Sentinel Dual SDU

DATACENTER · DIGITAL LIVING · E-MEDICAL · EMERGENCY · INDUSTRY · TRANSPORT

1:1 4 kVA
5-10 kVA/kW
3:1 8-10 kVA/kW

VFI TYPE
ONLINE

ToweRack

Energy Share

Hot swap battery

Plug & Play installation

USB plug

HIGHLIGHTS

- **Power factor 1 kW = kVA***
- **Parallelable up to 3 units**
- **Simplified Installation**
- **Operating mode selection**
- **High quality output voltage**
- **High battery reliability**

** SDU 4000 has 3600 W*

Sentinel Dual is the best solution for powering mission critical applications and electro-medical devices requiring maximum power reliability.
Flexibility of installation and use (digital display, user-replaceable battery set), as well as the many communication options available, makes the Sentinel Dual suitable for many different applications from IT to security. Up to 3 Sentinel Dual can be operated in parallel in either capacity or N+1 redundant configuration offering increased reliability for critical system. The Sentinel Dual can be installed as tower (floor standing) or rack, ideal for network and server rack applications.
The Sentinel Dual range is available in 4 kVA and 5-6-8-10 kVA/kW models with ON LINE double conversion technology (VFI): the load is powered continuously by the inverter which supplies a sinusoidal voltage, filtered and stabilised in terms of voltage, form and frequency. In addition, the input and output filters significantly increase the load's immunity to mains disturbances and lightning strikes.
Technology and performance: selectable ECO Mode and SMART ACTIVE Mode functions. Diagnostics: Standard digital display, RS232 and USB interfaces with PowerShield³ software downloadable, communications slot for connectivity accessories.

SIMPLIFIED INSTALLATION

- Can be installed on the floor (tower version) or in rack mount cabinets (rack version). The display panel can be rotated

1. PULL OUT THE DISPLAY PANEL	2. ROTATE THE DISPLAY PANEL AND INSERT IT INTO POSITION	3. ROTATE THE UPS BY 90º	4. INSTALL THE RACK SUPPORTS

(using the key supplied);
- Low noise (<48 dBA): can be installed in any environment thanks to its high frequency switching inverter and PWM load-dependent digitally controlled fan;
- External bypass option for maintenance with interruption-free switching;
- Operation guaranteed up to 40 °C (the components are designed for high temperatures and are thus subject to less stress at normal temperatures);
- Built-in IEC output sockets with thermal protection.

OPERATING MODE SELECTION

Functions can be programmed via software or manually via the front display panel.
- ON LINE: efficiency up to 95%;
- ECO Mode: to increase efficiency (up to to 98%), allows for the selection of LINE INTERACTIVE technology (VI) to power low priority loads from the mains supply;
- SMART ACTIVE: the UPS automatically decides upon the operating mode (VI or VFI) based on the quality of the mains power supply;
- STANDBY OFF: the UPS can be selected to function only when the mains power supply fails (emergency only mode);
- Frequency Converter operation (50 or 60 Hz).

HIGH QUALITY OUTPUT VOLTAGE
- Even with non-linear loads (IT loads with a crest factor of up to 3:1);
- High short circuit current on bypass;
- High overload capacity: 150% by inverter (even with mains failure);
- Filtered, stabilised and reliable voltage (double conversion ON LINE technology (VFI compliant with EN62040-3), with filters for the suppression of atmospheric disturbances;
- Power factor correction: UPS input power factor close to 1 and sinusoidal current uptake.

HIGH BATTERY RELIABILITY
- Automatic and manual battery test;
- Reduced ripple component (detrimental to the batteries) using a low ripple current discharge (LCRD) system;
- Batteries are user replaceable without switching off equipment and without interruption to the load (Hot Swap);
- Unlimited extendible runtime using matching Battery cabinets;
- The batteries do not cut in during mains failures of <20 ms (high hold up time) or when the input supply is between 184 V to 276 V.

