Technical Specifications

Sentinel TOWER

5000 VA/W 6000 VA/W SINGLE-PHASE
8000 VA/W 10000 VA/W SINGLE-PHASE/THREE-PHASE-SINGLE-PHASE

riello ups

CONTENTS

1. GENERAL DESCRIPTION

1.1. The Sentinel Tower UPS

The SENTINEL TOWER UPS is an online unit for tower installation.

The STW 8000 and STW 10000 models come in three-phase input and single phase output configuration.
The units are available with power ratings of 5000 VA 6000 VA 8000 VA 10000 VA, with an output power factor equal to 1.
The unit with power ratings of 6000 VA and 10000 VA are also available in relative ER (extended autonomy) versions, with a high-powered 6 A battery charger in place of the batteries.

The UPS is designed to be configured for various operating modes:

- **ON-LINE** is the operating mode which offers maximum load protection and the best output waveform quality (*)
- **ECO** is the operating mode which offers the least UPS consumption, or rather maximum efficiency (**)
- **SMART ACTIVE** is the operating mode which allows the UPS to decide whether to enable ON-LINE or ECO functionality, based on a statistic regarding the quality of the Power Supply network.
- **STAND-BY OFF [Mode 1]** is the operating mode in which the UPS functions as an emergency device. While power is present the UPS does not intervene. In the event of a blackout, the necessary power is provided by the UPS.

(*) The effective values (rms) of the voltage and the output frequency are constantly controlled by the microprocessor independently with respect to the waveform of the network voltage, thereby maintaining the output frequency synchronized with the network within a configurable interval.
Outside of this interval, the UPS eliminates its synchronism with the network and brings itself to its nominal frequency; under these conditions, the UPS cannot utilize the bypass.
(**) In order to optimize efficiency, the load is normally powered by the bypass in ECO mode. In the event that the network should move outside of the preset tolerances, the UPS will switch to ON LINE functionality. Once the network has moved back within the preset tolerances for at least five minutes, the UPS will go back to powering the load through the bypass.

The display is a new design, of a positive typology (white background with black lettering). For this reason, in order to avoid unnecessary power consumption, the display's backlighting must be turned off when it is not in use.

The unit is front and rear ventilated in order to allow for the battery box or other equipment to be positioned laterally.

The UPS unit's on board communications are comprised of: an RS232 serial port, a USB port (not for simultaneous use) and a slot for additional communication cards (with a second serial port independent from the first). The serial port also contains 3 opto-isolated outputs whose functionalities can be programmed using the UPS configuration software. Every version is equipped with a rear 3-pole connector which, by default, performs the R.E.P.O. and Remote ON functions.
The UPS unit's control card has an on board Flash Memory in order to allow for various information to be saved, including the unit's settings, backlog data, calibration data, etc.

The unit's operating mode can be set directly from the display. The firmware of the UPS unit can be reprogrammed on site using the appropriate programming card.

Inverter/bypass switching only takes place in the case of the inverter's final shutdown or in the event of continuous overloading.

The rear panel has a main switch (SWIN) which can be used to disconnect the entire UPS unit, for example, in cases of prolonged disuse. In addition to ensuring that the entire unit has been disconnected, this switch also serves an important energy saving function, for example, in structures where various small UPS units have been installed. It is also useful in the case of rack installation where the rear portion of the device cannot be accessed in order to disconnect the cables.

"Cold starts" (activation using the batteries) can even be performed at full charge.

The Sentinel Tower versions are equipped with Energy Share sockets, which can be setup using the UPS configuration software. An icon on the display indicates the status of the Energy Share sockets.
The speed of the fans is regulated by means of a dedicated variable continuous power supply in order to reduce noise levels and increase the reliability of the fans themselves.

All the models are equipped with backfeed relays and the relative functionality test.

The main features of the SENTINEL TOWER series include:

- VFI (On-line) / pure sinusoidal waveform during battery-powered functionality
- Output frequency with automatic selection (auto-sensing)
- Front/rear ventilation
- New LCD display
- UPS with configurable and customizable functions (i.e. by-pass thresholds, automatic testing, acoustic alarm, etc.) through proprietary configuration software
- Protected battery expansion connector
- Unlimited expandability of autonomy with dedicated or custom Battery Boxes
- Expansion slot for communication cards (i.e. second USB and RS232 Port, SNMP, ModBus, etc.)
- RS232 and USB communication ports
- Frequency converter mode with a derating of 30% DI versions excluded
- “Free Running” mode with a derating of 30% DI versions excluded
- Eco mode function with 98% efficiency

1.2. Standard Single-phase input Versions

- 5000 VA – 5000 W – PF 1 – 15 batteries, 12 V, 7 Ah – battery included and with battery expansion
- 6000 VA – 6000 W – PF 1 – 15 batteries, 12 V, 7 Ah – battery included and with battery expansion

