

Sentry Multistandard



**SUITABLE FOR
EMERGENCY LIGHTING
APPLICATIONS**



10/30 kVA

Quality power supply

ON-LINE double conversion VFI technology guarantees a filtered, stabilized and reliable voltage that is free from all mains interference (overvoltages, frequency variations, voltage drops).

Low consumption

As well as the on-line operating mode, Sentry Multistandard can operate in:

- Economy Mode
The UPS uses Line Interactive technology: the load is powered from the mains; the energy consumption is reduced with a subsequent improvement in efficiency (98%).
- Smart Active Mode
The UPS automatically selects On Line or Line Interactive operating mode according to the quality of the mains supply, by monitoring the number, frequency and type of disturbances at the mains power input.

- Stand-by-Off (back-up unit)
With the mains available the UPS is normally not powered and consequently the power consumption is almost zero. Only when the mains fails or falls outside a preset range, does the inverter take over in 200 ms using power from the batteries. This operating mode is suitable for Emergency Escape Lighting (CPSS - Central Power Supply System) as per standard EN 50171. These modes can be programmed to suit the requirements of the user and the load to be powered.



10/30 kVA

Battery cabinet

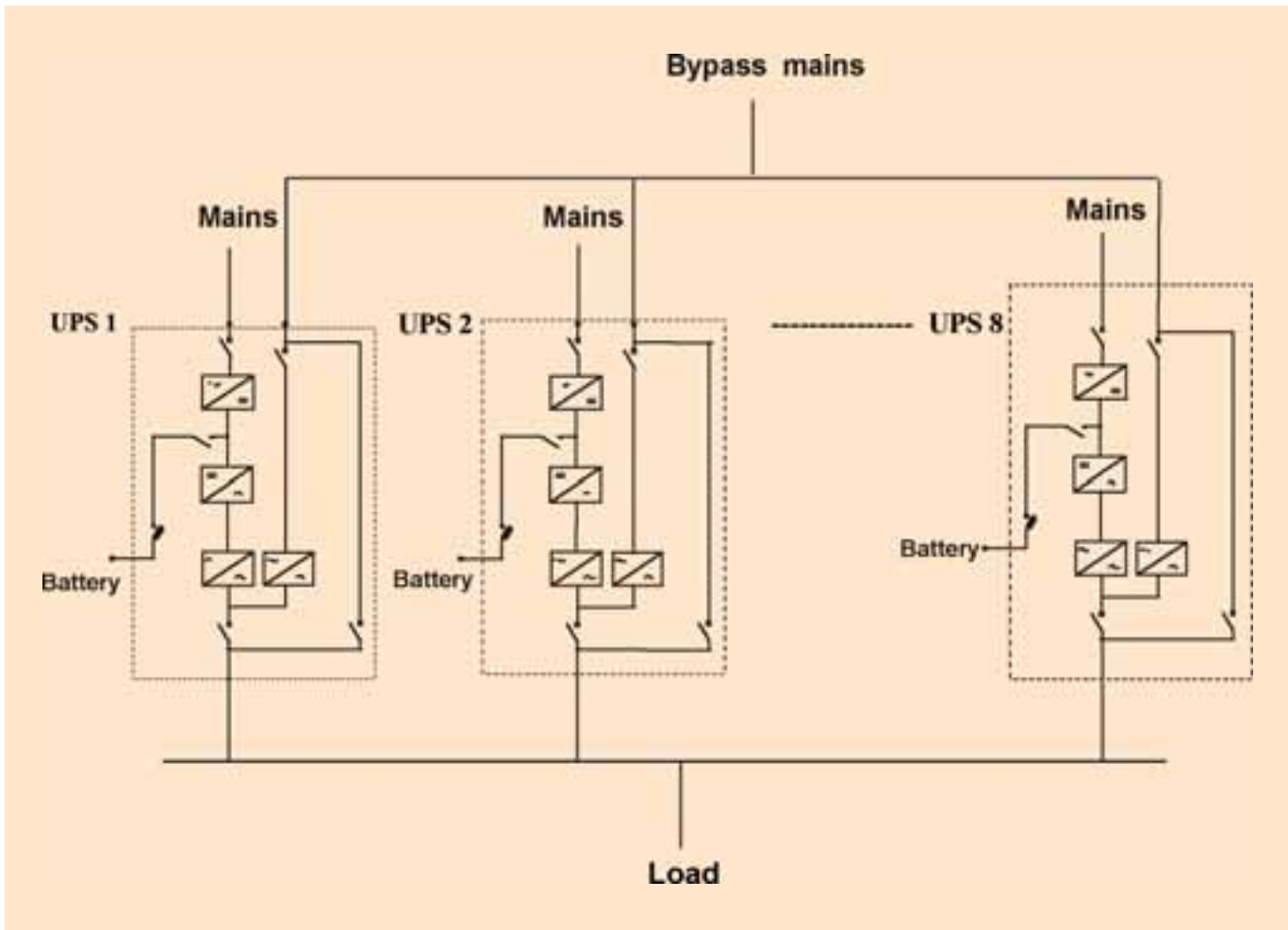


Fig. 1 – Block diagram UPS in parallel up to 8 units

Expandability

The units can be connected in parallel up to 8 units to increase power availability or redundancy.

The single module or the system can be expanded at any time following the power demand without any influence 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 is on-line and will receive the updated information automatically.

High reliability

The digital control of the appliance considerably improves its reliability, since a reduction in electronic components lowers the likelihood of breakdowns. The parallel connection of the UPS up to 8 units exponentially increases the reliability of the system. The parallel connection system has 2 levels of redundancy: in the event both redundant cables are lost only the relevant module will be disconnected from the output bus bar, while the other modules supply power to the load.

Operating flexibility

Sentry Multistandard is a UPS with On-Line double conversion technology that can also operate in Line Interactive mode (Economy Mode). It can handle the two architectures autonomously through the Smart Active function. The Stand-By-Off function can be used to transform the UPS into a back-up unit to supply power for emergency lighting.

Sentry Multistandard can also be used as a Frequency Converter, 50/60Hz or vice versa.

Maximum battery care

Temperature is the greatest threat to batteries; for this reason, Sentry Multistandard monitors the temperature of the battery and thereby controls the battery charging voltage.

An automatic battery test periodically checks the efficiency of the batteries. The batteries are not used during micro-interruptions (40 ms), since the required energy is drawn from a group of capacitors (BATTERY SAVING). This system extends the life of the batteries.

The Sentry Multistandard range also includes deep discharge protection feature.

Maximum safety for personnel

The back feed protection device prevents any voltage back feed in the upstream distribution board, thus ensuring the safety of the maintenance personnel.

Advanced communication

The unit comes with Aros Watch & Save software as a standard feature. The software displays the most important information such as the input and output voltage, the load applied, the remaining back-up time, etc., in the form of bar graphs. It is able to provide information even in the event of a failure, to support the fault diagnostics. Watch & Save software can be used to program the automatic shutdown of all open systems in the event of a prolonged black out.

The UPS also contains the following hardware interfaces:

- RS232 serial port,
- Dry contacts,
- EPO (Emergency Power Off) contact for UPS shutdown using the remote emergency button.

Mimic panel

The mimic panel allows easy and intuitive operation of the UPS. It gives access to the most important parameters: status and alarms, control commands, input, output, battery measurements (power, current, voltage, frequency and temperature) and settings. The Sentry Multistandard diagnostics system includes up to 128 alarms or messages allowing precise and detailed identification of any event.



Operating status, alarms, applied load, battery charging.



Controls and settings menu.



Language selection menu.



Battery voltages, internal operating temperatures.

Applications

Servers, Local Area Network (LAN), Data centers, telecommunications, industrial equipment, electro-medical equipment, emergency lighting applications.



40/80kVA



40/80kVA

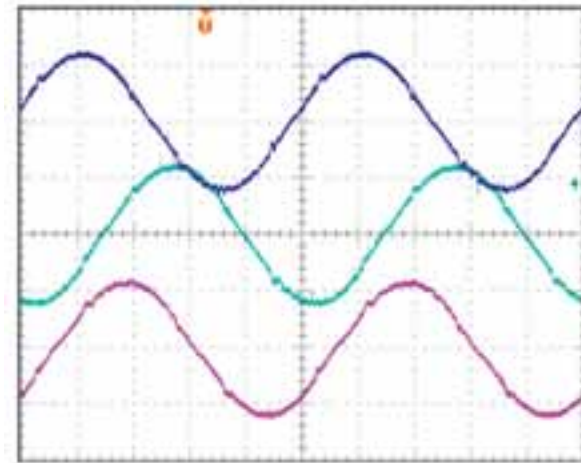
Low Input Harmonic Distortion

The Power Factor Correction (PFC), standard on all models, guarantees the input power factor level to 0,95 for any load percentages so that it is ideal in conjunction with Motor Generator or in installations with other sensitive loads.

