

## SENTRY HPS HM 8÷100 kVA

### Uninterruptible Power Supply

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#### 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.



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#### 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:<br>

- periodic battery test,<br>
- protection against deep discharge,<br>
- 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.

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#### Advanced communication

Aros Watch&Save 3000 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 3000 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 troubleshooting 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.

#### 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.

#### 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).

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#### **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.

#### **Applications**

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

## SENTRY HPS HM 8÷100 kVA

### Uninterruptible Power Supply

INPUT	HM 8	HM 10	HM 15	HM 20	HM 30
Soft start	0 - 100% in 8 - 10"				
Current distortion	<8% with filter				8% with filter
Power factor	0.9 with filter				
Voltage	400 V + N				
Frequency	45÷65 Hz				
Voltage tolerance	± 20%				
OUTPUT	HM 8	HM 10	HM 15	HM 20	HM 30
Rated current	35 A	43 A	65 A	87 A	130 A
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1				
Waveform	Sinewave				
Frequency	50 - 60 Hz				
Phases number	1				
Rated power	8000 VA	10 KVA	15 KVA	20 KVA	30 KVA
Overload	110% for 300', 125% for 10', 150% for 1'				
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present				
Dynamic stability	± 5%				
Static stability	± 1%				
Active power at cosφ=0,8	6,4 kW	8 kW	12 kW	16 kW	24 kW
Rated voltage	220-230-240 V (selectable) single-phase				
BY PASS	HM 8	HM 10	HM 15	HM 20	HM 30
Rated frequency	50 or 60 Hz				
Rated voltage	230 V				
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)				
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)				
Bypass	Static and manual for maintenance				
Transfer time	0 ms				
BATTERIES	HM 8	HM 10	HM 15	HM 20	HM 30
Type	Maintenance-free sealed lead-acid				
Number of battery cell (Pb)	192				
Nominal battery voltage	430 V				
Ripple current	<1%				
Recharging voltage	Variable according to the temperature (-0,5 V x °C)				
SYSTEM	HM 8	HM 10	HM 15	HM 20	HM 30
Operating altitude	1000 m a.s.l.				
Colour	Light grey RAL 7035				
Remote controls	EPO and bypass				
Protection degree	IP20				

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AC/AC efficiency	> 91%				
Noise	48÷54 dBA at 1 m.		53÷60 dBA at 1 m.	65 dBA at 1 m.	
Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Operating temperature	0°C / + 40°C				
Relative humidity	95 % non condensing				
Back-feed protection	Standard				
Standards	Safety: EN 62040-1-1, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3				
OPTIONS	HM 8	HM 10	HM 15	HM 20	HM 30
Empty battery cabinets for longer runtimes	Yes				
Parallel kit	Yes				
Isolation transformer module (WxDxH)	555x720x1200 mm / 140 kg		555x720x1200 mm / 160 kg	555x720x1200 mm / 188 kg	
LCD-based remote control panel	Yes				
LED-based remote control panel	Yes				
Communication software “professional” version	Yes				
DATA	HM 8	HM 10	HM 15	HM 20	HM 30
Weight (kg)	From 190 to 460	From 200 to 470	From 220 to 470	From 240 to 505	290
Dimensions (WxDxH) mm	555x720x1200				
Back up time at full load (min)	From 0 to 50	From 0 to 40	From 0 to 20	From 0 to 15	0
Input phases	3				
Output phases	1				
Technology	On-line double conversion				
Installation	Tower				
Configuration	Parallel Unit				