1.3. Standard Three-phase input Versions

- 8000 VA – 8000 W – PF 1 – 20 batteries, 12 V, 7 Ah – battery included and with battery expansion
- 10000 VA – 10000 W – PF 1 – 20 batteries, 12 V, 9 Ah – battery included and with battery expansion

1.4. ER Versions for Extended Autonomy

- 6000 VA ER and 10000 VA ER
- Configurable 6 A battery charger
- Same features as the standard version

1.5. T13 Battery Box

The T13 BATTERY BOX is an accessory which is dedicated to this series of UPS units, or rather has the same dimensions and design to be perfectly matched with the various UPS power ratings.
The 180 Vdc version is equipped with 15 or 15+15 batteries 7 Ah and can only be used in conjunction with the 5000 VA and 6000 VA unit.
The 240 Vdc version can be equipped with 20 or 20+20 batteries 7 Ah and can be used in conjunction with the 8000 VA and 10000 VA units.

Battery Box

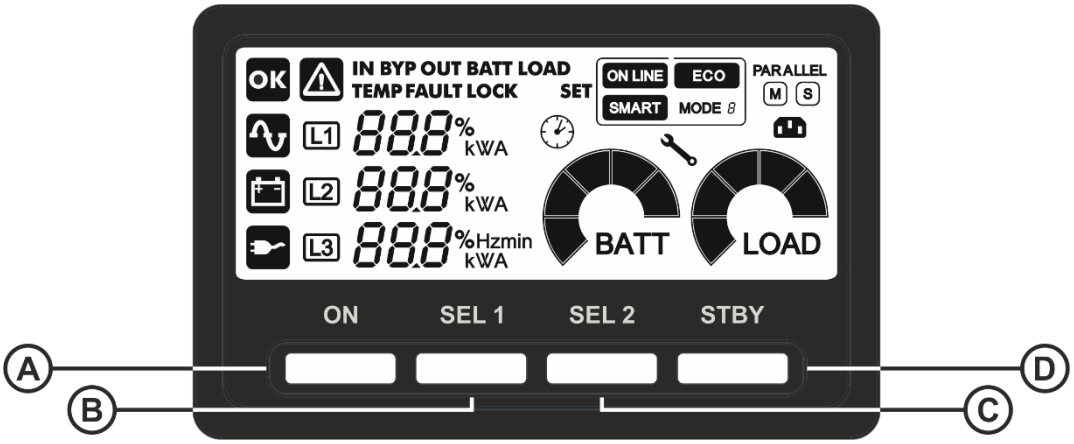
2. APPEARANCE AND ACCESSORIES

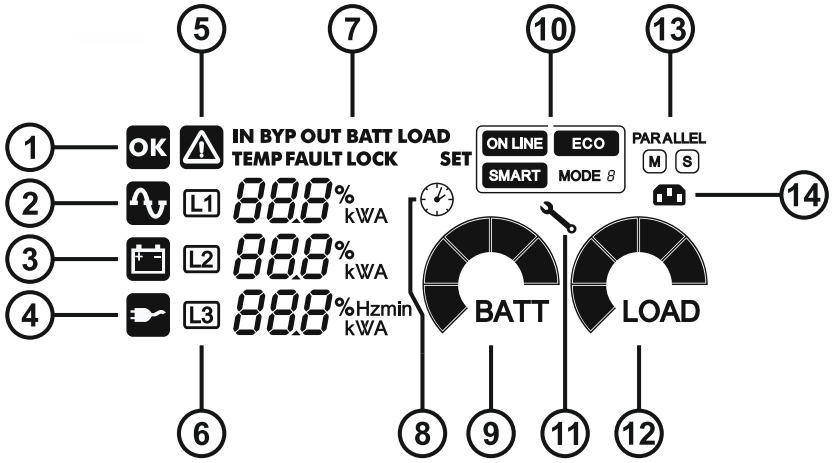
Appearance

- Chassis reference colour: RAL 7005
- Colour of the silver parts: RAL 9006

2.1. Display

The diagram below illustrates the layout of the display. It includes the Energy Share socket icon and the possibility of selecting additional operating modes, indicated with MODE 1…MODE 8.





A	"ON" button	6	Input phase indicator
B	"SEL1" button	7	Measurement display area
C	"SEL2" button	8	Timer
D	"STAND-BY" button	9	Battery charge indicator
1	Regular operation	10	Configuration area
2	Mains operation	11	Maintenance request
3	Battery operation	12	Load level indicator
4	Load powered by bypass	13	Parallel mode indicator
5	Stand-by / alarm	14	EnergyShare

