

Central Supply Systems



ONLINE



Tower



Energy Share



USB plug

**EN50171
COMPLIANT**



1:1 3-5 kVA
1-3:1 6-20 kVA
3:3 10-600 kVA

HIGHLIGHTS

- **Compliance with EN 50171 standard**
- **Dual input**
- **Protection against battery inversion**
- **High recharge current**
- **Continuous overload of 120%***
- **Enclosure compliant with EN 60598-1 standard**
- **Batteries with 10 year life**
- **Sentryum CSS 10 and 20 have been tested for 3 h autonomy by a 3rd party**

The CSS (Central Supply Systems) range by Riello UPS is designed in compliance with EN 50171 standard and is therefore the ideal solution for installation in buildings subject to fire safety regulations and in particular for the power supply of emergency lighting systems. In addition the CSS range by Riello UPS is also suitable for supplying power to other emergency systems such as automatic fire extinguishing systems, alarm systems and emergency detection systems, smoke extraction equipment and carbon monoxide detection devices as well as dedicated security systems in sensitive areas.

The use of centralised supply systems (CSS) ensures a significant reduction in system set-up and maintenance costs as

well as making periodical checks simpler and faster to perform.

DUAL INPUT

This important feature allows the mandatory scheduled checks on system operation and autonomy to be carried out with extreme ease and in complete safety by simply operating an input switch. This switch interrupts the power supply to the machine without interrupting the bypass line, which is able to support the load in the event of test failure.

HIGH RECHARGE CURRENT AND BATTERY CARE SYSTEM

Proper battery care is critical to ensure correct CSS operation in emergency conditions.

The Riello UPS battery care system consists of a series of features and capabilities designed to obtain the best performance, extend operating life and satisfy the recharge times imposed by the standard. The Riello UPS CSS range is designed in compliance with the EN 50171 standard and ensures high current levels are available for the batteries, allowing recharge of up to 80% of full autonomy within 12 hours. Riello UPS CSS are suitable for use with hermetically sealed lead-acid (VRLA), AGM and GEL, Open Vented and Nickel Cadmium batteries. Different charging methods are available depending on the battery type. The recharge voltage compensation function based on temperature prevents excessive battery charge and overheating. The deep discharge protection prevents reduced battery performance and battery damage.

HIGH OVERLOAD CAPACITY

As required by EN 50171 standard, the Riello UPS CSS range is designed and sized to support continuous overloads (with no time limits) up to 120%* of the nominal load.

PROTECTION AGAINST BATTERY INVERSION

Mandatory in line with EN 50171 standard, protection against battery inversion ensures the safety of those carrying out maintenance operations on the devices and at the same time prevents damage to the system in the event that the batteries are inadvertently connected with the wrong polarity.

CONTACT INTERFACE

All models are equipped with a contact interface configured in compliance with the EN 50171 standard.

GENERAL FEATURES

In addition to all the already mentioned features, the Riello UPS CSS units can reach up to 600 kVA (with CSS Master, available upon request) and they have the same reliability and flexibility characteristic of the UPS range they derive from. Moreover they also keep the compatibility with the main options and accessories.

Proven 3 Hours Autonomy Sentryum CSS 10 and 20 kVA have been tested for 3hrs autonomy in compliance with BS EN 50171 standard by an accredited 3rd party test laboratory in UK.

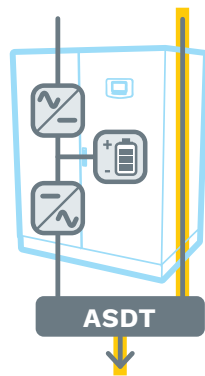


OPERATING MODE

Every Riello CSS model supports all the operating modes set out and described in EN 50171 standard, as below:

A Changeover mode

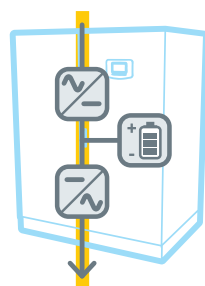
The load is supplied via the CSS bypass line (always supplied output "AS").



In the event of power supply failure the internal automatic device (ATSD) transfers the load to the inverter. The battery provides power to the inverter, ensuring the required runtime.

B Mode without interruption

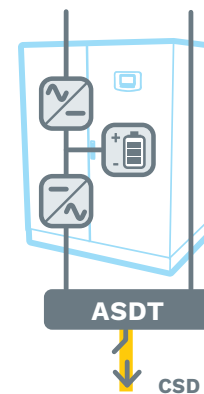
The load is supplied constantly by the CSS inverter (always supplied output "AS").