## SENTRY HPS HM 8÷100 kVA

### Uninterruptible Power Supply

INPUT	HM 40	HM 60	HM 80	HM 100
Soft start	0 - 100% in 8 - 10"			
Current distorsion	8% with filter			5% with filter
Power factor	0.9 with filter	0.92 with filter		
Voltage	400 V + N			
Frequency	45÷65 Hz			
Voltage tolerance	± 20%			
OUTPUT	HM 40	HM 60	HM 80	HM 100
Rated current	174 A	261 A	348 A	434 A
Crest factor (Ipeak/Irms)	3 : 1			
Waveform	Sinewave			
Frequency	50 - 60 Hz			
Phases number	1			
Rated power	40 KVA	60 KVA	80 KVA	100 KVA
Overload	110% for 300', 125% for 10', 150% for 1'			
Frequency stability	± 0,05% on mains failure ± 2% (selectable from ± 1% to ± 5% from front panel) with mains supply present			
Dynamic stability	± 5%			
Static stability	± 1%			
Active power at cosφ=0,8	32 kW	48 kW	64 kW	80 kW
Rated voltage	220-230-240 V (selectable) single-phase			220-230-240 V (selectable) single-phase
BY PASS	HM 40	HM 60	HM 80	HM 100
Rated frequency	50 or 60 Hz			
Rated voltage	230 V			
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)			
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)			
Bypass	Static and manual for maintenance			
Transfer time	0 ms			
BATTERIES	HM 40	HM 60	HM 80	HM 100
Type	Maintenance-free sealed lead-acid			
Number of battery cell (Pb)	192			240
Nominal battery voltage	430 V			530 V
Ripple current	<1%			
Recharging voltage	Variable according to the temperature (-0,5 V x °C)			
SYSTEM	HM 40	HM 60	HM 80	HM 100
Operating altitude	1000 m a.s.l.			
Colour	Light grey RAL 7035			
Remote controls	EPO and bypass			

## SENTRY HPS HM 8÷100 kVA

### Uninterruptible Power Supply

Protection degree	IP20			
AC/AC efficiency	> 91%			
Noise	65 dBA at 1 m.			
Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)			
Operating temperature	0°C / + 40°C			
Relative humidity	95 % non condensing			
Back-feed protection	Standard			
Standards	Safety: EN 62040-1-2, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3			
OPTIONS	HM 40	HM 60	HM 80	HM 100
Empty battery cabinets for longer runtimes	Yes			
Parallel kit	Yes			
LCD-based remote control panel	Yes			
LED-based remote control panel	Yes			
Communication software “professional” version	Yes			
DATA	HM 40	HM 60	HM 80	HM 100
Weight (kg)	340	440	520	650
Dimensions (WxDxH) mm	555x720x1200	800x740x1400		1070x740x1400
Back up time at full load (min)	0			
Input phases	3			
Output phases	1			
Technology	On-line double conversion			
Installation	Tower			
Configuration	Parallel Unit			

#### OPZIONI HM 10

- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander
- UGS - UPS Group Synchronizer
- PSJ - Power System Joiner
- Profibus DP Gateway

#### OPZIONI HM 15

- Antiharmonic filter
- MultiCom 351



## SENTRY HPS HM 8÷100 kVA

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MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HM 20

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HM 8

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HM 30

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

## SENTRY HPS HM 8÷100 kVA

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#### OPZIONI HM 40

- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander
- UGS - UPS Group Synchronizer
- PSJ - Power System Joiner
- Profibus DP Gateway

#### OPZIONI HM 60

- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander
- UGS - UPS Group Synchronizer
- PSJ - Power System Joiner
- Profibus DP Gateway

#### OPZIONI HM 80

- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander
- UGS - UPS Group Synchronizer
- PSJ - Power System Joiner
- Profibus DP Gateway

#### OPZIONI HM 100

- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander

## SENTRY HPS HM 8÷100 kVA

### **Uninterruptible Power Supply**

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UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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#### Quality power supply

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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.



## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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#### 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:<br>

- periodic battery test,<br>
- protection against deep discharge,<br>
- 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.

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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#### Advanced communication

Aros Watch&Save 3000 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 3000 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 troubleshooting 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.

#### 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.

#### 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).

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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#### **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.