2.2. Generic Accessories

MBB 100 A

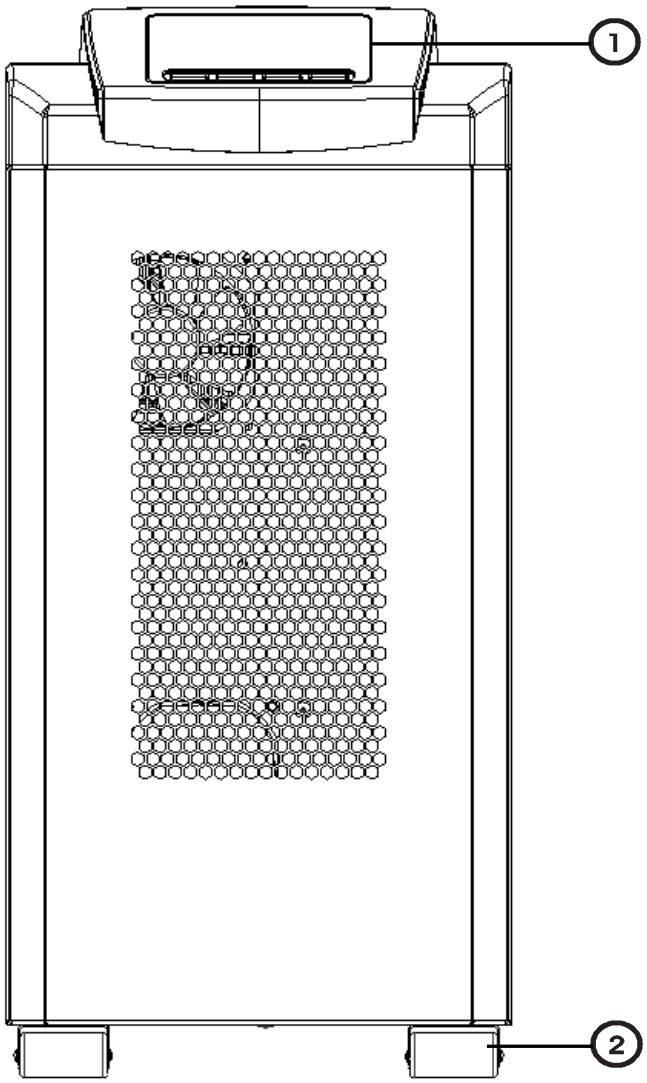
The UPS unit is compatible with the manual and automatic “MULTIPASS” external bypass, which even allows for hot swapping to be performed for the entire UPS unit.

OPTIONAL SLOT CARDS

The slot complies with our normal company standard and can therefore accept any of the accessory cards which are currently available for the other series, such as the various MultiCOM cards and the NetMan card.
Visit www.riello-ups.com for the updated list of compatible accessories.