In the event of power supply failure the battery provides power to the inverter, ensuring the required runtime with no interruptions at all.

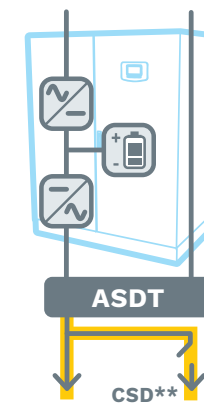
C Changeover mode with an additional control switching device for control switching of the load

In addition to that described in points A and B, the equipment includes one or more switching devices (CSD), which rely on the availability of the normal power supply. On power supply failure the CSD device connects the load that up until that moment was not supplied (emergency only output "EO").



D Changeover mode with an additional control switching device for partial switching of the load

Differently to that described in point C, part of the load is supplied without interruption whilst the remaining part is only supplied upon power supply failure thanks to the CSD device (always supplied + emergency only output "AS+EO").



* Referred to power according EN 50171.

**Requires EOS optional accessory

MODELS	CSS Sentinel Tower		CSS Sentryum				
	CAM 3	CAM 5	CBM 6 ^{BAT}	CBM 8 ^{BAT}	CBM 10 ^{BAT}	CBM 15 ^{BAT}	CBM 20 ^{BAT}
INPUT							
Rated voltage [V]	220 - 240 (1P+N+PE)		380 / 400 / 415 three-phase + N - 220 / 230 / 240 single-phase + N				
Rated frequency [Hz]	50 / 60		50 / 60				
Voltage tolerance [V]	230 ±20% @ full load		230 / 400 ±20% @ full load ¹				
Frequency tolerance [Hz]	40 - 72		40 - 72				
Power factor @ full load	≥ 0.99		0.99				
Current distortion [%]	≤ 6	≤ 2,5	≤ 4	≤ 3			
BYPASS							
Rated voltage [V]	220 / 230 / 240 single-phase + N		220 / 230 / 240 single-phase + N				
Number of phases	1 + N		1 + N				
Voltage tolerance (ph-N) [V]	180 / 264 (selectable in ECO Mode or SMART ACTIVE Mode)		from 180 (adjustable 180-200) to 264 (adjustable 250-264) referring to neutral				
Rated frequency [Hz]	50 or 60 (selectable)		50 or 60 (selectable)				
Frequency tolerance [%]	±5 (selectable)		±5% (selectable)				
Bypass overload	110% continuous, 130% for 60 min, 150% for 10 min		110% continuous, 125% for 60 min, 150% for 10 min				
OUTPUT							
Nominal power [kVA]	3	5	6	8	10	15	20
Active power [kW]	3	5	6	8	10	15	20
Power according EN 50171 [kVA/kW]	2,5	4	5	6	8	12	16
Power factor	1 up to 40 °C		1 up to 40 °C				
Number of phases	1 + N		1 + N				
Rated voltage [V]	220 / 230 / 240 single-phase + N (selectable)		220/ 230 / 240 single-phase + N (selectable)				
Rated frequency [Hz]	50 or 60		50 or 60				
Frequency stability on battery operation	0.01%		0.01%				
Voltage stability	±1%		±1%				
Dynamic stability	EN 62040-3 class performance 1 non-linear load		EN 62040-3 class performance 1 non-linear load				
Voltage distortion	< 1 % with linear linear load / ≤ 3 % with non-linear load		<1% with resistive linear load / ≤1.5% with non-linear load				
Overload	103% continuous, 110% 10 min, 133% 1 min, 150% 5 s		103% continuous, 110% 60 min, 125% 10 min, 150% 60 s				
Inverter overload capacity referred to power according to EN 50171 (@ 40 °C)	120% infinite		120% infinite				
BATTERIES							
Type	VRLA AGM maintenance-free lead based		VRLA AGM/GEL/NiCd/Li-ion				
Recharging method	One level		One level, Two level, Cyclic recharge (selectable)				
OVERALL SPECIFICATIONS							
Weight without batteries [kg]	24	25	102	103	105	107	
Dimensions (WxDxH) [mm]	250x698x500		440x840x1320				
Communications	LCD display - Slot for communications interface - USB port - R.E.P.O. - 1 Input command - Contact interface with 4 relays		UPS status led bar - Graphic touch screen display - 2 slots for communications interface USB - RS232 - Contact interface with 5x opto insulated Input and 4x Output relays				
Ambient temp. for the UPS	0 °C - +40 °C		0 °C - +40 °C				
Recommended temp. for battery life	+20 °C - +25 °C		+20 °C - +25 °C				
Range of relative humidity	5-95% non-condensing		5-95% non-condensing				
Colour	RAL 9005		RAL 7016				
Noise level at 1 m [dBA ±2] ECO Mode	<48		<40				
IP rating	IP20		IP20				
ECO Mode efficiency	up to 98%		up to 99%				
Standards	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC EN 62040-3 (Voltage Frequency Independent) VFI - SS - 111 - IEC EN 50171						
Moving the CPS	Castors / pallet jack						