#### **Applications**

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

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

INPUT	HT 10	HT 15	HT 20	HT 30	HT 40
Soft start	0-100% in 10"				
Current distortion	8% with input filter				
Power factor	0,9 with input filter				
Accepted frequency	45÷60 Hz				
Voltage	400 V three-phase + N				
Voltage tolerance	± 20%				
OUTPUT	HT 10	HT 15	HT 20	HT 30	HT 40
Rated current	14 A	22 A	29 A	43 A	58 A
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1				
Waveform	Sinewave				
Frequency	50 or 60 Hz				
Phases number	3 + N				
Rated power	10 KVA	15 KVA	20 KVA	30 KVA	40 KVA
Overload	110% for 300', 125% for 10', 150% for 1'				
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)				
Dynamic stability	± 5%				
Static stability	± 1%				
Active power at cosφ 0,8	8 kW	12kW	16 kW	24 kW	32 kW
Rated voltage	380-400-415 V (selectable) three-phase + N				
BY PASS	HT 10	HT 15	HT 20	HT 30	HT 40
Rated frequency	50/60 Hz				
Rated voltage	400 V three-phase + N				
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)				
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)				
By-pass	Static and manual for maintenance				
BATTERIES	HT 10	HT 15	HT 20	HT 30	HT 40
Type	Maintenance-free sealed lead-acid				
Recharge current	0,2xC10				
Number of battery cell (Pb)	192				
Nominal battery voltage	430 V				
Ripple current	<1%				<1%
Recharging voltage	Variable according to the temperature (-0,5 V x °C)				
SYSTEM	HT 10	HT 15	HT 20	HT 30	HT 40
Colour	Light grey RAL 7035				
Remote controls	EPO and bypass				
Protection degree	IP20				
AC/AC efficiency	> 91%				
Noise	48÷54 dBA at 1 m		53÷60 dBA at 1 m		



## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Operating temperature	0 + 40 °C				
Relative humidity	95% non condensing				
Back-feed protection	Standard				
Standards	Safety: EN 62040-1-1, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3				
<b>OPTIONS</b>	<b>HT 10</b>	<b>HT 15</b>	<b>HT 20</b>	<b>HT 30</b>	<b>HT 40</b>
Battery cabinets for longer runtimes	Yes				
Empty battery cabinets for longer runtimes	Yes				
Parallel kit	Yes				
Optional filters	Yes				
Isolation transformer module (WxDxH)	555x720x1200 mm / 145 kg	555x720x1200 mm / 165 kg	555x720x1200 mm / 190 kg	555x720x1200 mm / 215 kg	555x720x1200 mm / 260 kg
LCD-based remote control panel	Yes				
LED-based remote control panel	Yes				
Communication software "professional" version	Yes				
<b>DATA</b>	<b>HT 10</b>	<b>HT 15</b>	<b>HT 20</b>	<b>HT 30</b>	<b>HT 40</b>
Weight (kg)	From 210 to 480	From 220 to 470	From 240 to 500	From 282 to 610	330
Dimensions (WxDxH) mm	555x720x1200				
Back up time at full load (min)	From 0 to 40	From 0 to 20	From 0 to 15	From 0 to 10	0
Input phases	3				
Output phases	3				
Technology	On-line double conversion				
Installation	Tower				
Configuration	Parallel Unit				