Sentry Multistandard is also available with built-in Active Filter designed to reduce the level of THDi to less than 4% and to increase the input power factor up to 0,99.

Other benefits

- *Advanced technologies:* Active Filter is based on the IGBT's Technologies controlled by the Digital Signal Processor (DSP). DSP instantly monitors and controls the input current absorbed by the UPS in order to eliminate the unlike harmonics and maintain the THDi less than 4 %.
- *Maximum efficiency:* thanks to the Active Filter, Multistandard has low input harmonics even at low loads connected at the output.
- *Compact size:* no addition footprint is required because the Active Filter is fitted inside the base Multistandard unit.
- *Reduction of the neutral current:* less harmonics at the Multistandard input reduces the neutral cable size and consequently the installation costs.
- *Maximum reliability:* thanks to this design solution any failure of the optional Active Filter has no influence on the power supplied to the load; the only consequence is the increase of current harmonics level rejected to the mains. **MAXIMUM RELIABILITY FOR THE LOAD.**



UPS input current with optional Active Filter



Sentry Multistandard with Active Filter (internal view)

Sentry Multistandard

Three- / Single-phase input
Single-phase output

Technical data



Input	SM10	SM15	SM20
Nominal voltage	230 V single-phase or 400 V+N three-phase (selectable)		
Voltage range	±20% (up to -40% with UPS derating)		
Frequency	45-65 Hz		
Power factor	0,95		
Current distortion	<7 % single-phase input, < 5% three-phase input with Active Filter		
By-pass line	SM10	SM15	SM20
Nominal voltage	230 V		
No. of phases	1		
Transfer time	0 ms		
Permitted voltage range	±1.5% (selectable from ±5% to ±25%)		
Nominal frequency	50/60 Hz		
Permitted frequency range	±2% (selectable up to ±6%)		
Batteries	SM10	SM15	SM20
Batteries no./V	32/12	48/12	48/12
Type	maintenance-free sealed lead-acid		
Output	SM10	SM15	SM20
Nominal power (kVA)	10	15	20
Active power (kW) (single-phase input)	8	10.5	12
Active power (kW) (three-phase input)	8	12	16
No. of phases	1		
Nominal voltage	220-230-240 V (selectable)		
Voltage stability	±1 % static, ±5% dynamic		
Frequency	50/60 Hz (selectable)		
Frequency stability	±0,05 % in battery operation, ±1 % in synchronism with mains (±5 % selectable)		
Crest factor (EN 60040-3)	3:1		
Overload (kVA)	110% for 5h, 125% for 10', 150% for 1'		
Inverter short-circuit current	300 % for 0,5 seconds		
System	SM10	SM15	SM20
AC-AC efficiency	93% On-line, 98% Eco-mode		
Operating altitude without derating	1000 m a.s.l.		
Noise at 1 m depending on load and temperature	50-56 dBA		
Operating temperature	0-40 °C		
Relative humidity	95% (non condensing)		
Remote signalling	volt free contacts		
Communication ports	nos.2 RS232/C, slot for Netman 102 or Multicom 302, Multicom 352, Profibus		
Remote control	E.P.O. and by-pass		
Protection degree	IP20		
Colour	RAL 7024 (dark grey)		
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2 lev. A, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3		

Sentry Multistandard

Three- / Single-phase input

Single-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	SM 10 00	0	-	450x750x1200	112
10	SM 10 A7	10	Internal	450x750x1200	204
10	SM 10 A12	15	Internal	450x750x1200	250
10	SM 10 A14	20	Internal	450x750x1200	243
10	SM 10 A14+A14*	50	Internal	450x750x1200	381
15	SM 15 00	0	-	450x750x1200	122
15	SM 15 A7	10	Internal	450x750x1200	260
15	SM 15 A12	15	Internal	450x750x1200	328
15	SM 15 A14	20	Internal	450x750x1200	330
20	SM 20 00	0	-	450x750x1200	123
20	SM 20 A9	6	Internal	450x750x1200	276
20	SM 20 A12	10	Internal	450x750x1200	329
20	SM 20 A14	15	Internal	450x750x1200	345

* Configuration without active filter.

Battery cabinets for longer autonomy

Power (kVA)	Model	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	Exp. 32xA12	32x12Ah	450x750x1200	160
10	Exp. 32xA38	32x38Ah	555x720x1200	563
10	Exp. 32xA65	32x65Ah	860x720x1200	875
15-20	Exp. 48xA12	48x12Ah	450x750x1200	275
15-20	Exp. 48xA14	48x14Ah	450x750x1200	275
15-20	Exp. 48xA38	48x38Ah	860x720x1200	822

Back-up time UPS plus additional Battery Cabinets

UPS Model	Battery Cabinet	Back-up (min)
SM 10 00 +	Exp. 32xA38	70
SM 10 0 +	Exp. 32xA65	130
SM 15 A7 +	Exp. 48xA12	30
SM 15 A12 +	Exp. 48xA12	40
SM 15 A14 +	Exp. 48xA14	60
SM 15 00 +	Exp. 48xA38	70
SM 20 A9 +	Exp. 48xA12	20
SM 20 A12 +	Exp. 48xA12	30
SM 20 A14 +	Exp. 48xA14	40
SM 20 00 +	Exp. 48xA38	60

Isolation transformers for SM series

Power (kVA)	Dimensions WxDxH (mm)	Weight (kg)
10	555x720x1200	140
15	555x720x1200	160
20	555x720x1200	188

Sentry Multistandard

Three-phase input
Three-phase output

Technical data



Input	ST10	ST15	ST20	ST30
Nominal voltage	400 V+N three-phase			
Voltage range	±20% (up to -40% with UPS derating)			
Frequency	45-65 Hz			
Power factor	0,99 with Active Filter			
Current distortion	< 5 % with Active Filter			
By-pass line	ST10	ST15	ST20	ST30
Nominal voltage	400 V+N			
No. of phases	3+N			
By-pass	static and manual for maintenance			
Transfer time	0 ms			
Permitted voltage range	±15% (selectable from ±5% to ±25%)			
Nominal frequency	50/60 Hz			
Permitted frequency range	±2% (selectable up to ±6%)			
Batteries	ST10	ST15	ST20	ST30
Batteries no./V	32/12	48/12	48/12	48/12
Type	maintenance-free sealed lead-acid			
Output	ST10	ST15	ST20	ST30
Nominal power (kVA)	10	15	20	30
Active power (kW)	8	12	16	24
No. of phases	3+N			
Nominal voltage	380-400-415 V (selectable)			
Voltage stability	±1 % static, ±5% dynamic			
Frequency	50/60 Hz (selectable)			
Frequency stability	±0,05 % in battery operation, ±1 % in synchronism with mains (±5 % selectable)			
Crest factor (EN 60040-3)	3:1			
Overload (kVA)	110 % for 5 h, 125% for 10', 150% for 1'			
Inverter short-circuit current	300% for 0,5 seconds			
System	ST10	ST15	ST20	ST30
AC-AC efficiency	92% On-line, 98% Eco-mode/Smart active mode/Emergency mode			
Operating altitude without derating	1000 m a.s.l.			
Noise at 1 m depending on load and temperature	50-56 dBA			
Operating temperature	0-40 °C			
Relative humidity	95% (non condensing)			
Remote signalling	volt free contacts			
Communication ports	Nos.2 RS232/C, slot for Netman 102 or Multicom 302 and Multicom 352, Profibus			
Remote control	E.P.O. and by-pass			
Protection degree	IP20			
Colour	RAL 7024 (dark grey)			
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2 lev. A, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3			

Sentry Multistandard

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	ST 10 00	0	-	450x750x1200	114
10	ST 10 A7	10	Internal	450x750x1200	206
10	ST 10 A12	15	Internal	450x750x1200	251
10	ST 10 A14	20	Internal	450x750x1200	258
10	ST 10 A14+A14*	50	Internal	450x750x1200	406
15	ST 15 00	0	-	450x750x1200	122
15	ST 15 A7	10	Internal	450x750x1200	261
15	ST 15 A12	15	Internal	450x750x1200	328
15	ST 15 A14	20	Internal	450x750x1200	335
20	ST 20 00	0	-	450x750x1200	124
20	ST 20 A9	6	Internal	450x750x1200	277
20	ST 20 A12	10	Internal	450x750x1200	330
20	ST 20 A14	15	Internal	450x750x1200	350
30	ST 30 00	0	-	450x750x1200	144
30	ST 30 A14	8	Internal	450x750x1200	370

* Configuration without active filter.