¹ For wider tolerance conditions apply.

^{BAT} Also available with internal batteries.

MODELS	CSS Sentryum								
	CBT 10 ^{BAT}	CBT 15 ^{BAT}	CBT 20 ^{BAT}	CBT 30 ^{BAT}	CBT 40 ^{BAT}	CBT 60 ^{BAT}	CBT 80	CBT 100	CBT 120
INPUT									
Rated voltage [V]	380 / 400 / 415 three-phase + N								
Rated frequency [Hz]	50 / 60								
Voltage tolerance [V]	400 ±20% @ full load ¹								
Frequency tolerance [Hz]	40 - 72								
Power factor @ full load	0.99								
Current distortion [%]	≤3%								
BYPASS									
Rated voltage [V]	380 / 400 / 415 three-phase + N								
Number of phases	3 + N								
Voltage tolerance (ph-N) [V]	from 180 (adjustable 180-200) to 264 (adjustable 250-264) referring to neutral								
Rated frequency [Hz]	50 or 60 (selectable)								
Frequency tolerance [%]	±5% (selectable)								
Bypass overload	110% continuous, 125% for 60 min, 150% for 10 min								
OUTPUT									
Nominal power [kVA]	10	15	20	30	40	60	80	100	120
Active power [kW]	10	15	20	30	40	60	80	100	120
Power according EN 50171 [kVA/kW]	8	12	16	24	32	50	65	85	100
Power factor	1 up to 40 °C								
Number of phases	3 + N								
Rated voltage [V]	380 ¹ / 400 / 415 three-phase + N (selectable)								
Rated frequency [Hz]	50 or 60								
Frequency stability on battery operation	0.01%								
Voltage stability	±1%								
Dynamic stability	EN 62040-3 class performance 1 non-linear load								
Voltage distortion	<1% with resistive linear load / ≤1.5% with non-linear load								
Overload	103% continuous, 110% 60 min, 125% 10 min, 150% 60 sec								
Inverter overload capacity referred to power according to EN 50171 (@ 40 °C)	120% infinite								
BATTERIES									
Type	VRLA AGM/GEL/NiCd/Li-ion								
Recharging method	One level, Two level, Cyclic recharge (selectable)								
OVERALL SPECIFICATIONS									
Weight without batteries [kg]	103	105	107	112	116	130	172	180	198
Dimensions (WxDxH) [mm]	440x840x1320						500x830x1600		
Communications	UPS status led bar - Graphic touch screen display - 2 slots for communications interface USB - RS232 - Contact interface with 5x opto insulated Input and 4x Output relays								
Ambient temperature for the UPS	0 °C - +40 °C								
Recommended temperature for battery life	+20 °C - +25 °C								
Range of relative humidity	5-95% non-condensing								
Colour	RAL 7016								
Noise level at 1 m [dBA ±2]	<40			<50			<55		
ECO Mode									
IP rating	IP20								
ECO Mode efficiency	up to 99%								
Standards	European directives: LV 2014/35/EU low voltage Directive EMC 2014/30/EU electromagnetic compatibility Directive Standards: Safety IEC EN 62040-1; EMC IEC EN 62040-2; RoHS compliant Classification in accordance with IEC EN 62040-3 (Voltage Frequency Independent) VFI - SS - 111 - IEC EN 50171								
Moving the CPS	Castors / pallet jack								

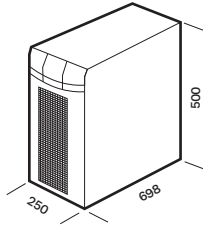
¹ For wider tolerance conditions apply.

^{BAT} Also available with internal batteries.

