

SC1

**SINGLE PHASE AND THREE TO SINGLE PHASE
1KVA : 20kVA**

CPSS Central Power Supply System
EN 50171
TECHNICAL SPECIFICATION



120% CONTINUOUS OVERLOAD AVAILABLE

PROTECTION AGAINST INVERSION OF POLARITY

HIGH CHARGING CURRENT

HIGH MECHANICAL PROTECTION CASE

10 YEARS BATTERY LIFE SPAN

80% AUTONOMY RESTORE WITHIN 12 HOURS AFTER DEEP DISCHARGE

Centralized ON-LINE Emergency power supply - CPSS SC1 Series – EN50171



The SC1 series is available in ratings from 1 kVA to 20 kVA; with its technology and its versatility is suitable to supply any electrical system

- Safety lighting.
- Electrical circuits of automatic fire-fighting systems.
- Pager systems and safety signaling system.
- Fume extraction equipment.
- Signalling systems for the presence of carbon monoxide.
- Specific safety systems for buildings, for example, in high-risk areas.

Features

Double Conversion Emergency power supply

A double conversion continuity system that will provide perfect voltage for complete high-quality protection for your sensitive devices

Output power factor ϕ 0.8 (0.9 for single-phase models up to 10kVA)

Comparing this line to power supplies in the current market competition, we can state that SC1's have the best Power Factor output 0.8 (0.9 for single-phase models up to 10kVA). They offer high performance and great efficiency for critical applications

Large input RANGE (110 V-300 V)

SC1 can supply stable and clean current to the connected equipment even in very critical and unstable environments.

Emergency Power Off (EPO) function

This function is used to shut off the power supply by the personnel in case of fire and other emergency situations.

Simultaneous operation of SNMP + USB + RS-232

This feature allows you to use communication from all USB, RS-232 and SNMP ports simultaneously.

Battery charger designed to optimize battery PERFORMANCE

The SC1 1-3k series is equipped with a 2-step battery charger to ensure maximum autonomy. It also adjusts the charging voltage according to the working temperature. All these measures have been designed to prolong the life of the batteries mounted in the SC1 over time

Centralized ON-LINE Emergency power supply - CPSS SC1 Series – EN50171

The SCO 6-20K are equipped with an extensible 3-step battery charger to optimize battery performance. This feature extends the autonomy and optimizes the charging time of the battery, also the extension of the charger is essential for charging higher power batteries used to get long autonomy

Manual BY-PASS for maintenance

The manual bypass ensures the lack of voltages inside the SCO during maintenance operations, ensuring power to the connected equipment.

Power Factor Correction on all stages for TRI/SINGLE phase 10KVA to 20KVA

PFC improves the quality of the absorbed current and increases the energy efficiency, with the consequent economic savings

Communication

Software for all operating systems and network environments, supervision platform and shutdown ViewPower/ViewPowerPro

12 months Warranty



Main Features SCO EN 50171

Continuous overload of 120%

Polarity inversion protection

High charging current

Casing with high mechanical protection

10 years battery life

Autonomy restore to 80% within 12 hours after deep discharge



Technical data and images may be subject to a change without notice

Operation modes

The standard CEI EN 50171 foresees different types of operation; In practical cases, 4 main operating modes are used, hereinafter described.

Operation with switching (always active)

In This situation the load is normally fed through the static bypass of the system (Fig. 1). When the power supply network is missing, the SCO system transfers the load supply from bypass to inverter, with a maximum switching time (imposed by the standard) of 0.5 seconds (Fig. 2). The energy required to feed the load is provided by the batteries

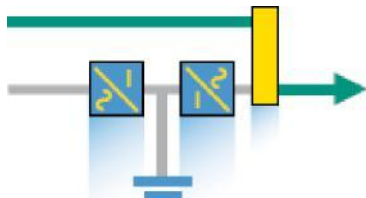


Fig. 1 Situation with net input present

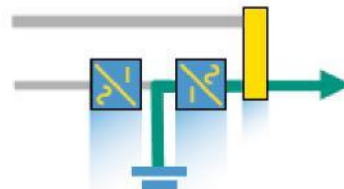


Fig. 2 Situation with no input network

Operation without interruption (always active)

In this mode the load is permanently powered by the SCO system through the inverter (Fig. 3). The inverter, through the energy supplied by the batteries, is always used to power the load (Fig. 4). In the transition from the network condition present input to the one of the network absent input there is no power interruption to the load, hence the mode name "without interruption".

In this mode, the static bypass of the SCO system works only in the event of a failure of the SCO itself, or is used, together with any manual bypass, for system maintenance purposes.