EMERGENCY FUNCTION

This configuration ensures the operation of those emergency systems that require continuous, reliable and long-lasting power supply in the event of a mains power failure, such as emergency lighting, fire detection/extinguishing systems and alarms. When the mains power supply fails, the inverter begins powering the loads with a progressive start up (Soft Start) in order to prevent overload.

BATTERY OPTIMISATION

The wide input voltage range and a high hold-up time minimise battery usage and increase efficiency and battery life; for smaller power breaks, energy is drawn from a group of appropriately-sized capacitors.

RUNTIME EXPANDABILITY

Optional battery extension packs can be connected to increase UPS runtime. In addition the Sentinel Dual range includes ER versions with no internal batteries and more powerful battery chargers for longer runtimes.

ENERGYSHARE

10 A configurable IEC output sockets allow for runtime optimisation by programming the switching off of low priority loads on mains failure; alternatively, emergency loads that are normally not powered when mains is present can be activated.

OTHER FEATURES
- Selectable output voltage (220/230/240 V);
- Dual input supplies configuration (SDU 10000 DI and SDU 10000 DI ER);
- Auto-restart when mains power is restored (programmable via software);
- Bypass on: when the machine is switched off, it automatically goes into bypass and battery charge mode;
- Minimum load switch-off;
- Low battery warning;
- Start up delay;
- Total microprocessor and DSP control;
- Automatic bypass without interruption;
- Use of custom power modules;
- Status, measurements and alarms available on standard backlit display;
- UPS digital updating (flash memory upgradeable);
- Output sockets protected with resettable thermal switch;
- Backfeed protection standard: to prevent energy from being fed back to the network;
- Manual switching to bypass.

ADVANCED COMMUNICATIONS
- Advanced multi-platform communications for all operating systems and network environments: PowerShield³ monitoring and shutdown software for Windows operating systems 11, 10, 8, Server 2022, 2019, 2016 and previous versions, Windows Server Virtualization Hyper-V, macOS, Linux, Citrix XenServer and other Unix operating systems;
- Plug and play function;
- USB port;
- RS232 serial port;
- Slot for installation of communications boards.

UNITY POWER FACTOR*
- More power delivered;
- More real output power (W).

2-YEAR WARRANTY

OPTIONS

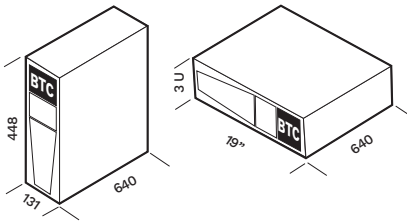
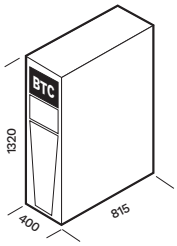
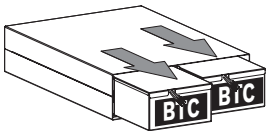
SOFTWARE
PowerShield[3]
PowerNetGuard

ACCESSORIES
NETMAN 208
MULTICOM 302
MULTICOM 352
MULTICOM 372
MULTICOM 384
MULTICOM 411
MULTICOM 421
MULTI I/O
MULTIPANEL

PRODUCT ACCESSORIES
Universal rails for installation in rack cabinets
Parallel card*
Manual bypass single-phase
Manual bypass three-phase
Modular Manual bypass single-phase*
Modular Manual bypass three-phase*