Battery cabinets for longer autonomy

Power (kVA)	Model	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	Exp. 32xA12	32x12Ah	450x750x1200	160
10	Exp. 32xA38	32x38Ah	555x720x1200	563
10	Exp. 32xA65	32x65Ah	860x720x1200	875
15-20-30	Exp. 48xA12	48x12Ah	450x750x1200	275
15-20-30	Exp. 48xA14	48x14Ah	450x750x1200	275
15-20-30	Exp. 48xA38	48x38Ah	860x720x1200	822
15-20-30	Exp. 48xA65*/A80*	48x65Ah/80Ah	900x750x1600	1300/1400

*Because of the high weight the batteries are delivered separately from the cabinet and installed on site.

Back-up time UPS plus additional Battery Cabinets

UPS Model	Battery Cabinet	Back-up (min)
ST 10 00	+ Exp. 32xA38	70
ST 10 00	+ Exp. 32xA65	130
ST 15 A7	+ Exp. 48xA12	30
ST 15 A12	+ Exp. 48xA12	40
ST 15 A14	+ Exp. 48xA14	60
ST 15 00	+ Exp. 48xA38	70
ST 20 A9	+ Exp. 48xA12	20
ST 20 A12	+ Exp. 48xA12	30
ST 20 A14	+ Exp. 48xA14	40
ST 20 00	+ Exp. 48xA38	60
ST 30 A14	+ Exp. 48xA12	15
ST 30 A14	+ Exp. 48xA14	20
ST 30 00	+ Exp. 48xA38	50
ST 30 00	+ Exp. 48xA65	60

Sentry Multistandard

Three-phase input
Three-phase output

Technical data



Input	ST40	ST60	ST80
Nominal voltage	400 V + N three-phase		
Voltage range	±20% (up to -40% with UPS derating)		
Frequency	45-65 Hz		
Power factor	0,99 with Active Filter		
Current distortion	< 4 % with Active Filter		
By-pass line	ST40	ST60	ST80
Nominal voltage	400 V+N		
No. of phases	3+N		
By-pass	static and manual for maintenance		
Transfer time	0 ms		
Permitted voltage range	±15% (selectable from ±5% to ±25%)		
Nominal frequency	50/60 Hz		
Permitted frequency range	±2% (selectable up to ±5%)		
Batteries	ST40	ST60	ST80
Batteries no./V	48/12		
Type	maintenance-free sealed lead-acid		
Output	ST40	ST60	ST80
Nominal power (kVA)	40	60	80
Active power (kW)	32	48	64
No. of phases	3+N		
Nominal voltage	380-400-415 V (selectable)		
Voltage stability	±1 % static, ±5% dynamic		
Frequency	50/60 Hz (selectable)		
Frequency stability	±0,05 % in battery operation, ±1 % in synchronism with mains (±5 % selectable)		
Crest factor (EN 60040-3)	3:1		
Overload (kVA)	110 % for 5 h, 125% for 10', 150% for 1'		
Inverter short-circuit current	300% for 0,5 seconds		
System	ST40	ST60	ST80
AC-AC efficiency	92% On-line, 98% Eco-mode/Smart active mode/Emergency mode		
Operating altitude without derating	1000 m a.s.l.		
Noise at 1 m depending on load and temperature	50-56 dBA		
Operating temperature	0-40 °C		
Relative humidity	95% (non condensing)		
Remote signalling	volt free contacts		
Communication ports	nos.2 RS232/C, slot for Netman 102 or Multicom 302 and Multicom 352, Profibus		
Remote control	E.P.O. and by-pass		
Protection degree	IP20		
Colour	RAL 7024 (dark grey)		
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2 lev. A, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3		

Sentry Multistandard

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
40	ST 40 00	0	-	500x740x1400	180
60	ST 60 00	0	-	500x740x1400	200
80	ST 80 00	0	-	500x740x1400	220

Battery cabinets for longer autonomy

Power (kVA)	Model	Batteries	Dimensions WxDxH (mm)	Weight (kg)
40-60-80	Exp. 48xA26	48x26Ah	500x750x1400	500
40-60-80	Exp. 48xA38	48x38Ah	900x750x1400	650
40-60-80	Exp. 48xA65*	48x65Ah	900x750x1600	1300
40-60-80	Exp. 48xA80*	48x80Ah	900x750x1600	1400

*Because of the high weight the batteries are delivered separately from the cabinet and installed on site.

Back-up time UPS plus additional Battery Cabinets

UPS Model	Battery Cabinet	Back-up (min)
ST 40 00 +	48 Battery Blocks A26	10
ST 40 00 +	48 Battery Blocks A38	20
ST 40 00 +	48 Battery Blocks A65	40
ST 40 00 +	48 Battery Blocks A80	60
ST 60 00 +	48 Battery Blocks A26	6
ST 60 00 +	48 Battery Blocks A38	10
ST 60 00 +	48 Battery Blocks A65	20
ST 60 00 +	48 Battery Blocks A80	80
ST 80 00 +	48 Battery Blocks A38	8
ST 80 00 +	48 Battery Blocks A65	20
ST 80 00 +	48 Battery Blocks A80	25

Isolation transformers for ST series

Power (kVA)	Dimensions WxDxH (mm)	Weight (kg)
10	555x720x1200	145
15	555x720x1200	165
20	555x720x1200	190
30	555x720x1200	215
40	555x720x1200	260
60	640x740x1400	380
80	640x740x1400	430

Sentry HPS



Quality power supply

Sentry HPS is an On-Line double conversion (VFI) UPS with filtered and stabilized sinusoidal output voltage. Sentry HPS is immune to the interferences on the electric power supply line as it has special input and output filters.

Maximum reliability and power availability

The digital control of the appliance considerably improves reliability, since a reduction in electronic components lowers the likelihood of breakdowns. Digital control is provided by the microprocessor that, in the HPS series, controls all the internal parameters, thus increasing reliability and performance. In parallel connections, digital control ensures balance of the currents, which generally change over time due to phenomena such as vibrations and temperature, between the UPS units and the exchange of information with no need for manual tuning. Sentry HPS has been designed so that it can be connected in parallel even after the installation of the first unit. The power availability can be increased thanks to various configurations available such as the parallel configuration, the Dual Bus function and the Dynamic Dual Bus system.



High Efficiency

If required, the unit can work in ECO mode to increase efficiency up to 98% and consequently reduce energy dissipation and costs. In this operating mode the mains is the priority source and the load is switched over to the Inverter only when the mains characteristics exceed the preset limits.

UPS for Industrial loads

Sentry HPS with its strong overload capability, output galvanic isolation and low harmonic current distortion, is the ideal solution for industrial applications. Thanks to the high battery current, HPS Series is suitable to work with large battery banks as it can guarantee recharging in 10 hours as recommended by the battery manufacturer.

Operating flexibility

Sentry HPS is an uninterruptible power supply with On-Line double conversion technology that can also operate in Line Interactive mode (Economy mode for units over 100 kVA). All power ratings of the HPS series can also be used as Frequency Converters 50 to 60 Hz and vice versa .

Mimic panel

The mimic panel allows easy and intuitive operation of the UPS. It gives access to the most important parameters: status and alarms, control commands, input, output, battery measurements (power, current, voltage, frequency and temperature) and settings. The Sentry HPS diagnostics system includes up to 128 alarms or messages allowing precise and detailed identification of any event.

Maximum battery care

Optimal battery management includes:

- periodic battery test,
- protection against deep discharge,
- recharge temperature compensated.