2.3. Front View

UPS

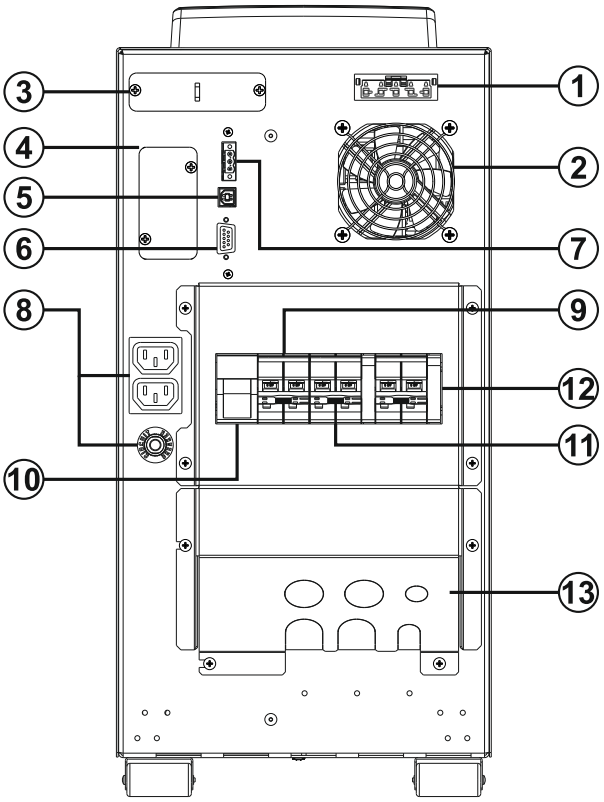


1 Display panel

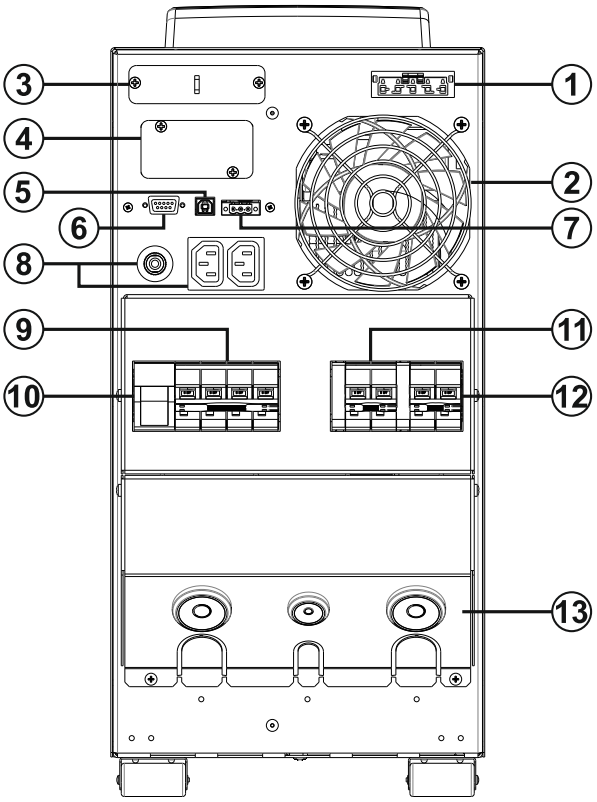
2 Castors

2.4. Rear Views

The rear views are illustrated below:



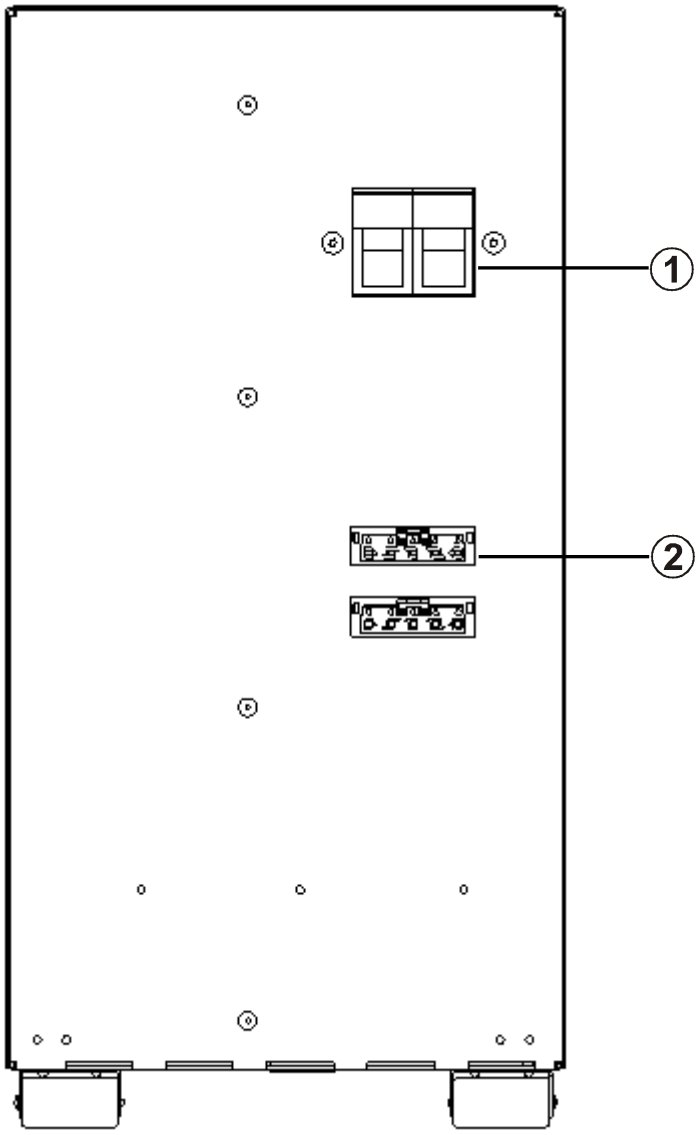
Models 5 – 6 kVA



Models 8 – 10 kVA

1	Battery expansion connector
2	Cooling fan
3	Parallel card (optional)
4	Slot for optional accessory communication cards and contacts cards
5	USB communication port
6	RS232 Communication port
7	Remote commands terminal
8	EnergyShare sockets (10A max) and overcurrent protection
9	Mains input switch (SWIN)
10	Internal battery fuse holder isolator (SWBATT)
11	Manual bypass switch (SWMB)
12	Output switch (SWOUT)
13	Terminals cover panel

Every Battery Box comes supplied with a wiring set and 2 expansion connectors for connection to the UPS unit or to a chain of Battery Boxes.



1 Internal battery fuse holder isolator

2 Battery expansion connector

3. CERTIFICATIONS

The UPS unit is certified according to EMI / EMC EN 62040-2 compatibility class C2 for emissions and class C2 for immunity.
The product is classified VFI-SS-111.

REFERENCE STANDARDS

Riello UPS operates a Quality Management System certified to ISO 9001/2000 (Certification No. CERT-04116-99-AQ-MIL-SINCERT) covering all company functions from design and manufacture to after sales services.

This certification is a guarantee for the customer with regard to the following aspects:

- use of quality materials;
- meticulousness in the production and testing phases;
- constant customer support.