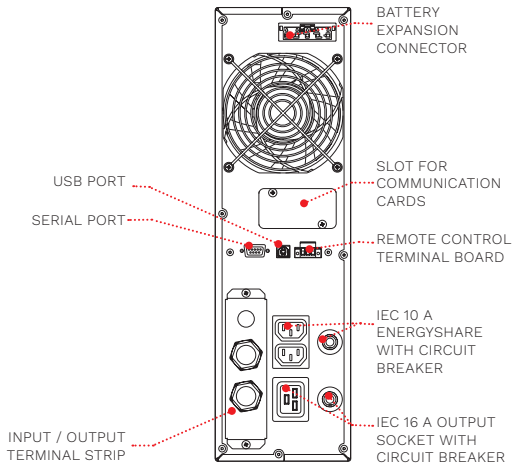
**not suitable for SDU 4000*

BATTERY CABINET

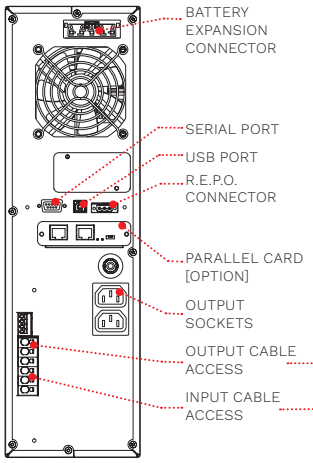
MODELS	BTC SDU 96V BB A5 BTC SDU 96V BB M4 BTC SDU 180V BB A3 BTC SDU 240V BB A3	BTC 1320 180V BB B1 2F BTC 1320 240V BB B1 2F	BTC SDU 240V BB A3 HS BTC SDU 240V BB A5 HS
Dimensions [mm]			

DETAILS

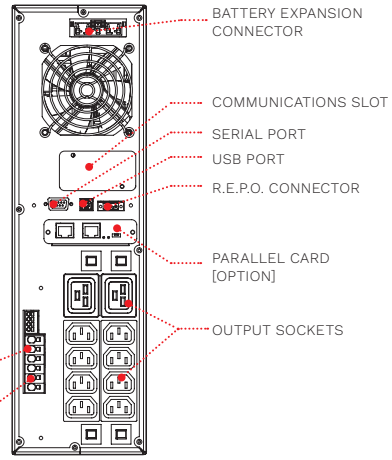
SDU 4000



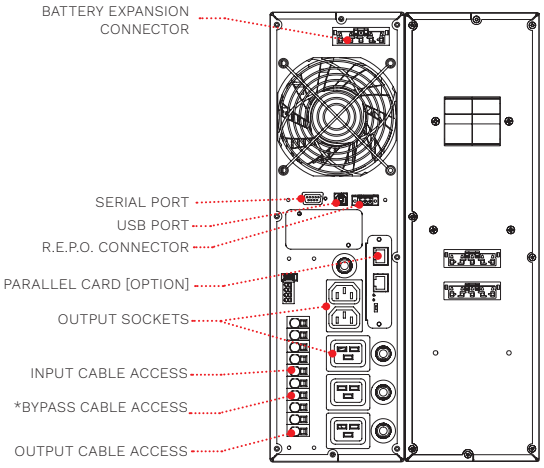
SDU 5000
SDU 6000



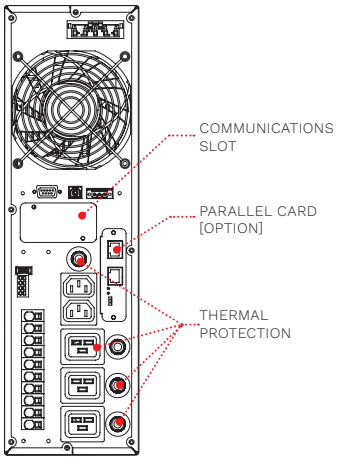
SDU 5000 PDIST
SDU 6000 PDIST
SDU 6000 ER*



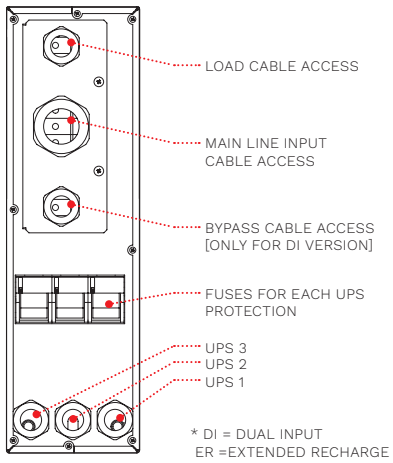
SDU 8000 - SDU 8000 TM
SDU 10000 - SDU 10000 TM
SDU 10000 DI*