Motor Generator friendly

Thanks to the range of different UPS versions and to the input filter solutions, Sentry HPS Series modules offer low harmonic distortion and high power factor at the input. This makes them ideal for use in conjunction with the Motor Generator at the input. On request, the HPS Series is provided with a "Motor Generator kit" that will inhibit the battery recharging and/or synchronization with bypass.

Maximum safety for personnel

The back feed protection device prevents any voltage back feed in the upstream distribution board, thus ensuring the safety of the maintenance personnel.

Front access

Sentry HPS has frontal access for all power and electronic components, even in those configurations with internal batteries. This reduces the floor space required and consequently reduces the installation costs.

Advanced communication

Aros Watch & Save software displays the most important information such as the input and output voltage, the load applied, the remaining back-up time, etc., in the form of bar graphs.

The software is able to provide information even in the event of a failure, in support of the fault diagnostics.

The Watch & Save software can be used to program the automatic shutdown of all open systems in the event of a prolonged black out. Sentry HPS can also operate with a network agent for applications on LAN or WAN networks.

The UPS contains the following hardware interfaces:

- RS232 serial port,
- Dry contacts,
- EPO (Emergency Power Off) contact for UPS shutdown using the remote emergency button.

Remote Service Support

TELEGUARD is a remote trouble-shooting system that can signal any kind of unexpected event in real time. Any fault is immediately signalled, 24 hours a day, 365 days a year, to the service control centre, which can take immediate action either remotely or on site. Plus, a report is provided periodically, detailing all the most important events that have taken place during the monitored period.



Sentry HPS

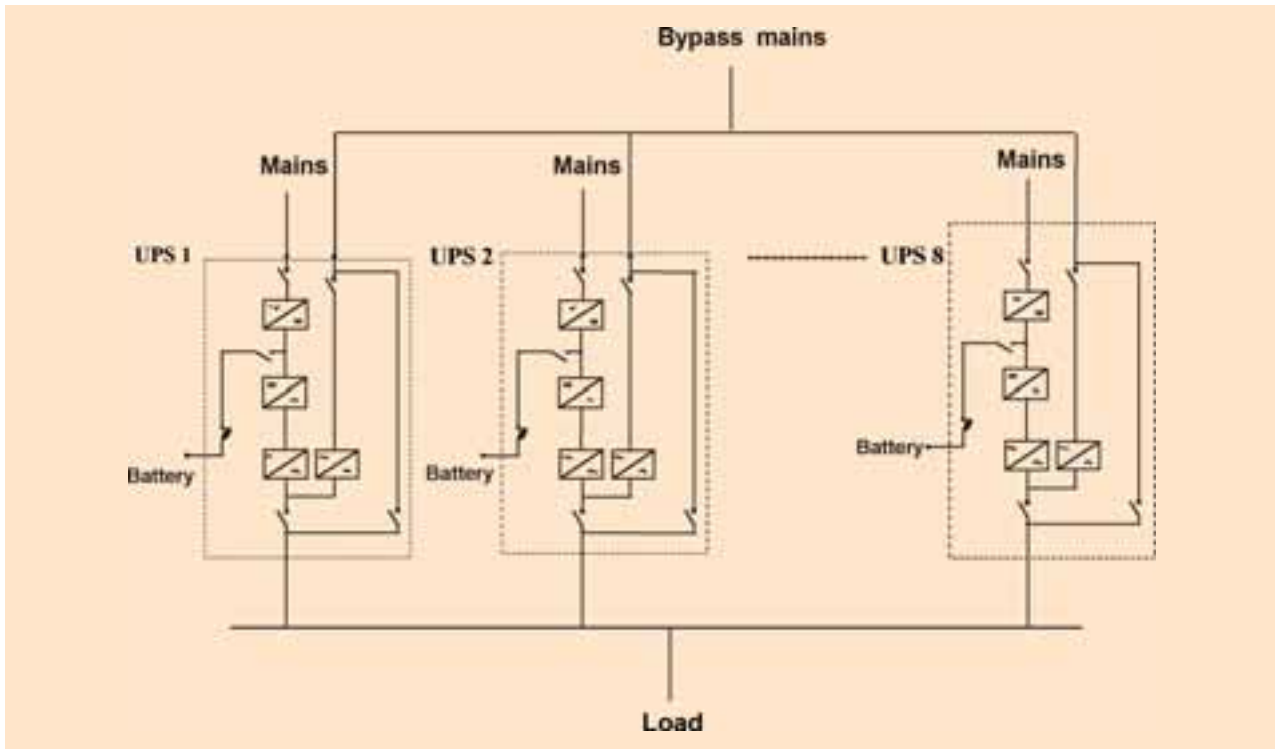


Fig 1- Block diagram UPS in parallel up to 8 units

Expandability

The units can be connected in parallel up to 8 units to increase power availability or redundancy.

The single module or the system can be expanded any time to suit power requirements without influencing 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 is on-line and will be set up automatically.

Applications

Servers, Local Area Network (LAN), Data centers, telecommunications, industrial equipment, electro-medical equipment.



300 kVA

Dual Bus System

The Dual Bus System powers 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 UGS (UPS Group Synchroniser).

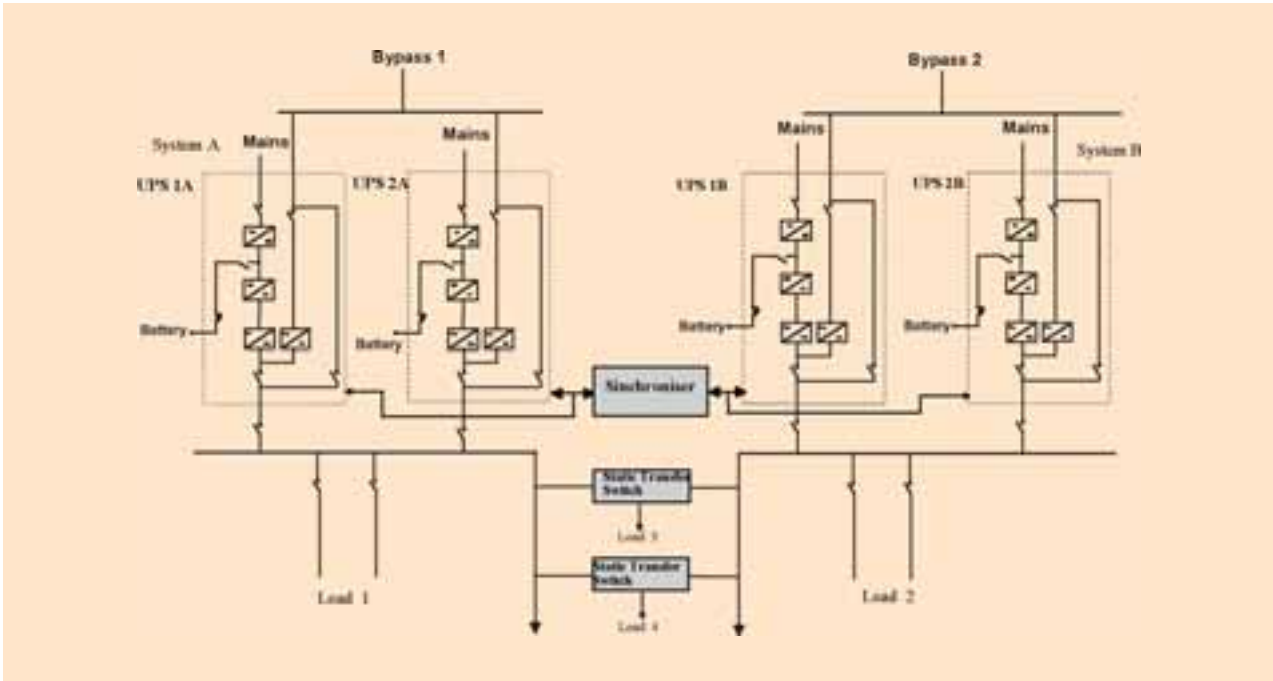


Fig. 2 – Dual bus System

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.