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

INPUT	HT 60	HT 80
Soft start	0-100% in 10"	
Current distortion	5% with input filter	
Power factor	0,92 with input filter	
Accepted frequency	45÷60 Hz	
Voltage	400 V three-phase + N	
Voltage tolerance	± 20%	
OUTPUT	HT 60	HT 80
Rated current	87 A	115 A
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1	
Waveform	Sinewave	
Frequency	50 or 60 Hz	
Phases number	3 + N	
Rated power	60 KVA	80 KVA
Overload	110% for 300', 125% for 10', 150% for 1'	
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)	
Dynamic stability	± 5%	
Static stability	± 1%	
Active power at cosφ=0,8	48 kW	64 kW
Rated voltage	380-400-415 V (selectable) three-phase + N	
BY PASS	HT 60	HT 80
Rated frequency	50/60 Hz	
Rated voltage	400 V three-phase + N	
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)	
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)	
By-pass	Static and manual for maintenance	
BATTERIES	HT 60	HT 80
Type	Maintenance-free sealed lead-acid	
Recharge current	35 A	
Number of battery cell (Pb)	192	
Nominal battery voltage	430 V	
Ripple current	<1%	
Recharging voltage	Variable according to the temperature (-0,5 V x °C)	
SYSTEM	HT 60	HT 80
Colour	Light grey RAL 7035	
Remote controls	EPO and bypass	
Protection degree	IP20	
AC/AC efficiency	92%	
Noise	53÷62 dBA at 1 m	

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)	
Operating temperature	0 + 40 °C	
Relative humidity	95% non condensing	
Back-feed protection	Standard	
Standards	Safety: EN 62040-1-1, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3	
<b>OPTIONS</b>	<b>HT 60</b>	<b>HT 80</b>
Battery cabinets for longer runtimes	Yes	
Empty battery cabinets for longer runtimes	Yes	
Parallel kit	Yes	
Optional filters	Yes	
Isolation transformer module (WxDxH)	640x740x1400 mm / 380 kg	640x740x1400 mm / 430 kg
LCD-based remote control panel	Yes	
LED-based remote control panel	Yes	
Communication software "professional" version	Yes	
<b>DATA</b>	<b>HT 60</b>	<b>HT 80</b>
Weight (kg)	450 (6p) 600 (12p)	555 (6p) 780 (12p)
Dimensions (WxDxH) mm	800x740x1400 (6p) 1070x740x1400 (12p)	
Back up time at full load (min)	0	
Input phases	3	
Output phases	3	
Technology	On-line double conversion	
Installation	Tower	
Configuration	Parallel Unit	

#### OPZIONI HT 60

- 12Pulse Rectifier
- Antiharmonic filter
- MultiCom 351
- MultiCom 301
- NetMan 101 Plus
- Multi I/O
- IRMS Multi-Switch
- AS/400 interface kit
- UPS remote contacts expander
- UGS - UPS Group Synchronizer
- PSJ - Power System Joiner
- Profibus DP Gateway

#### OPZIONI HT 80

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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12Pulse Rectifier  
Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 10

Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 15

Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 20

Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander

## SENTRY HPS HT 10-80kVA

### Uninterruptible Power Supply

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UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 30

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 40

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

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#### 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



## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

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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 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.

## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

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#### 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



## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

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#### 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 - 200 kVA

### Uninterruptible Power Supply

INPUT	MPS 100	MPS 120	MPS 160	MPS 200
Soft start	0 ÷ 100% in 120" configurable			
Current distortion	MPS: <25%THDI; MPS LH: <5%THDI; MPS Plus: <5%THDI; MPS Sinus: <3%THDI			
Accepted frequency	±2% (selectable from ±1% to ±5% from the front panel)			
Input frequency	45 ÷ 65 Hz			
Voltage	380 - 400 - 415 V three-phase			
Voltage tolerance	400 V ±20%			
OUTPUT	MPS 100	MPS 120	MPS 160	MPS 200
Voltage distortion with distorting load	< 3%			
Voltage distortion with linear load	< 1%			
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3:1			
Waveform	Sinusoidal			
Frequency	50/60 Hz configurable			
Phases number	3+N			
Rated power	100 KVA	120 KVA	160 KVA	200 KVA
Active power	80kW	96kW	128kW	160kW
Overload	110% for 60'; 125% for 10'; 150% for 1'			
Dynamic stability	± 5% in 10msec.			
Static stability	± 1%			
Rated voltage	380 - 400 - 415 V threephase + N			
BATTERIES	MPS 100	MPS 120	MPS 160	MPS 200
Type	Lead, open vase acid and VRLA AGM / GEL; NiCd			
Ripple current	<1%			
SYSTEM	MPS 100	MPS 120	MPS 160	MPS 200
Operating altitude	Up to 1000 m a.s.l. (1% derating each 100 m from 1000 m to 2000 m)			
Colour	Light grey RAL 7035			
Remote controls	E.P.O. and bypass			
Communication	no. 2 RS232 + remote contacts + 2 communication interface slots			
Protection degree	IP20			
Protections	Back Feed protection; separated By-pass line			
AC/AC efficiency	92,5% On-line; 98% Eco-Mode			
Noise	63 ÷ 68 dBA at 1 m			
Remote signals	Voltage free contacts			
Operating temperature	0 ÷ 40 °C			
Storing temperature	-20 °C ÷ -70°C (UPS); 20 °C ÷ 30 °C (Batteries)			
Relative humidity	<95% non condensing			
Cooling	Forced air			

## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

Standards	Directives EEC 73/23 - 93/68 - 89/336 Safety IEC EN 62040-1; EMC IEC EN 6204-2; Performance IEC EN 62040-3			
Classification as per IEC 6240-3	(voltage Frequency Independent) VFI - SS - 111			
<b>OPTIONS</b>	<b>MPS 100</b>	<b>MPS 120</b>	<b>MPS 160</b>	<b>MPS 200</b>
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			
<b>DATA</b>	<b>MPS 100</b>	<b>MPS 120</b>	<b>MPS 160</b>	<b>MPS 200</b>
Weight (kg)	600	650	750	800
Dimensions (WxDxH) mm	1900x800x800			
Back up time at full load (min)	0			
Input phases	3			
Output phases	3			
Technology	On-line double conversion			
Installation	Tower			
Configuration	Parallel Unit	Parallel		

#### OPZIONI MPS 120

MultiCom 351  
 MultiCom 352  
 MultiCom 301  
 MultiCom 302  
 NetMan 101 Plus  
 NetMan 102 Plus  
 Multi I/O  
 AS/400 interface kit  
 UGS - UPS Group Synchronizer  
 PSJ - Power System Joiner  
 Profibus DP Gateway

#### OPZIONI MPS 160

MultiCom 351  
 MultiCom 352  
 MultiCom 301  
 MultiCom 302  
 NetMan 101 Plus

## SENTRY MPS 100 - 200 kVA

### Uninterruptible Power Supply

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NetMan 102 Plus  
Multi I/O  
AS/400 interface kit  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI MPS 200

MultiCom 351  
MultiCom 352  
MultiCom 301  
MultiCom 302  
NetMan 101 Plus  
NetMan 102 Plus  
Multi I/O  
AS/400 interface kit  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI MPS 100

MultiCom 351  
MultiCom 352  
MultiCom 301  
MultiCom 302  
NetMan 101 Plus  
NetMan 102 Plus  
Multi I/O  
AS/400 interface kit  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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#### 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.



## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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#### 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:<br>

- periodic battery test,<br>
- protection against deep discharge,<br>
- 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.

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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#### Advanced communication

Aros Watch&Save 3000 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 3000 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 troubleshooting 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.

#### 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.

#### 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).

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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#### **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.

