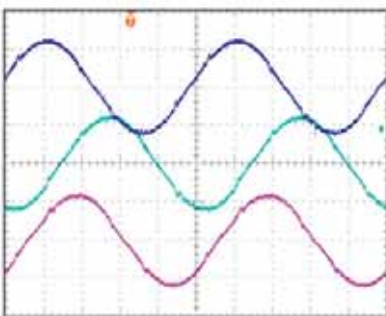
- *advanced technology*  
The active filter reduces harmonic distortion of the phase and neutral currents. The Digital Signal Processor (DSP) and the "current mode" instantly control and monitor the input current to maintain a perfect sinewave with less than 4% harmonic distortion
- *maximum efficiency*  
Thanks to the active filter Sentry Multistandard systems have low input distortion even at low loads and their overall efficiency is not affected by generator frequency variations or line impedance
- *reduction of neutral current*  
The active filter reduces the input neutrals current by up to 3.5 times their nominal rating to help avoid oversizing input protections and conductors
- *maximum reliability*  
Sentry Multistandard systems are extremely reliable. Overall UPS performance is unaffected should the harmonic filter fail

- *excellent capabilities*  
Input distortion: (THDi) 4%  
Input power factor: >0.99

**Sentry Multistandard can also be supplied without the Active Filter for installations less sensitive to current harmonics.**

### OTHER CHARACTERISTICS

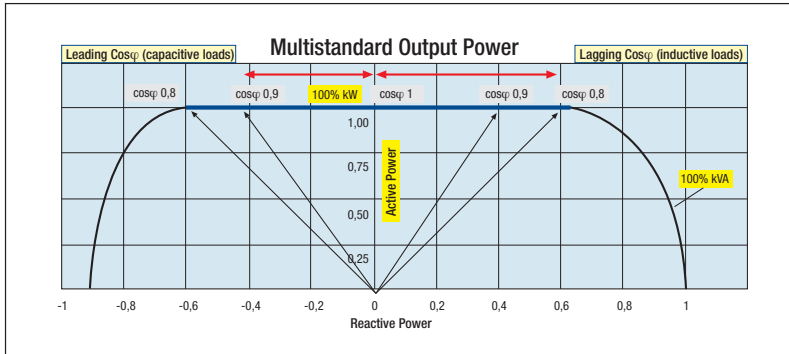
- Suitable for powering capacitive loads such as blade servers, without any reduction of the active power, from 0.8 leading to 0.8 lagging
- High level diagnostics: event log with 128 messages, states, measurements and alarms - available from the built-in LCD in several languages
- Reduced noise levels: high frequency inverter bridge
- Back feed protection standard: to avoid energy feeding back into the mains supply (in compliance with CEI 11-20; DK5600)
- Power factor correction (input power factor, close to 1)
- By pass may be deactivated to allow operation as a frequency converter (at 50 or 60 Hz)
- Emergency operation: the UPS can be set to operate only when the mains fails (for emergency lighting)



UPS input current with optional Active Filter



Sentry Multistandard with Active Filter (internal view)



Operating status, alarms, applied load, battery charging.



Controls and settings menu.



Language selection menu.



Battery voltages, internal operating temperatures.

### ADVANCED COMMUNICATION

- Compatible with TeleNetGuard for remote maintenance
- Advanced, multi-platform communication for all operating systems and network environments: Watch&Save 3000 monitoring and shut-down software included, for Windows 2008, Vista, 2003, XP; Mac OS X, Linux, Novell and most popular Unix operating systems
- The UPS is supplied with a communications cable for 'Plug and Play' PC connection
- Double RS232 serial ports
- Network adapter slot for SNMP agent
- Emergency Power Off (EPO) shutdown input contact
- Remote control mimic panel

### APPLICATIONS

- Local Area Networks (LAN)
- Data Centers
- Servers
- Industrial PLCs
- Cash registers
- Electromedical devices
- Emergency devices (lights/alarms)
- Telecommunication devices
- e-Business (Servers, Farms, ISP/ASP/POP)

### OPTIONS

- Input isolation transformer
- Active filter
- LED remote status panel
- LCD based remote control panel
- Graphic Display remote control panel
- Empty battery cabinet for prolonged runtime
- Additional battery charger
- Dual input mains



# Sentry Multistandard

## Technical data

Three-phase input  
Three-phase output

Models	ST60	ST80
Power (kVA)	60	80
Input	ST60	ST80
Rated voltage	400 Vac three-phase + N	
Voltage range	± 20%	
Frequency range	45 ÷ 65 Hz	
Power factor	> 0.99	
Current harmonic distortion	THDi 4%	
By pass	ST60	ST80
Rated voltage	400 Vac	
Number of phases	3 + N	
Permitted voltage range	± 15% (selectable from ± 5% to ± 25%)	
Rated frequency	50/60 Hz	
Permitted frequency range	± 2% (selectable from ± 1% to ± 5%)	
Batteries	ST60	ST80
Type	Lead, open vase acid and VRLA, AGM / GEL; NiCd	
Recharge time	4-8 h	
Output	ST60	ST80
Rated power (kVA)	60	80
Active power with load PF from 0,8 cap. to 0,8 ind. (kW)	48	64
Number of phases	3 + N	
Rated voltage	380 - 400 - 415 Vac selectable	
Voltage regulation range	346 ÷ 422 Vac	
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1	
Distortion with linear load	2%	
Static stability	± 1%	
Dynamic stability	± 5% in 10 ms	
Frequency	50 / 60 Hz selectable	
Overload	125% 150% of the rated current for 10'/1'	
System	ST60	ST80
Weight (kg)	180	192
Dimensions (wdh) (mm)	500x740x1400	
Remote signaling	Volt free contacts	
Remote controls	EPO and bypass	
Communication	Double RS232/C + remote contacts + communication interface slot	
Operating temperature	0 °C / +40 °C	
Relative humidity	<95% non condensing	
Colour	Dark grey (RAL 7016)	
Noise	<56 dBA at 1 m	<60 dBA at 1 m
Protection degree	IP20	
Efficiency Smart Mode	> 98,5%	
Compliance	EN 62040-1 EMC EN 62040-2 EN 62040-3	

**AROS**



0=02  
ST60,  
Normalbetrieb  
OUT= 0%VA, BATT= 100%Ah; 5=OFF

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