SDU 10000 DI ER*



MODULAR MANUAL BYPASS



MODELS	SDU 4000	SDU 5000 SDU 5000 PDIST	SDU 6000 SDU 6000 PDIST	SDU 6000 ER	SDU 8000	SDU 10000	SDU 10000 DI	SDU 10000 DI ER	SDU 8000 TM	SDU 10000 TM
INPUT										
Dual Input	no						yes		no	
Rated voltage [V]	220 / 230 / 240								380 / 400 / 415 (3W+N+PE) 220 / 230 / 240 (1W+N+PE)	
Voltage tolerance [V]	230 ±20%								400 ±20% 230 ±20%	
Minimum voltage [V]	184								318 / 184	
Rated frequency [Hz]	50 / 60 ±5									
Power factor	>0.98									
Current distortion	≤2%									
BYPASS										
Voltage tolerance [V]	180 / 264 (selectable in ECO Mode or SMART ACTIVE Mode)									
Frequency tolerance	Selected frequency ±5% (selectable by user)									
Overload Times	<110% continuous, 130% for 1 h, 150% for 10 min, over 150% for 3 s									
OUTPUT										
Nominal power [VA]	4000	5000	6000	6000	8000	10000	10000	10000	8000	10000
Active power [W]	3600	5000	6000	6000	8000	10000	10000	10000	8000	10000
Rated voltage [V]	220 / 230 / 240 selectable									
Voltage distortion	<1% with linear load / <3% with non-linear load									
Frequency [Hz]	50 / 60 selectable									
Static variation	1.5%									
Dynamic variation	≤5% in 20 ms									
Waveform	Sinusoidal									
Crest factor [Ipeak/irms]	3:1									
BATTERIES										
Type	VRLA AGM maintenance-free lead based									
Recharge time	4-6 h									
OVERALL SPECIFICATIONS										
Net weight [kg]	38	45	46	20	19+53	20+62		21	19+53	20+62
Gross weight [kg]	43	53	54	28	83	93		25	83	93
Dimensions (WxDxH) [mm]	131x640x448 tower 19”x640x3U rack				2x (131x640x448) tower - 2x (19”x640x3U) rack ER version (131x640x448) tower - (19”x640x3U) rack					
Packaging dimensions (WxDxH) [mm]	800x600x(240+120)				2x (800x600x240) + 120 ER version 800x600x(240+120)					
Efficiency	up to 95% ON LINE Mode, 98% ECO Mode									
Protections	Overcurrent - short circuit - overvoltage - undervoltage - temperature - excessive low battery									
Parallel Operation	no	Optional Parallel Card								
Communications	USB / RS232 / slot for communications interface / R.E.P.O. + Input contact									
Input Connection	Terminal board									
Output sockets	Terminal board + 2x IEC 320 C13 (10 A) + 1x IEC 320 C19 (16 A)	Terminal board + 2x IEC 320 C19 (16 A) PDIST: Terminal board + 8x IEC 320 C13 (10 A) + 2x IEC 320 C19 (16 A)			Terminal board + 2x IEC 320 C13 (10 A) + 3x IEC 320 C19 (16 A)					
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 62040-3 (Voltage Frequency Indipendent) VFI - SS - 111									
Ambient temp. 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 9005									
Noise level at 1 m (ECO Mode) [dBA]	<48									
Standard equip. provided	USB cable; handles kit									

The information in this document is subject to change without notice. Riello UPS assumes no responsibility for any errors that may appear in this document.

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UPS Direct Ltd
Unit 6, Leaton Industrial Estate, Shrewsbury, SY4 3AP England
Call: +44 (0)3456 445 002 Email: sales@upsdirect.com Visit: www.upsdirect.com