In addition, the UPS meets the VFI-SS-111 classification (according to EN 62040-3) and complies with the following specific standards for UPS:

- **IEC EN 62040-1: Static uninterruptible power supplies (UPS): general and safety provisions;**
- **IEC EN 62040-2: Electromagnetic compatibility (EMC) requirements category C2;**
- **EN 62040-3: Methods of specification of performances and test provisions;**

The SENTINEL TOWER series also satisfies the following general standards, where applicable:

- **IEC 60529: Degree of protection provided by enclosures;**
- **IEC 60664: Insulation for low-voltage equipment;**
- **IEC 60755: General Requirements for Residual Current Operated Protective Devices;**
- **IEC 60950: General safety provisions for "Information Technology" equipment;**
- **IEC 61000-2-2: Electromagnetic compatibility immunity;**
- **IEC 61000-4-2: Electrostatic discharge immunity test;**
- **IEC 61000-4-3: Radio frequencies, electromagnetic immunity test;**
- **IEC 61000-4-4: Transitory overvoltage immunity test;**
- **IEC 61000-4-5: Overvoltage immunity test;**
- **IEC 61000-4-11: Voltage dips, short interruptions and voltage variations immunity test.**
- **IEC 61000-3-12: Harmonic current emissions (for equipment with rated current > 16 A ≤ 75).**

European Directives:

LVD directive 2014/35/EU
The LVD covers all health and safety risks of electrical equipment operating with a voltage between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current.

EMC directive 2014/30/EU
The EMC Directive **limits electromagnetic emissions from equipment**; The Directive also **governs the immunity of such equipment to interferences.**

4. TECHNICAL DATA TABLE

UPS MODELS		STW 5000	STW 6000 STW 6000 ER
INPUT			
Rated voltage		220 - 230 – 240 Vac (1W+N+PE)	
Maximum operating voltage	**[Vac]**	300	
Voltage range and frequency for no battery intervention	**[Vac]** **[Vac]** **[Vac]** **[Hz]**	Maximum: 276 Minimum: 184 ÷ 140 (from 100% to 50% load in linear mode) Return to network powered functionality: 190 Frequency: 40 ÷ 72	
Rated frequency	**[Hz]**	50 - 60	
Maximum current (1)	**[A]**	30	36
Rated current (2)	**[A]**	25	30
Power factor @ rated load and voltages		≥0.99	
Current distortion @ rated load and voltages		≤2%	

UPS MODELS		STW 5000	STW 6000 STW 6000 ER
BYPASS			
Accepted voltage range for switching	**[Vac]**	Minimum configurable threshold: 180 ÷ 200 Maximum configurable threshold: 250 ÷ 264	
Accepted frequency range for inverter synchronization		Selectable: 3% ÷ 10% Default: ±5 %	
Switching time	**[ms]**	Typical: 3	

UPS MODELS		STW 5000	STW 6000 STW 6000 ER
BATTERY			
Number of batteries / V	**[n°]x [V]**	15x12 V	
Standard capacity	**[Ah]**	7 Ah (a)	7 Ah (a)
Charging current	**[A]**	0.7÷0.8 A @ UPS on with maximum fan speed About 1 A with UPS in Stand-By	
Charging time (6)	**[h]** **[h]**	<4 h for 80% of the load <4-6 h for 90% of the load	
Expandability and rated voltage of the Battery Box		180 Vdc	
Charging current (only for ER versions)		N/A	6 A
Suggested Battery Box capacity (only for ER versions)		N/A	>40 Ah

(a) 12 V / 7 Ah batteries: ***CSB GP1272-F2*** or ***CSB GP1272(28W)*** or ***CSB UPS12360-7*** or ***YUASA NPW36-12***

UPS MODELS		STW 5000	STW 6000 STW 6000 ER
OUTPUT			
Rated voltage	**[Vac]**	Selectable: 220 / **230** / 240 ±1%	
Frequency (3)	**[Hz]**	Selectable: 50, 60 or **automatic detection**	
Rated power	**[kVA]**	5	6
Rated power	**[kW]**	5	6
Overload: 100% <load <110%		Bypass line available: activates the bypass after 10 min Bypass line unavailable: Continues to work on by-pass shutdown after 10 min	
Overload: 110% <load <130%		Bypass line available: activates the bypass after 1 min shut down after 1 h Bypass line unavailable: shutdown after 1 min	
Overload: 130% <load <150%		Bypass line available: activates the bypass after 5 s shutdown after 10 min Bypass line unavailable: shutdown after 5 s	
Overload: >150%		Bypass line available: activates the bypass instantaneously shutdown after 3 s (load > 150%) shutdown after 2 s (load > 200%) Bypass line unavailable: shutdown after 0.5 s	
Static variation		≤1%	
Dynamic variation @ linear load		≤1% EN62040-3 Class 1 performance-linear load	
Dynamic variation @ distorting load		6.6% in 5 ms 10% in 10 ms 13.6% in 20 ms	
Voltage distortion @ linear load		≤1%	
Voltage distortion @ distorting load		≤3%	
Current crest factor		≥3:1	
Inverter short-circuit (no by-pass available)		Icc= 2.5 In for 200 ms + 1.5 In x 300 ms [where In = Power [VA] / 220 V]	
Inverter short-circuit (by-pass available)		By-pass activated simultaneously	
By-pass SCR characteristics		I^2t_{max} = 4325 A^2S	