#### **Applications**

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



## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

INPUT	HT 100	HT 120	HT 160	HT 200	HT 250
Soft start	0 - 100% in 10"				
Current distorsion	5% with input filter		<5% with input filter		8% (4% with input filter)
Power factor	0.92 with input filter				0.83 (0,9 with input filter)
Voltage	400 V three-phase				
Frequency	45÷65 Hz				
Voltage tolerance	± 20%				
OUTPUT	HT 100	HT 120	HT 160	HT 200	HT 250
Rated current	145 A	174 A	232 A	290 A	362 A
Crest factor (Ipeak/Irms)	3 : 1				
Waveform	Sinewave				
Frequency	50 or 60 Hz				
Phases number	3 + N				
Rated power	100 KVA	120 KVA	160 KVA	200 KVA	250 KVA
Overload	110% for 300', 125% for 10', 150% for 1'				110% for 60', 125% for 10', 150% for 1'
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)				
Dynamic stability	± 5%				
Static stability	± 1%				
Active power at cosφ= 0,8	80 kW	96 kW	128 kW	160 kW	200 kW
Rated voltage	380-400-415 V (selectable) three-phase + N				
BY PASS	HT 100	HT 120	HT 160	HT 200	HT 250
Rated frequency	50 or 60 Hz				
Rated voltage	400 V three-phase +N				
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)				
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)				
By-pass	Static and manual for maintenance				
BATTERIES	HT 100	HT 120	HT 160	HT 200	HT 250
Type	Maintenance-free sealed lead-acid				
Recharge current	35 A		80 A	100 A	120 A
Number of battery cell (Pb)	216	240			
Nominal battery voltage	480 V	530 V			
Ripple current	<1%				<1%
Recharging voltage	Variable according to the temperature (-0,5 V x °C)				
SYSTEM	HT 100	HT 120	HT 160	HT 200	HT 250
Colour	Light grey RAL 7035				
Remote controls	EPO and bypass				
Protection degree	IP20				

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

AC/AC efficiency	93% On-line, 98% Eco-Mode				93%
Noise	60÷65 dBA at 1 m.				70 dBA at 1 m.
Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Operating temperature	0°C + 40°C				
Relative humidity	95% non condensing				
Standards	Safety: EN 62040-1-2, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3				
<b>OPTIONS</b>	<b>HT 100</b>	<b>HT 120</b>	<b>HT 160</b>	<b>HT 200</b>	<b>HT 250</b>
Battery cabinets for longer runtimes	Yes				
Empty battery cabinets for longer runtimes	Yes				
Parallel kit	Yes				
Optional filters	Yes				
Isolation transformer module (WxDxH)	640x740x1400 mm / 480 kg	640x740x1400 mm / 500 kg	640x740x1400 mm / 550 kg	800x740x1800 mm / 650 kg	
LCD-based remote control panel	Yes				
LED-based remote control panel	Yes				
Communication software "professional" version	Yes				
<b>DATA</b>	<b>HT 100</b>	<b>HT 120</b>	<b>HT 160</b>	<b>HT 200</b>	<b>HT 250</b>
Weight (kg)	650 (6p) 800 (12p)	750 (6p) 900 (12p)	950 (6p) 1100 (12p)	1100 (6p) 1200 (12p)	2068
Dimensions (WxDxH) mm	1070x740x1400 (6p) 1420x740x1400 (12p)			1420x740x1800 (6p) 1420x740x1800 (12p)	1630x850x1900
Back up time at full load (min)	0				
Input phases	3				
Output phases	3				
Technology	On-line double conversion				
Installation	Tower				
Configuration	Parallel Unit				