CSS SENTINEL TOWER

DIMENSIONS

CAM 3 - CAM 5



BATTERY CABINET

MODELS	BTC STW 180V BB L2 BTC STW 180V BB R4 BTC STW 240V AB A3	BTC 1320 180V BB L5 2F BTC 1320 240V AB B1 2F
Dimensions [mm]	<p>Technical drawing of the BTC STW battery cabinet showing dimensions: 250mm width, 698mm depth, and 500mm height.</p>	<p>Technical drawing of the BTC 1320 battery cabinet showing dimensions: 400mm width, 825mm depth, and 1320mm height.</p>

OPTIONS

SOFTWARE

PowerShield³
PowerNetGuard

ACCESSORIES

NETMAN 208
MULTICOM 302
MULTICOM 352
MULTICOM 372
MULTICOM 384
MULTICOM 411
MULTICOM 421
MULTI I/O
MULTIPANEL
Manual Bypass MBB 100 A 2P

PRODUCT ACCESSORIES

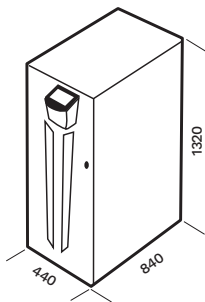
Battery temperature sensor
Isolation transformer
Parallel kit



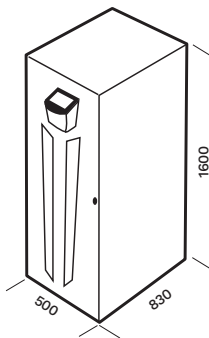
CSS SENTRYUM

DIMENSIONS

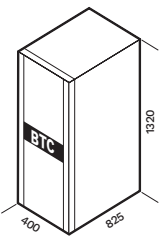
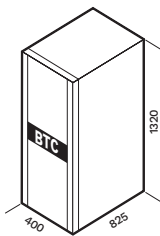
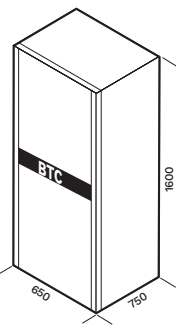
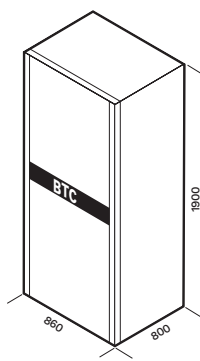
CBM 6 - CBM 8 - CBM 10 - CBM 15 - CBM 20
CBT 10 - CBT 15 - CBT 20 - CBT 30
CBT 40 - CBT 60



CBT 80 - CBT 100 - CBT 120



BATTERY CABINET

MODELS	BTC 1320 480V BB W4 3F BTC 1320 480V BB W5 3F BTC 1320 480V AB T5 3F	BTC 1320 480V BB W5 3F BTC 1320 480V AB T5 3F	BTC 1600 480V BB V5 3T BTC 1600 480V AB S5 3T	BTC 1900 480V BB V6 3T BTC 1900 480V BB V7 3T BTC 1900 480V BB V8 3T BTC 1900 480V BB V9 3T BTC 1900 480V AB V9 3T
UPS MODELS	CBM 6-20 kVA/kW ¹ CBT 10-40 kVA/kW ¹	CBM 6-20 kVA/kW ¹ CBT 10-60 kVA/kW ¹	CBM 6-20 kVA/kW ¹ CBT 10-80 kVA/kW ¹	CBM 15-20 kVA/KW ¹ CBT 15-120 kVA/KW ¹
Dimensions [mm]			 <i>Conditions apply on CBT 80 kVA/kW CPS model</i>	 <i>BTC 1900 480V BB V6 3T and BTC 1900 480V BB V7 3T: Conditions apply on CBT 120 kVA/kW CPS model</i>

¹ According with battery cabinet fuse associated.

OPTIONS

SOFTWARE
PowerShield ³
PowerNetGuard
ACCESSORIES
NETMAN 208
MULTICOM 302
MULTICOM 352
MULTICOM 384
MULTICOM 411

MULTICOM 421
MULTI I/O
MULTIPANEL
MBB 100 A 2P
MBB 125 A 4P
MBB 400 A 4P
PRODUCT ACCESSORIES
Battery temperature sensor
ER battery charger

MULTICOM 392
CPS with internal isolation transformer
IP rating IP21/IP31
Front door air filter
Fan failure alarm for 10-40 kVA
Seismic kit
Parallel kit
ENERGYMANAGER