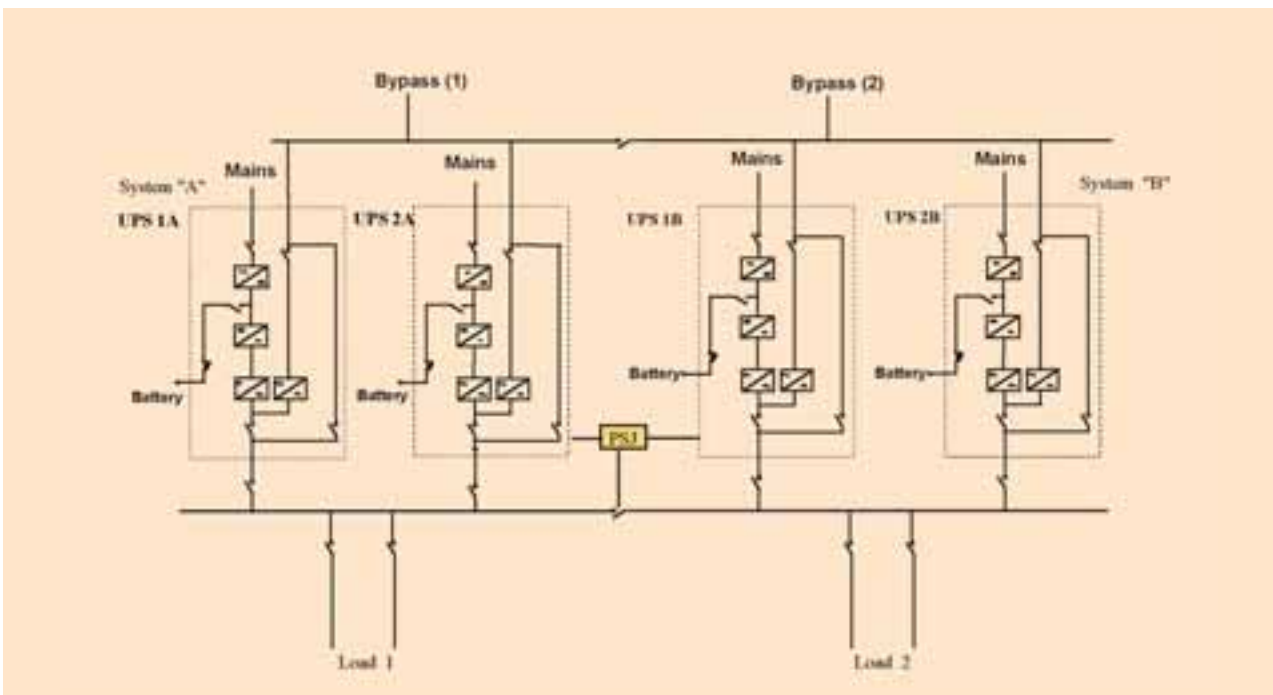
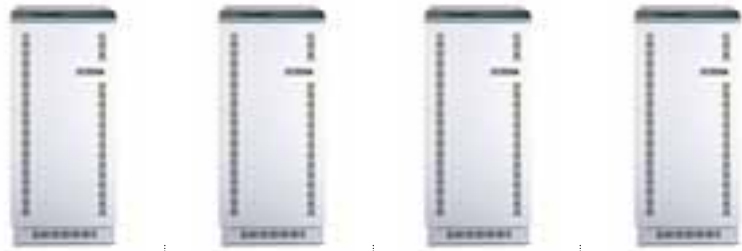


Fig. 3 – Dynamic Dual Bus System

Sentry HPS

Three-phase input
Single-phase output

Technical data



Input	HM 8	HM 10	HM 15	HM 20
Nominal voltage	400 V +N ±20 %			
Frequency	45 ÷ 65 Hz			
Current harmonic distortion (THDi)	≤ 8% with filter			
Power Factor	0,9 with filter			
Soft start	0-100% in 8-10 seconds			
By-pass line	HM 8	HM 10	HM 15	HM 20
Nominal voltage	230 V			
Permitted voltage range	±15% (selectable from ±10% to ±25% from front panel)			
Nominal frequency	50 or 60 Hz			
Permitted frequency range	±2% (selectable from ±1% to ±5% from front panel)			
By-pass	static and manual for maintenance			
Transfer time	0 ms			
DC links	HM 8	HM 10	HM 15	HM 20
Number of battery cell (Pb)	192			
Nominal battery voltage	430 V			
Type of battery	sealed battery (Pb), open vented battery, Ni Cd			
Maintenance voltage	variable according to the temperature (-0,5 Vx°C)			
Ripple voltage	<1%			
Output	HM 8	HM 10	HM 15	HM 20
Nominal power (kVA)	8	10	15	20
Active power (kW) at cosφ 0,8	6,4	8	12	16
Nominal voltage	220 - 230 - 240 V (selectable) single-phase			
Voltage stability	± 1% static, ± 5% dynamic			
Nominal current (A)	35	43	65	87
Crest factor (EN 60040-3)	3:1			
Frequency	50 / 60 Hz			
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)			
Overload (kVA)	110 % for 300', 125% for 10', 150% for 1'			
System	HM 8	HM 10	HM 15	HM 20
AC-AC efficiency	> 91%			
Operating altitude without derating	1000 m a.s.l.			
Noise at 1 m depending on load and temperature	48÷ 54 dBA			53÷60 dBA
Operating temperature	0 ÷ 40°C			
Relative humidity	95% (non-condensing)			
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3			
Back feed protection	standard			
Protection degree	IP20			
Colour	RAL 7035			

Sentry HPS

Three-phase input
Single-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
8	HM8 00	0	-	555x720x1200	190
8	HM8 A7	10	Internal	555x720x1200	280
8	HM8 A12	20	Internal	555x720x1200	325
8	HM8 A12 + A7	35	Internal	555x720x1200	415
8	HM8 A12 + A12	50	Internal	555x720x1200	460
10	HM10 00	0	-	555x720x1200	200
10	HM10 A7	6	Internal	555x720x1200	290
10	HM10 A12	15	Internal	555x720x1200	345
10	HM10 A12 + A7	30	Internal	555x720x1200	425
10	HM10 A12 + A12	40	Internal	555x720x1200	470
15	HM15 00	0	-	555x720x1200	220
15	HM15 A12	10	Internal	555x720x1200	335
15	HM15 A12 + A7	15	Internal	555x720x1200	425
15	HM15 A12 + A12	20	Internal	555x720x1200	470
20	HM20 00	0	-	555x720x1200	240
20	HM20 A12+A7	10	Internal	555x720x1200	470
20	HM20 A12+A12	15	Internal	555x720x1200	505

Battery cabinets for longer autonomy

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	Exp.32 Batt.A38	65	A38	555x720x1200	563
15	Exp.32 Batt.A38	40	A38	555x720x1200	563
15	Exp.32 Batt.A65	75	A65	860x720x1200	875
20	Exp.32 Batt.A38	30	A38	555x720x1200	563
20	Exp.32 Batt.A65	60	A65	860x720x1200	875

Note:
The backup time relates to the UPS without internal batteries.

Isolation transformers for HM series

Power (kVA)	Dimensions WxDxH (mm)	Weight (kg)
8-10	555x720x1200	140
15	555x720x1200	160
20	555x720x1200	188

Note:
The isolation transformers for units above 20kVA are available on request.

Sentry HPS

Three-phase input
Single-phase output

Technical data



Input	HM 30	HM 40	HM 60	HM 80	HM 100
Nominal voltage	400 V+N ±20 %				
Frequency	45 ÷ 65 Hz				
Current harmonic distortion with filter (THDi)	8%				
Power factor with filter	0,9				
Soft start	0-100% in 8-10 seconds				
By-pass line	HM 30	HM 40	HM 60	HM 80	HM 100
Nominal voltage	230 V				
Permitted voltage range	±15% (selectable from ±10% to ±25% from front panel)				
Nominal frequency	50 or 60 Hz				
Permitted frequency range	±2% (selectable from ±1% to ±5% from front panel)				
By-pass	static and manual for maintenance				
Transfer time	0 ms				
DC links	HM 30	HM 40	HM 60	HM 80	HM 100
Number of battery cell (Pb)	192				
Nominal battery voltage	430 V				
Type of battery	sealed battery (Pb), open vented battery, Ni Cd				
Maintenance voltage	variable according to the temperature (-0,5 Vx°C)				
Ripple voltage	<1%				
Output	HM 30	HM 40	HM 60	HM 80	HM 100
Nominal power (kVA)	30	40	60	80	100
Active power (kW) at cosφ 0,8	24	32	48	64	80
Nominal voltage	220 - 230 - 240 V (selectable) single-phase				
Voltage stability	± 1% static, ± 5% dynamic				
Nominal current (A)	130	174	261	348	434
Crest factor (EN 60040-3)	3:1				
Frequency	50 / 60 Hz				
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)				
Overload (kVA)	110 % for 300', 125% for 10', 150% for 1'				
System	HM 30	HM 40	HM 60	HM 80	HM 100
AC-AC efficiency	> 91%				
Operating altitude without derating	1000 m a.s.l.				
Noise at 1 m depending on load and temperature	65 dBA				
Operating temperature	0 ÷ 40°C				
Relative humidity	95% (non-condensing)				
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3				
Back feed protection	standard				
Protection degree	IP20				
Colour	RAL 7035				

Sentry HPS

Three-phase input
Single-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
30	HM30 00	0	-	555x720x1200	290
40	HM40 00	0	-	555x720x1200	340
60	HM60 00	0	-	800x740x1400	440
80	HM80 00	0	-	800x740x1400	520
100	HM100 00	0	-	1070x740x1400	650

Note:
The input harmonic filter is fitted in base unit with additional matching cabinet 270mm length.