UPS MODELS		STW 5000	STW 6000 STW 6000 ER
MISCELLANEOUS			
Leakage current to ground	**[mA]**	<1.5	
AC/AC efficiency @ load=100%Res		94.65%	94.50%
AC/AC @ load=100%Dist		94,44%	94,46%
ECO mode efficiency @ rated load		98%	
DC/AC efficiency in BATTERY mode		92.60%	
Auto-consumption in ECO mode (batteries disconnected)		36 W	
Auto-consumption in ONLINE mode (batteries disconnected)		67 W	
Auto-consumption in Stand-by mode (batteries disconnected)		26 W	
Auto-consumption with on/off switch turned off		0.5 W	
Power loss with resistive nominal load	**[W]** **[BTU/h]** **[kcal/h]**	290 990 250	350 1195 300
Operating room temperature (4)	**[°C]**	0 – 40	
Humidity		5 - 95% without condensation	
Installation height		Operation: 1000 m at nominal power (-1% power for every 100 m above 1000 m) 4000 m maximum Transport: <15000 m	
Protection devices		excessive battery discharge – overcurrent – short circuit – over voltage – undervoltage – thermal	
Overvoltage protection		1 VDR x 300 Joules	
Noise levels		<48 dB(A) at 1 m	
Dimensions L x D x H (5)	**[mm]**	250x698x500	
Carton box dimensions L x D x H	**[mm]**	300x800x702	
Net weight	**[kg]**	62	63 ER version: 25
Gross weight	**[kg]**	68	69 ER version: 31

(1) @ rated load, minimum voltage of 184 Vac, battery charging

(2) @ rated load, rated voltage of 220 Vac, battery charging

(3) *Automatic detection:* If the network frequency is within ±5% of the selected value, the UPS is synchronized with the network. If the frequency is off tolerance or battery-powered functionality is enabled, the frequency is that which is selected ±0.1%. *Power derating:* The UPS unit derates the output power to 70% of the rated power if the UPS is operating as a frequency converter. This means that it is configured so the output is not synchronised with the input (without link) or else is configured with an option other than automatic detection.

(4) 20 - 25 °C for increased battery life.

(5) For the ER versions, the recharging time depends on battery type installed.

UPS MODELS		STW 8000	STW 10000 STW 10000 ER
INPUT			
Rated voltage [6]		380 - 400 - 415 Vac (3W+N+PE) / 220 - 230 - 240 Vac (1W+N+PE)	
Maximum operating voltage	**[Vac]**	519 / 300	
Voltage range and frequency for no battery intervention	**[Vac]** **[Vac]** **[Vac]** **[Hz]**	Maximum: 276 Minimum: 184 ÷ 140 (from 100% to 50% load in linear mode) Return to network powered functionality: 190 Frequency: 40 ÷ 72	
Rated frequency	**[Hz]**	50 - 60	
Maximum current [1][7]	**[A]**	49,5 16.5	60.9 20.2
Rated current [2][7]	**[A]**	40 13,3	49.6 16,5
Power factor @ rated load and voltages		≥0.99	
Current distortion @ rated load and voltages		≤2% (1W+N+PE) ≤25% (3W+N+PE)	

UPS MODELS		STW 8000	STW 10000 STW 10000 ER
BYPASS			
Accepted voltage range for switching	**[Vac]**	Minimum configurable threshold: 180 ÷ 200 Maximum configurable threshold: 250 ÷ 264	
Accepted frequency range for inverter synchronization		Selectable: 3% ÷ 10% Default: ±5 %	
Switching time	**[ms]**	Typical: 3	

UPS MODELS		STW 8000		STW 10000 STW 10000 ER	
BATTERY					
Number of batteries / V	**[n°]x [V]**	20x12 V			
Standard capacity	**[Ah]**	7 Ah (a)		9 Ah (b)	
Charging current	**[A]**	0.7÷0.8 A @ UPS on with maximum fan speed About 1 A with UPS in Stand-By			
Charging time [5]	**[h]** **[h]**	<4 h for 80% of the load <4-6 h for 90% of the load			
Expandability and rated voltage of the Battery Box		240 Vdc			
Charging current (only for ER versions)		N/A	N/A	N/A	6 A
Suggested Battery Box capacity (only for ER versions)		N/A	N/A	N/A	>40 Ah

(a) 12 V / 7 Ah batteries: ***CSB GP1272-F2*** or ***CSB GP1272(28W)*** or ***CSB UPS12360-7*** or ***YUASA NPW36-12***
(b) 12 V / 9 Ah batteries: ***CSB HR1234W-F2*** or ***YUASA NPW45-12***

