



ELROND KOMPONENT AB

SuperCaps UPS

**The innovative UPS solutions
using super capacitors for energy backup.**

SUPERCAP-UPS are designed to provide total power protection for mission critical and sensitive loads, protecting them from mains disturbances and providing sufficient back-up power to ride-through breaks in the mains supply. SUPERCAP-UPS are a type of Uninterruptible Power Supply, using state-of-the art super-capacitors for energy storage, in place of a traditional battery set.

Their backup time is load dependent and sufficient to support loads until the mains supply is restored or a local standby power generator automatically starts.

At the heart of a Riello SUPERCAP-UPS is a highly sophisticated control system, managing the charge/discharge cycle of the super-capacitors and optimising their working life - which can be in excess of 1 million cycles. SUPERCAP-UPS are ideal for mission critical sites that are sensitive to short-duration breaks in power (lasting from several cycles to over one minute in duration).

Traditionally UPS have relied on batteries for their energy storage but with almost 87% of power interruptions lasting less than one second⁽¹⁾, SUPERCAP-UPS provide a far more energy efficient, cost-effective and space-saving approach for plant-rooms and datacentres. Most UPS systems are installed with a 5-10 minute battery set as standard to allow for a generator failure on start-up.

For a modern datacentre, healthcare or industrial application, a traditional battery installation provides insufficient time to solve some of the most common start-up failure problems - fuel blockage or faulty starter-battery. Most datacentres require between 3-6 hours to transfer operations to a mirror site or to shutdown. HealthCare installations are reliant on secure power to guarantee life-saving services and industrial automated manufacturing processes require uninterrupted power to prevent batch or equipment faults. For all three types of critical installation a well maintained generator, with a short-duration back-up UPS system provides the most effective and efficient power solution.

SUPERCAP-UPS are extremely eco-friendly and offer a number of advantages over traditional battery enabled UPS systems. SUPERCAP-UPS do not have a battery set and therefore savings can be made in terms of battery installation, monitoring, maintenance, replacement and recycling. Compared to the traditional 5-7 years of a battery set SUPERCAP-UPS have a theoretically infinite life-cycle and also offer a smaller footprint per kVA size.



Benefits

- **Long life.** Due to the capacitor's high number of charge-discharge cycles (millions or more compared to 200 to 1000 for most commercially available rechargeable batteries) it will last for the entire lifetime of most devices, which makes the device environmentally friendly
- **Low cost per cycle**
- **Good reversibility**
- **Very high rates of charge and discharge.**
- **Extremely low internal resistance (ESR) and consequent high cycle efficiency (95% or more) and extremely low heating levels**
- **High output power**

Applications

- **Datacentres:** with critical loads require mains power conditioning and back-up power during the start-up of a standby power generator
- **Healthcare:** where sensitive loads require back-up power during the start-up of a standby power generator
- **Industrial:** where relatively short back-up times are required to guarantee manufacturing process consistency

(1) Electric Power Research Institute study

Technical data



SENTINELPROSC

MODELS	SEP 1000 SC	SEP 1500 SC	SEP 3000 SC	
INPUT	Nominal voltage	220-230-240 Vac 1ph		
	Nominal frequency	50/60 Hz		
	Power factor	> 0.99		
	Current distortion	≤7%		
OUTPUT	Nominal power (VA)	1000	1500	3000
	Active power (W)	800	1200	2400
	Nominal Voltage (V)	220-230-240 Vac 1ph		
BACKUP	Type of backup system	Super-capacitors		
	Recharging time	10-60 seconds		
DATA	Net weight (kg)	8,1	9,2	17,6
	Dimensions (HxWxD) (mm)	158 X 422 X 235		190 x 446 x 333



SENTINELPOWERSC

MODELS	SPW 6000 SC	SPT 8000 SC	SPT 10000 SC	
INPUT	Nominal voltage	220-230-240 Vac 1ph	220-230-240 Vac 1ph o 380-400-415 Vac 3ph	
	Nominal frequency	50/60 Hz		
	Power factor	> 0.99		
	Current distortion	≤5%		
OUTPUT	Nominal power (VA)	6000	8000	10000
	Active power (W)	4800	6400	8000
	Nominal Voltage (V)	220-230-240 Vac 1ph		
BACKUP	Type of backup system	Super-capacitors		
	Recharging time	10-60 seconds		
DATA	Net weight (kg)	61	62	64
	Dimensions (HxWxD) (mm)	282 x 785 x 615		



MULTISENTRYSC

MODELS	MST 10 SC	MST 12 SC	MST 15 SC	MST 20 SC	MST 30 SC	MST 40 SC	MST 60 SC	MST 80 SC	MST 100 SC	MST 120 SC	
INPUT	220-230-240 Vac 1ph / 380-400-415 Vac 3ph										
	50/60 Hz										
	0.99										
	≤ 3%										
OUTPUT	Nominal power (kVA)	10	12	15	20	30	40	60	80	100	120
	Active power (kW)	9	10.8	13.5	18	27	36	54	72	90	108
	Nominal Voltage (V)	220-230-240 Vac 1ph / 380-400-415 Vac 3ph									
BACKUP	Type of backup system	Super-capacitors									
	Recharging time	10-60 seconds									
DATA	Net weight (kg)	123	128	133	138	171	163	190*	200*	220*	380*
	Dimensions (HxWxD) (mm)	440 x 850 x 1320				440 x 850 x 1320			500 x 850 x 1600		750 x 855 x 1900

* Supercaps not included in UPS cabinet

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