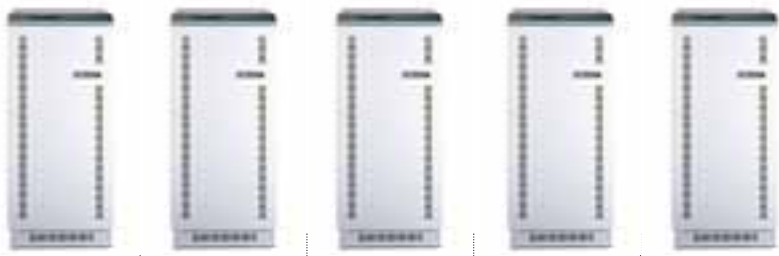
Battery cabinets for longer autonomy

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
30	32 Battery Blocks A38	15	A38	555x720x1200	563
30	32 Battery Blocks A65	35	A65	860x720x1200	875
30	32 Battery Blocks A80	45	A80	860x720x1200	1100
30	32 Battery Blocks A100	60	A100	860x720x1200	1200
40	32 Battery Blocks A38	10	A38	555x720x1200	563
40	32 Battery Blocks A65	25	A65	860x720x1200	875
40	32 Battery Blocks A80	30	A80	860x720x1200	1100
40	32 Battery Blocks A100	40	A100	860x720x1200	1200
40	32 Battery Blocks A120	50	A120	860x720x1200	1200
60	32 Battery Blocks A38	8	A38	555x740x1400	578
60	32 Battery Blocks A65	15	A65	800x740x1400	890
60	32 Battery Blocks A80	20	A80	860x740x1400	920
60	32 Battery Blocks A100	30	A100	860x740x1400	1200
60	32 Battery Blocks A120	40	A120	860x740x1400	1200
80	32 Battery Blocks A65	10	A65	860x740x1400	890
80	32 Battery Blocks A80	15	A80	860x740x1400	920
80	32 Battery Blocks A100	20	A100	860x740x1400	1200
80	32 Battery Blocks A120	25	A120	860x740x1400	1200
100	40 Battery Blocks A65	7	A65	860x740x1800	1120
100	40 Battery Blocks A80	10	A80	860x740x1800	1150
100	40 Battery Blocks A100	15	A100	860x740x1800	1470
100	40 Battery Blocks A120	20	A120	860x740x1800	1470

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT 10	HT15	HT20	HT30	HT40
Nominal voltage	400 V three-phase +N \pm 20 %				
Frequency	45 ÷ 65 Hz				
Power factor	0,9 with input filter				
Current harmonic distortion (THDi)	8% with input filter				
Soft start	0-100% in 10 seconds				
By-pass line	HT 10	HT15	HT20	HT30	HT40
Nominal voltage	400 V three-phase +N				
Permitted voltage range	\pm 15% (selectable from \pm 10% to \pm 25% from front panel)				
Nominal frequency	50 or 60 Hz				
Permitted frequency range	\pm 2% (selectable from \pm 1% to \pm 5% from front panel)				
Overload capacity	approx 200% for 1 minute (depending on the power rating)				
By-pass	static and manual for maintenance				
Transfer time	0 ms				
Batteries	HT 10	HT15	HT20	HT30	HT40
Number of battery cell (Pb)	192				
Nominal battery voltage	430 V				
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium				
Maximum recharge current (A)	0,2xC10				
Recharging voltage	variable according to the temperature (-0,5 Vx°C)				
Ripple voltage	<1%				
Output	HT 10	HT15	HT20	HT30	HT40
Nominal power (kVA)	10	15	20	30	40
Active power (kW) at $\cos\phi$ 0,8	8	12	16	24	32
Nominal voltage	380-400-415 V (selectable) three-phase +N				
Voltage stability	\pm 1% static, \pm 5% dynamic				
Nominal current (A)	14	22	29	43	58
Frequency	50 or 60 Hz				
Frequency stability	\pm 0,05% in battery operation, \pm 2% in synchronism with mains (\pm 5% selectable)				
Crest factor (EN 60040-3)	3 : 1				
Overload (kVA)	110% for 300', 125% for 10', 150% for 1'				
System	HT 10	HT15	HT20	HT30	HT40
AC-AC efficiency	> 91%				
Operating altitude without derating	1000 m a.s.l.				
Noise in dBA at 1 m depending on load and temperature	48- 54		53-60		
Operating temperature	0 ÷ 40° C				
Relative humidity	95% (non-condensing)				
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3				
Back feed protection	standard				
Protection degree	IP20				
Colour	RAL 7035				

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	HT10 00	0	-	555x720x1200	210
10	HT10 A7	10	Internal	555x720x1200	300
10	HT10 A12	15	Internal	555x720x1200	345
10	HT10 A12+A7	30	Internal	555x720x1200	435
10	HT10 A12+A12	40	Internal	555x720x1200	480
15	HT15 00	0	-	555x720x1200	220
15	HT15 A12	10	Internal	555x720x1200	335
15	HT15 A12+A7	15	Internal	555x720x1200	425
15	HT15 A12+A12	20	Internal	555x720x1200	470
20	HT20 00	0	-	555x720x1200	240
20	HT20 A12+A7	10	Internal	555x720x1200	460
20	HT20 A12+A12	15	Internal	555x720x1200	500
30	HT30 00	0	-	555x720x1200	282
30	HT30 A12+A12	10	Internal	825x720x1200	610
40	HT40 00	0	-	555x720x1200	330

Battery Cabinets

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
10	32 Battery Blocks A38	65	A38	555x720x1200	563
15	32 Battery Blocks A38	40	A38	555x720x1200	563
15	32 Battery Blocks A65	75	A65	860x720x1200	875
20	32 Battery Blocks A38	30	A38	555x720x1200	563
20	32 Battery Blocks A65	60	A65	860x720x1200	875
30	32 Battery Blocks A38	15	A38	555x720x1200	563
30	32 Battery Blocks A65	35	A65	860x720x1200	875
30	32 Battery Blocks A80	45	A80	860x720x1400	1100
30	32 Battery Blocks A100	60	A100	860x720x1400	1200
40	32 Battery Blocks A38	10	A38	555x720x1200	563
40	32 Battery Blocks A65	25	A65	860x720x1200	875
40	32 Battery Blocks A80	30	A80	860x720x1400	1100
40	32 Battery Blocks A100	40	A100	860x720x1400	1200
40	32 Battery Blocks A120	50	A120	860x720x1400	1200
40	2x32 Battery Blocks A65	60	A65+A65	2x(860x720x1400)	1750

Note:

The back-up time relates to the UPS without internal batteries.