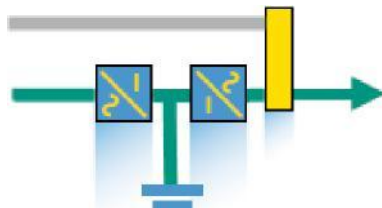


Fig. 3 Situation with net input present

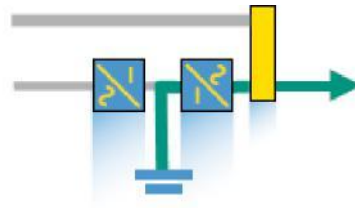
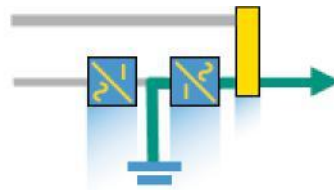
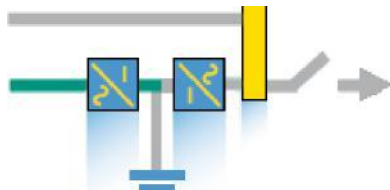


Fig. 4 Situation with no input network

NON-Permanent switching operation (emergency only)

This mode is used in cases where the safety systems require power only in case of black-out, for example safety lighting systems operating only in emergencies (the so-called S.E. plants Emergency only).

Under network conditions the load is not powered (FIG5). When the network fails the SCO device provides power to the safety devices connected to it, even in this case within a time of 0.5 seconds from the network failure (Fig. 6)



Switching operation Permanent mix (always active)/NON-Permanent (emergency only)

This mode represents the combination of modes 1 and 3 so that you can permanently feed a load (even if there is no network) and at the same time give power to another only in the absence of a network. When the network is present, the "emergency only" load is not powered

SC1 1k/2k/3k Single-phase ONLINE double Conversion

Model		SC101K	SC102K	SC103K
Rated Power		1000 VA / 1000 W	2.000 VA / 2.000 W	3.000 VA / 3.000 W
Power to EN 50171		833 VA / 833 W	1.666 VA / 1.666 W	2.500 VA / 2.500 W
INPUT				
Voltage Ranges	Low line switching	160 VAC/140 VAC/120 VAC/110 VAC ± 5% (Network Base in percentage 100%-80%/80%-70%/70-60%/60%-0)		
	Low line return	175 VAC ± 5		
	High Line switching	300 VAC ± 5%		
	High return line	290 VAC ± 5%		
Frequency Range		40 Hz ~ 70 Hz		
No. of phases		Single Phase with neutral		
Power factor P. F.		≥ 0.95		
OUTPUT				
Voltage tolerance (Batt. Mode)		± 3%		
Frequency (Sync Range)		47.5 Hz ~ 52.5 Hz or 57Hz ~ 63 Hz		
Frequency (Range Batt. Mode)		50 Hz ± 0.25 Hz or 60hz ± 0.3 Hz		
Crest Factor		3:1		
Harmonic distortion		≤ 3% THD (linear load) ≤ 6% THD (non-linear load)	≤ 4% THD (linear load) ≤ 7% THD (non-linear load)	
Intervention time	From line to battery	Zero		
	from inverter to Bypass	4 MS (typical)		
Waveform (Battery Mode)		Pure sine wave		
EFFICIENCY				
With network present		≥ 89%	≥ 91%	
battery operation		≥ 88%	≥ 90%	
BATTERY				
Battery type		See tables		
Battery quantity		See Tables		
Typical autonomy		See table	See table	See table
Charging current (max.)		Default 2.0 A max 12 A settable		
Charging voltage		41.0 VDC ± 1%	82.1 VDC ± 1%	
SIGNALS				
LCD Panel		Power supply status, load level, battery level, input/output voltage, battery discharge time, fault condition		
ALARMS				
Battery operation		Sound every 4 seconds		
Low battery		Sound every second		
Overload		Double sound every second		
Failure		Continuous sound		
SIZE AND WEIGHT				
Tower format	Dimensions, P x W x H (mm)	397 x 145 x 220	421 x 190 x 318	
	Net weight (kg)	6.86	12.93	
ENVIRONMENTAL DATA				
Operating Humidity		20-90% RH @ 0-40 °c (non-condensing)		
Noise		< 45dBA @ 1 meter		
INTERFACES				
Smart RS-232/USB		Windows family, Linux, Unix, Mac		
Optional SNMP		Power Management for SNMP manager and web browser		

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SC1 6K/10k Single-phase ONLINE Double Conversion