UPS MODELS		STW 8000	STW 10000 STW 10000 ER
OUTPUT			
Rated voltage	**[Vac]**	Selectable: 220 / **230** / 240 ±1%	
Frequency (3)	**[Hz]**	Selectable: 50, 60 or **automatic detection**	
Rated power	**[kVA]**	8	10
Rated power	**[kW]**	8	10
Overload: 100% <load <110%		Bypass line available: activates the bypass after 10 min Bypass line unavailable: Continues to work on by-pass shutdown after 10 min	
Overload: 110% <load <133%		Bypass line available: activates the bypass after 1 min shut down after 1 h Bypass line unavailable: shutdown after 1 min	
Overload: 133% <load <150%		Bypass line available: activates the bypass after 5 s shutdown after 10 min Bypass line unavailable: shutdown after 5 s	
Overload: >150%		Bypass line available: activates the bypass instantaneously shutdown after 3 s (load > 150%) shutdown after 2 s (load > 200%) Bypass line unavailable: shutdown after 0.5 s	
Static variation		≤1%	
Dynamic variation @ linear load		≤1% EN62040-3 Class 1 performance-linear load	
Dynamic variation @ distorting load		6% in 5 ms 8.5% in 10 ms 12% in 20 ms	
Voltage distortion @ linear load		≤1%	
Voltage distortion @ distorting load		≤3%	
Current crest factor		≥3:1	
Inverter short-circuit (no by-pass available)		Icc= 2.5 In for 200 ms + 1.5 In x 300 ms [where In = Power [VA] / 220 V]	
Inverter short-circuit (by-pass available)		By-pass activated simultaneously	
By-pass SCR characteristics		I^2t_{max} = 11250 A^2S	

UPS MODELS		STW 8000	STW 10000 STW 10000 ER
MISCELLANEOUS			
Leakage current to ground	**[mA]**	<1.7	
AC/AC efficiency @ load=100%Res		95.00%	95.20%
AC/AC efficiency @ load=100%Dist		94.62%	94.72%
ECO mode efficiency @ rated load		98%	
DC/AC efficiency in BATTERY mode		93.60%	93.30%
Auto-consumption in ECO mode (batteries disconnected)		26 W	26 W
Auto-consumption in ONLINE mode (batteries disconnected)		84 W	84 W
Auto-consumption in Stand-by mode (batteries disconnected)		14 W	14 W
Auto-consumption with on/off switch turned off		0.5 W	0.33 W
Power loss with resistive nominal load	**[W]** **[BTU/h]** **[kcal/h]**	420 1430 360	560 1910 480
Operating room temperature [4]	**[°C]**	0 – 40	
Humidity		5 - 95% without condensation	
Installation height		Operation: 1000 m at nominal power (-1% power for every 100 m above 1000 m) 4000 m maximum Transport: <15000 m	
Protection devices		excessive battery discharge – overcurrent – short circuit – over voltage – undervoltage – thermal	
Overvoltage protection		1 VDR x 300 Joules	
Noise levels		<50 dB(A) at 1 m	
Dimensions W x D x H (5)	**[mm]**	250x698x500	
Carton box dimensions W x D x H	**[mm]**	300x800x702	
Net weight	**[kg]**	78	84 ER version: 28
Gross weight	**[kg]**	84	90 ER version: 34

(1) @ rated load, minimum voltage of 184 Vac, battery charging

(2) @ rated load, rated voltage of 220 Vac, battery charging

(3) *Automatic detection:* If the network frequency is within ±5% of the selected value, the UPS is synchronized with the network. If the frequency is off tolerance or battery-powered functionality is enabled, the frequency is that which is selected ±0.1%. *Power derating:* The UPS unit derates the output power to 70% of the rated power if the UPS is operating as a frequency converter. This means that it is configured so the output is not synchronised with the input (without link) or else is configured with an option other than automatic detection.

(4) 20 - 25 °C for increased battery life.

(5) For the ER versions, the recharging time depends on battery type installed.

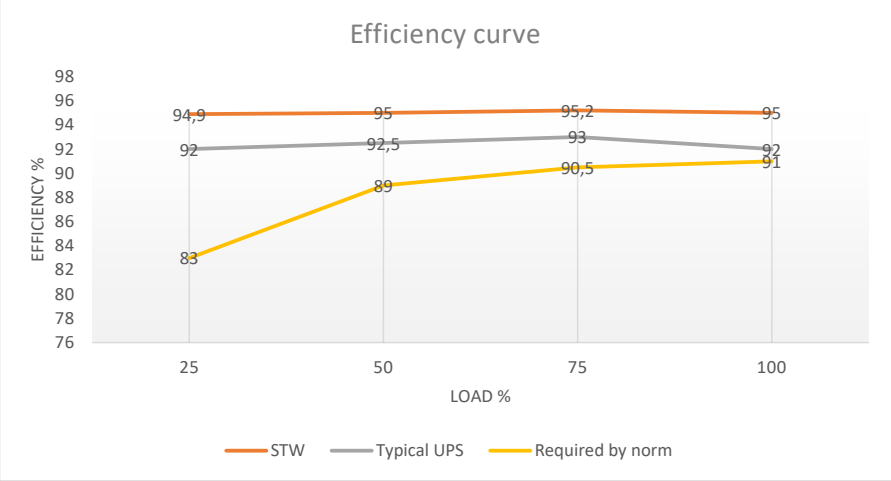
(6) three-phase and single-phase configuration