Isolation transformers for HT series

Power (kVA)	Dimensions WxDxH (mm)	Weight (kg)
10	555x720x1200	145
15	555x720x1200	165
20	555x720x1200	190
30	555x720x1200	215
40	555x720x1200	260

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT60	HT80
Nominal voltage	400 V three-phase +N ±20 %	
Frequency	45 ÷ 65 Hz	
Power factor	0,92 with input filter	
Current harmonic distortion (THDi)	5% with input filter	
Soft start	0-100% in 10 seconds	
By-pass line	HT60	HT80
Nominal voltage	400 V three-phase +N	
Permitted voltage range	±15% (selectable from ±10% to ±25% from front panel)	
Nominal frequency	50 or 60 Hz	
Permitted frequency range	±2% (selectable from ±1% to ±5% from front panel)	
Overload capacity	approx 200% for 1 minute (depending on the power rating)	
By-pass	static and manual for maintenance	
Transfer time	0 ms	
Batteries	HT60	HT80
Number of battery cell (Pb)	192	
Nominal battery voltage	430 V	
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium	
Max. recharge current (1)	35 A	
Recharging voltage	variable according to the temperature (-0,5 Vx°C)	
Ripple voltage	<1%	
Output	HT60	HT80
Nominal power (kVA)	60	80
Active power (kW) at cosφ 0,8	48	64
Nominal voltage	380-400-415 V (selectable) three-phase +N	
Voltage stability	± 1% static, ± 5% dynamic	
Rated current (A)	87	115
Frequency	50 / 60 Hz	
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)	
Crest factor (EN 60040-3)	3 : 1	
Overload (kVA)	110 % for 300', 125% for 10', 150% for 1'	
System	HT60	HT80
AC-AC efficiency	92%	
Operating altitude without derating	1000 m a.s.l.	
Noise at 1 m depending on load and temperature	53÷ 62 dBA	
Operating temperature	0 ÷ 40° C	
Relative humidity	95% (non-condensing)	
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3	
Back feed protection	standard	
Protection degree	IP20	
Colour	RAL 7035	

(1) With approx. 80% load

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
60	HT60 00 6Pulse	0	–	800x740x1400	450
60	HT60 00 12Pulse	0	–	1070x740x1400	600
80	HT80 00 6Pulse	0	–	800x740x1400	555
80	HT80 00 12Pulse	0	–	1070x740x1400	780

Note:
The input harmonic filter for 6pulse and 12pulse version is fitted internal in the base unit.

Battery Cabinets

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
60	32 Battery Blocks A38	8	A38	555x720x1400	578
60	32 Battery Blocks A65	15	A65	860x740x1400	890
60	32 Battery Blocks A80	20	A80	860x740x1400	920
60	32 Battery Blocks A100	30	A100	860x740x1400	1200
60	32 Battery Blocks A120	40	A120	860x740x1400	1200
60	2x32 Battery Blocks A80	50	2xA80	2x(860x740x1400)	1840
60	2x32 Battery Blocks 2xA100	60	2xA100	2x(860x740x1400)	2400
80	32 Battery Blocks A65	10	A65	860x740x1400	890
80	32 Battery Blocks A80	15	A80	860x740x1400	920
80	32 Battery Blocks A100	20	A100	860x740x1400	1200
80	32 Battery Blocks A120	25	A120	860x740x1400	1200
80	2x32 Battery Blocks 2xA80	30	2xA80	2x(860x740x1400)	1840
80	2x32 Battery Blocks 2xA100	40	2xA100	2x(860x740x1400)	2400
80	2x32 Battery Blocks 2xA120	60	2xA120	2x(860x740x1400)	2400

Note:
The back-up time relates to the UPS without internal batteries.

Isolation transformers for HT series

Power (kVA)	Dimensions WxDxH (mm)	Weight (kg)
60	640x740x1400	380
80	640x740x1400	430

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT100	HT120
Nominal voltage	400 V three-phase $\pm 20\%$	
Frequency (Hz)	45 ÷ 65 Hz	
Power factor	0,92 with input filter	
Current harmonic distortion (THDi)	5% with input filter	
Soft start	0-100% in 10 seconds	
By-pass line	HT100	HT120
Nominal voltage	400 V three-phase + N	
Permitted voltage range	$\pm 15\%$ (selectable from $\pm 10\%$ to $\pm 25\%$ from front panel)	
Nominal frequency	50 or 60 Hz	
Permitted frequency range	$\pm 2\%$ (selectable from $\pm 1\%$ to $\pm 5\%$ from front panel)	
Overload capacity for 10 ms	1200%	1000%
By-pass	static and manual for maintenance	
Transfer time	0 ms (2-4ms in Eco Mode)	
Batteries	HT100	HT120
Number of battery cell (Pb)	216	240
Nominal battery voltage	480 V	530 V
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium	
Max. recharge current (1)	35 A	
Recharging voltage	variable according to the temperature ($-0,5 V \times ^\circ C$)	
Ripple voltage	<1%	
Output	HT100	HT120
Nominal power (kVA)	100	120
Active power (kW) at $\cos\phi$ 0,8	80	96
Nominal voltage	380-400-415 V three-phase + N (selectable)	
Voltage stability	$\pm 1\%$ static, $\pm 5\%$ dynamic	
Nominal current (A)	145	174
Frequency	50 / 60 Hz	
Frequency stability	$\pm 0,05\%$ in battery operation, $\pm 2\%$ in synchronism with mains ($\pm 5\%$ selectable)	
Crest factor (EN 60040-3)	3 : 1	
Overload (kVA)	110 % for 300', 125% for 10', 150% for 1'	
System	HT100	HT120
AC-AC efficiency	93% On-line, 98% Eco-Mode	
Operating altitude without derating	1000 m a.s.l.	
Noise at 1 m depending on load and temperature	60÷ 65 dBA	
Operating temperature	0 ÷ 40 °C	
Relative humidity	95% (non-condensing)	
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3	
Back feed protection	standard	
Protection degree	IP20	
Colour	RAL 7035	

(1) with approx 80 % load.

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
100	HT100 00 6pulse	0	–	1070x740x1400	650
100	HT100 00 12pulse	0	–	1420x740x1400	800
120	HT120 00 6pulse	0	–	1070x740x1400	750
120	HT120 00 12pulse	0	–	1420x740x1400	900

Battery Cabinets

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
100	36 Battery blocks A65	7	A65	860x740x1800	1030
100	36 Battery Blocks A80	10	A80	860x740x1800	1054
100	36 Battery Blocks A100	15	A100	860x740x1800	1342
100	36 Battery Blocks A120	20	A120	860x740x1800	1342
100	2x36 Battery Blocks A80	30	2xA80	2x(860x740x1800)	2108
100	2x36 Battery Blocks A100	40	2xA100	2x(860x740x1800)	2684
100	2x36 Battery Blocks A120	50	2xA120	2x(860x740x1800)	2684
100	3x36 Battery Blocks A100	60	3xA100	3x(860x740x1800)	4026
120	40 Battery Blocks A65	6	A65	860x740x1800	1120
120	40 Battery Blocks A80	10	A80	860x740x1800	1150
120	40 Battery Blocks A100	15	A100	860x740x1800	1470
120	40 Battery Blocks A120	20	A120	860x740x1800	1470
120	2x40 Battery Blocks A80	30	2xA80	2x(860x740x1800)	2300
120	2x40 Battery Blocks A100	40	2xA100	2x(860x740x1800)	2940
120	2x40 Battery Blocks A120	50	2xA120	2x(860x740x1800)	2940
120	3x40 Battery Blocks A100	60	3xA100	3x(860x740x1800)	4410

Note:
The back-up time relates to the UPS without internal batteries.

Isolation transformers for HT Series

Power (kVA)	Dimensions WxDxH (mm)	Weight (Kg)
100	640x740x1400	480
120	640x740x1400	500

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT160	HT200
Nominal voltage	400 V three-phase +N ±20 %	
Frequency	45 ÷ 65 Hz	
Power factor	0,92 with input filter	
Current harmonic distortion (THDi)	≤ 5% with input filter	
Soft start	0-100% in 10 seconds	
By-pass line	HT160	HT200
Nominal voltage	400 V three-phase + N	
Permitted voltage range	±15% (selectable from ±10% to ±25% from front panel)	
Nominal frequency	50 or 60 Hz	
Permitted frequency range	±2% (selectable from ±1% to ±5% from front panel)	
Overload capacity for 10ms	900%	1000%
By-pass	static and manual for maintenance	
Transfer time	0 ms (2-4ms in Eco Mode)	
Batteries	HT160	HT200
Number of battery cell (Pb)	240	
Nominal battery voltage	530 V	
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium	
Max. recharge current (A) (1)	80	100
Recharging voltage	variable according to the temperature (-0,5 Vx°C)	
Ripple voltage	<1%	
Output	HT160	HT200
Nominal power (kVA)	160	200
Active power (kW) at cosφ 0,8	128	160
Nominal voltage	380-400-415 V three-phase + N (selectable)	
Voltage stability	± 1% static, ± 5% dynamic	
Nominal current (A)	232	290
Frequency	50 or 60 Hz	
Frequency stability	± 0,05% in battery operation, ± 5% selectable, ± 2% in mains synchronism	
Crest factor (EN 60040-3)	3 : 1	
Overload (kVA)	110 % for 300", 125% for 10', 150% for 1'	
System	HT160	HT200
AC-AC efficiency	93% On-line, 98% Eco-Mode	
Operating altitude without derating	1000 m a.s.l.	
Noise at 1 m depending on load and temperature	60÷ 65 dBA	
Operating temperature	0 ÷ 40° C	
Relative humidity	95% (non-condensing)	
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3	
Back feed protection	standard	
Protection degree	IP20	
Colour	RAL 7035	

(1) With approx 80 % load.