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

INPUT	HT 300	HT 400	HT 500	HT 600	HT 800
Soft start	0 - 100% in 10"				
Current distortion	8% (4% with input filter)				
Power factor	0.83 (0,9 with input filter)				
Voltage	400 V three-phase				
Frequency	45÷65 Hz				
Voltage tolerance	± 20%				
OUTPUT	HT 300	HT 400	HT 500	HT 600	HT 800
Rated current	434 A	579 A	724 A	869 A	1159 A
Crest factor (I <sub>peak</sub> /I <sub>rms</sub> )	3 : 1				
Waveform	Sinewave				
Frequency	50 or 60 Hz				
Phases number	3 + N				
Rated power	300 KVA	400 KVA	500 KVA	600 KVA	800 KVA
Overload	110% for 60', 125% for 10', 150% for 1'				
Frequency stability	± 0,05% in battery operation, ± 2% in synchronism with mains (± 5% selectable)				
Dynamic stability	± 5%				
Static stability	± 1%				
Active power at cosφ 0,8	240 kW	320 kW	400 kW	480 kW	640 kW
Rated voltage	380-400-415 V (selectable) three-phase + N				
BY PASS	HT 300	HT 400	HT 500	HT 600	HT 800
Rated frequency	50 or 60 Hz				
Rated voltage	400 V three-phase +N				
Frequency tolerance	± 2% (selectable from ± 1% to ± 5% from front panel)				
Voltage tolerance	± 15% (selectable from ± 10% to ± 25% from front panel)				
By-pass	Static and manual for maintenance				
BATTERIES	HT 300	HT 400	HT 500	HT 600	HT 800
Type	Maintenance-free sealed lead-acid				
Recharge current	140 A		220 A		300 A
Number of battery cell (Pb)	240				
Nominal battery voltage	530 V				
Ripple current	<1%				
Recharging voltage	Variable according to the temperature (-0,5 V x °C)				
SYSTEM	HT 300	HT 400	HT 500	HT 600	HT 800
Colour	Light grey RAL 7035				
Remote controls	EPO and bypass				
Protection degree	IP20				
AC/AC efficiency	93%				
Noise	70 dBA at 1 m.		77 dBA at 1 m.		80 dBA at 1 m.

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

Remote signals	Volt free contacts (mains power failure, UPS on bypass, end of discharge pre-alarm, output 12Vdc 80mA)				
Operating temperature	0°C + 40°C				
Relative humidity	95% non condensing				
Standards	Safety: EN 62040-1-2, Directives 73/23EC and 93/68/EC; EMC: IEC 62040-2; EN 50091-2, Directives 2004/108/EC and 89/336/EC; EN 62040-3				
OPTIONS	HT 300	HT 400	HT 500	HT 600	HT 800
Battery cabinets for longer runtimes	Yes				
Empty battery cabinets for longer runtimes	Yes				
Parallel kit	Yes				
Optional filters	Yes				
LCD-based remote control panel	Yes				
LED-based remote control panel	Yes				
Communication software “professional” version	Yes				
DATA	HT 300	HT 400	HT 500	HT 600	HT 800
Weight (kg)	2175	2589	3512	4195	5245
Dimensions (WxDxH) mm	1630x850x1900	1630x1000x1900	3200x1000x1900		4400x1000x1900
Back up time at full load (min)	0				
Input phases	3				
Output phases	3				
Technology	On-line double conversion				
Installation	Tower				
Configuration	Parallel Unit				

#### OPZIONI HT 100

12Pulse Rectifier  
 Antiharmonic filter  
 MultiCom 351  
 MultiCom 301  
 NetMan 101 Plus  
 Multi I/O  
 IRMS Multi-Switch  
 AS/400 interface kit  
 UPS remote contacts expander  
 UGS - UPS Group Synchronizer  
 PSJ - Power System Joiner  
 Profibus DP Gateway

#### OPZIONI HT 120

12Pulse Rectifier  
 Antiharmonic filter  
 MultiCom 351

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 160

12Pulse Rectifier  
Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 200

12Pulse Rectifier  
Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 250

Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 300

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 400

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 500

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

AS/400 interface kit

UPS remote contacts expander

UGS - UPS Group Synchronizer

PSJ - Power System Joiner

Profibus DP Gateway

#### OPZIONI HT 600

Antiharmonic filter

MultiCom 351

MultiCom 301

NetMan 101 Plus

Multi I/O

IRMS Multi-Switch

## SENTRY HPS HT 100 - 800kVA

### Uninterruptible Power Supply

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AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway

#### OPZIONI HT 800

Antiharmonic filter  
MultiCom 351  
MultiCom 301  
NetMan 101 Plus  
Multi I/O  
IRMS Multi-Switch  
AS/400 interface kit  
UPS remote contacts expander  
UGS - UPS Group Synchronizer  
PSJ - Power System Joiner  
Profibus DP Gateway