BATTERY BOX MODELS		BB STW 180-A3	BB STW 180-M1	BB 1320 180-B1	BB STW 240-A3	BB STW 240-M1	BB 1320 240-B1
Rated battery voltage	**[Vdc]**	180			240		
Rated battery capacity	**[Ah]**	7 (a)	7 + 7 (a)	40 (b)	7 (a)	7 + 7 (a)	40 (b)
Dimensions L x D x H	**[mm]**	250x698x500		400 x 815 x 1320	250x698x500		400 x 815 x 1320
Carton box dimensions L x D x H	**[mm]**	300x800x702			300x800x702		
Net weight	**[kg]**	57	87	285	67	107	350
Gross weight	**[kg]**	63	93	295	73	113	360

In the event that the UPS unit is connected to a Battery Box, the maximum active power will be NOT derated.

(a) 12 V / 7 Ah Batteries: ***CSB GP1272-F2*** or ***CSB GP1272(28W)*** or ***CSB UPS12360-7*** or ***YUASA NPW36-12***
(b) 12 V / 40 Ah Batteries: ***CSB GP12400***

5. OVERALL EFFICIENCY FOR THE STW SERIES

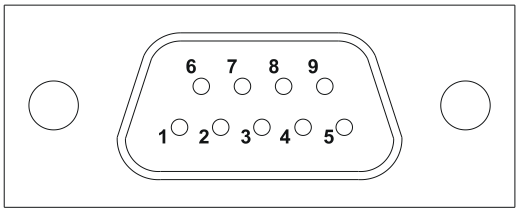


6. COMMUNICATION PORTS AND FIRMWARE

The UPS comes with a standard RS232 port with output signals, a USB Port and an expansion slot for connecting additional electronic boards.

RS232 Connector

RS232 CONNECTOR

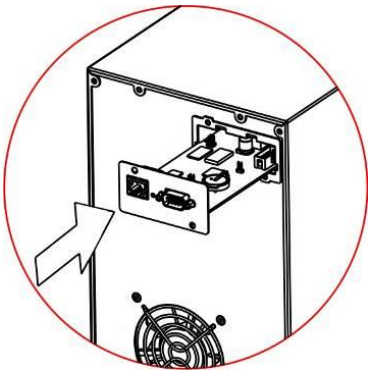


PIN #	SIGNAL	NOTES
1	Programmable output *: [default: UPS shut down]	(*) Opto-isolated contact max. +30 Vdc / 35 mA. These contacts can be associated with other events using the appropriate software For additional information about interfacing with the UPS unit, please refer to the appropriate manual
2	TXD	
3	RXD	
5	GND	
6	DC Power Supply (Imax = 20 mA)	
8	Programmable output *: [default: discharge pre-alarm]	
9	Programmable output *: [default: battery-powered functionality]	

Communication Slot

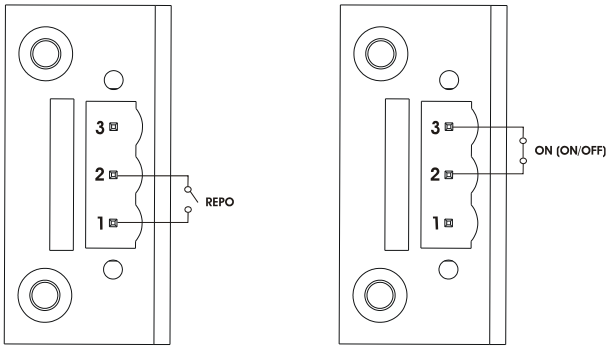
The UPS comes supplied with an expansion slot for optional communication cards (see the diagram on the right), which can allow the device to communicate using the most common communication standards.
Some examples include:

- Serial duplicator
- Ethernet network card with TCP/IP, HTTP and SNMP protocols
- JBUS / MODBUS protocol converter card
- PROFIBUS protocol converter card
- Card with isolated relay contacts



Please consult the website **www.riello-ups.com** to check the availability of additional accessories

Connections for REPO and remote ON/OFF functionality



The ON (ON/OFF) contact can be associated with other events using the appropriate software

6.1. Technical data for “pin 6” power through the RS232 port

The voltage provided by the serial port’s pin 6 power depends on the absorbed current.

- Vcc max: 10.8 Vdc without load
- Vcc min: 8 Vdc @ 25 mA

6.2. Firmware

The firmware of the UPS unit can be updated by inserting the appropriate programming card into the expansion Slot.

www.riello-ups.com

SPTSTWB1Y20IREN Ver. November 2020 **- Subject to change without notice and inaccuracies**