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
160	HT160 00 6pulse	0	–	1070x740x1400	950
160	HT160 00 12pulse	0	–	1420x740x1400	1100
200	HT200 00 6pulse	0	–	1420x740x1800	1100
200	HT200 00 12pulse	0	–	1420x740x1800	1200

Battery Cabinets

Power (kVA)	Model	Back-up (min)	Batteries	Dimensions WxDxH (mm)	Weight (kg)
160	40 Battery Blocks A80	5	A80	860x740x1800	1150
160	40 Battery Blocks A100	10	A100	860x740x1800	1470
160	40 Battery Blocks A120	12	A120	860x740x1800	1470
160	2x80 Battery Blocks A80	15	2xA80	2x(860x740x1800)	2300
160	2x80 Battery Blocks A100	25	2xA100	2x(860x740x1800)	2940
160	2x80 Battery Blocks A120	30	2xA120	2x(860x740x1800)	2940
160	3x80 Battery Blocks A100	45	3xA100	3x860x740x1800	4410
200	40 Battery Blocks A100	5	A100	860x740x1800	1470
200	40 Battery Blocks A120	7	A120	860x740x1800	1470
200	2x80 Battery Blocks A80	12	A80	2x(860x740x1800)	2300
200	2x80 Battery Blocks A100	15	2xA100	2x(860x740x1800)	2940
200	2x80 Battery Blocks A120	20	2xA120	2x(860x740x1800)	2940
200	3x80 Battery Blocks A100	30	3xA100	3x860x740x1800	4410
200	3x80 Battery Blocks A120	40	3xA120	3x860x740x1800	4410

Note:
The back-up time relates to the UPS without internal batteries.

Isolation transformers for HT Series

Power (kVA)	Dimensions WxDxH (mm)	Weight (Kg)
160	640x740x1400	550
200	800x740x1800	650

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT250	HT300	HT400
Nominal voltage	400V three-phase $\pm 20\%$		
Frequency	45 ÷ 65 Hz		
Power factor	0,83 (0,9 with input filter)		
Current harmonic distortion (THDi)	8 % (4 % with input filter)		
Soft start	0-100% in 10"		
By-pass line	HT250	HT300	HT400
Nominal voltage	400 V three-phase +N		
Permitted voltage range	$\pm 15\%$ (selectable from $\pm 10\%$ to $\pm 25\%$ from front panel)		
Nominal frequency	50 or 60 Hz		
Permitted frequency range	$\pm 2\%$ (selectable from $\pm 1\%$ to $\pm 5\%$ from front panel)		
Overload capacity	1000% for 100 ms		
By-pass	static and manual for maintenance		
Batteries	HT250	HT300	HT400
Number of battery cell (Pb)	240		
Nominal battery voltage	530 V		
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium		
Max. recharge current (1)	120 A	140 A	140 A
Recharging voltage	variable according to the temperature ($-0,5 V \times ^\circ C$)		
Ripple voltage	<1%		
Output	HT250	HT300	HT400
Rated power (kVA)	250	300	400
Active power (kW) at $\cos\varphi 0,8$	200	240	320
Nominal voltage	380/400/415 V three-phase +N (selectable)		
Voltage stability	$\pm 1\%$ static, $\pm 5\%$ dynamic		
Nominal current (A)	362	434	579
Frequency	50 or 60 Hz		
Frequency stability	$\pm 0,05\%$ in battery operation, $\pm 2\%$ in synchronism with mains ($\pm 5\%$ selectable)		
Crest factor (EN 60040-3)	3 : 1		
Overload (kVA)	110% for 60', 125% for 10', 150% for 1'		
System	HT250	HT300	HT400
AC-AC efficiency	93%		
Operating altitude without derating	1000 m a.s.l.		
Noise at 1 m	70 dBA		
Operating temperature	0 ÷ 40 °C		
Relative humidity	95% (non-condensing)		
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3		
Back feed protection	standard		
Protection degree	IP20		
Colour	RAL 7035		

(1) With approx. 80% load

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Dimensions WxDxH (mm)	Weight (kg)
250	HT250 12pulse	0	1630x850x1900	2068
250	HT250 12pulse with 11 th harmonic filter	0	1630x850x1900	2163
300	HT300 12pulse	0	1630x850x1900	2175
300	HT300 12pulse with 11 th harmonic filter	0	1630x850x1900	2270
400	HT400 12pulse	0	1630x1000x1900	2589
400	HT400 12pulse with 11 th harmonic filter	0	1630x1000x1900	2752

Sentry HPS

Three-phase input
Three-phase output

Technical data



Input	HT500	HT600	HT800
Nominal voltage	400 V three-phase $\pm 20\%$		
Frequency	45 ÷ 65 Hz		
Power factor	0,83 (0,9 with input filter)		
Current harmonic distortion (THDi)	8 % (4 % with input filter)		
Soft start	0-100% in 10 seconds		
By-pass line	HT500	HT600	HT800
Nominal voltage	400V three-phase +N		
Permitted voltage range	$\pm 15\%$ (selectable from $\pm 10\%$ to $\pm 25\%$ from front panel)		
Nominal frequency	50 or 60 Hz		
Permitted frequency range	$\pm 2\%$ (selectable from $\pm 1\%$ to $\pm 5\%$ from front panel)		
Overload capacity	1000% for 100 ms		
By-pass	static and manual for maintenance		
Batteries	HT500	HT600	HT800
Number of battery cell (Pb)	240		
Nominal battery voltage	530 V		
Type	Sealed Lead Acid, Vented Lead Acid, Nickel Cadmium		
Max. recharge current (1) (A)	220	220	300
Recharging voltage	variable according to the temperature ($-0,5 V \times ^\circ C$)		
Ripple voltage	<1%		
Output	HT500	HT600	HT800
Nominal power	500	600	800
Active power (kW) at $\cos\varphi 0,8$	400	480	640
Nominal voltage	380-400-415 V three-phase +N (selectable)		
Voltage stability	$\pm 1\%$ static, $\pm 5\%$ dynamic		
Nominal current (A)	724	869	1159
Frequency	50 or 60 Hz		
Frequency stability	$\pm 0,05\%$ in battery operation, $\pm 2\%$ in synchronism with mains ($\pm 5\%$ selectable)		
Crest factor (EN 60040-3)	3 : 1		
Overload (kVA)	110 % for 60", 125% for 10', 150% for 1'		
System	HT500	HT600	HT800
AC-AC efficiency	93%		
Operating altitude without derating	1000 m a.s.l.		
Noise at 1 m depending on load and temperature	77 dBA		80 dBA
Operating temperature	0 ÷ 40° C		
Relative humidity	95% (non-condensing)		
Standards	safety EN 62040-1, EMC IEC 62040-2 and EN 50091-2, Directives 73/23, 93/68, 89/336 EEC, EN 62040-3		
Back feed protection	standard		
Protection degree	IP20		
Colour	RAL 7035		

(1) With approx. 80% load.

Sentry HPS

Three-phase input
Three-phase output

Power (kVA)	Model	Back-up (min)	Dimensions WxDxH (mm)	Weight (kg)
500	HT500 12pulse	0	3200x1000x1900	3512
500	HT500 12pulse with 11 th harmonic filter	0	3200x1000x1900	3575
600	HT600 12pulse	0	3200x1000x1900	4195
600	HT600 12pulse with 11 th harmonic filter	0	3200x1000x1900	5245
800	HT800 12pulse	0	4400x1000x1900	5245
800	HT800 12pulse with 11 th harmonic filter	0	4400x1000x1900	5408