Model		SC106K	SC110K
Rated Power		6.000 VA / 6.000 W	10.000 VA / 10.000 W
Power to EN 50171		5.000 VA / 5.000 W	8.330 VA / 8.330 W
INPUT			
Voltage Ranges	Low line switching	176 VAC @ 100% load 110 VAC @ 50% load	
	Low line return	186 VAC @ 100% load 120 VAC @ 50% load	
	High Line switching	300 VAC	
	High return line	290 VAC	
Frequency Range		46 ~ 54 Hz © 50hz/56 ~ 64 Hz © 60hz	
No of phases		Single Phase with Earth	
P.F. Power factor		≥ 0.99 @ 100% of load	
OUTPUT			
Voltage tolerance (battery Mode)		± 1%	
Frequency (Sync Range)		46 ~ 54 Hz © 50 Hz/56 ~ 64 Hz © 60 Hz	
Frequency (Range battery Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz	
Crest Factor		3:1	
Harmonic distortion		≤ 2% THD (linear load)- ≤ 6% THD (non-linear load)	
Intervention time	From line to battery	Zero	
	from inverter to Bypass	Zero	
Waveform (Battery Mode)		Pure sine wave	
EFFICIENCY			
With network present		94%	
With battery operation		91%	
BATTERY			
Battery type		12v/9AH	12v/9AH
Battery quantity		See table	See table
Charging current (max.)		Default 1.0 A max 4 A settable	
Charging voltage		273.0 VDC	
REPORTS			
LCD Panel		Power supply status, load level, battery level, input/output voltage, battery discharge time, fault condition	
ALARMS			
Battery operation		Sound every 4 seconds	
Low battery		Sound every second	
Overload		Double sound every second	
Failure		Continuous sound	
SIZE AND WEIGHT			
Tower format	Dimensions, D x W x H (mm)	592 x 250 x 576	
	Net weight (kg)	22	24
ENVIRONMENTAL DATA			
Operating Humidity		20-90% RH @ 0-40 °c (non-condensing)	
Noise		< 45dBA @ 1 meter	< 58dB @ 1 meter
INTERFACES			
Smart RS-232		Windows family, Linux Unix and Mac	
Usb			
Optional SNMP		Power Management for SNMP manager and web browser	

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SC13T 10K thee phase / single phase ONLINE double conversion

MODEL		SC13T10K
NO. OF PHASES		THREE PHASE INPUT / SINGLE PHASE OUTPUT
RATED POWER		10.000 VA / 10.000 W
POWER TO EN 50171		8.000 VA / 7.500 W
INPUT		
Rated Voltage		400V 3P+N+PE
Voltage range	Low line switching	176 VAC (Ph/N) @ 100% load 110 VAC (Ph/N) @ 50% load
	Low line return	186 VAC (Ph/N) @ 100% load 120 VAC (Ph/N) @ 50% load
	High Line switching	300 VAC (Ph/N)
	High return line	290 VAC (Ph/N)
Frequency range		46~54 Hz © 50Hz / 56~64 Hz © 60Hz
Phases		Three phase with neutral + PE
Power factor		≥ 0.99 @ 100% del carico
OUTPUT		
Rated Voltage		230V 1P+N+PE
Voltage tolerance (Battery Mode)		± 1%
Frequency (Synchronisation range)		46~54 Hz © 50 Hz / 56~64 Hz © 60 Hz
Frequency (Range Battery Mode)		50 Hz ± 0.1 Hz or 60 Hz ± 0.1 Hz
Crest Factor		3:1
Harmonic Distortion		≤ 2 % THD (linear load) ≤ 6 % THD (non linear load)
Intervention time	From line to battery	Zero
	from inverter to Bypass	Zero
Wave form (Battery Mode)		PURE SINE WAVE
With network present		
With battery operation		90%
BATTERY		88%
Battery type		
Battery quantity		See table
Charging current (max.)		See table
Charging voltage		4.0 A
With network present		273.0 VDC
SIGNALS		
LCD display		Power supply status, load level, battery level, input/output voltage, battery discharge time, fault condition
ALARMS		
Battery operation		Sound every 4 seconds
Low battery		Sound every second
Overload		Double sound every second
Fault		Continuous sound
DIMENSIONI E PESI		
Tower format	Dimensions, D x W x H (mm)	592 X 250 X 576
	Net weight (kg)	24
ENVIRONMENTAL DATA		
Operating Humidity		20-90 % RH @ 0- 40°C (non condensing)
Noise		< 45dBA @ 1 m
INTERFACES		
Smart RS-232		Windows family, Linux e Mac
USB		
Optional SNMP		Power management per SNMP manager and web browser

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SINE WAVE CENTRAL POWER SUPPLY SYSTEM EN50171 - CPSS AUTONOMIES AND BATTERY BOX

SC101K

Type	Dimensions mm. H x L x P / H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX LOAD	AUTON. 90min MAX LOAD	AUTON. 120min MAX LOAD
Power supply without batteries 1KVA (power CEI 50171 833VA / 833W)							
SC101K-S	220 x 145 x 397 (SCS)	NO BATTERY	7	833 W	0 W	0 W	0 W
Power supply with batteries 1KVA (power CEI 50171 833VA / 833W)							
SC101K-3x9	220 x 145 x 397 (SCS+Bat)	n° 3 - 12V x 9Ah	15	833 W	160W	110W	80W
SC101K-6x9	220 x 145 x 397 (SCS)	NO BATTERY	7	833 W	360W	250W	180W
	220 x 145 x 397 (B. BOX)	n° 6 - 12V x 9Ah	20				
SC101K-9x9	220 x 145 x 397 (SCS)	NO BATTERY	7	833 W	500W	400W	275W
	318 x 190 x 421 (B. BOX)	n° 9 - 12V x 9Ah	40				
SC101K-12x9	220 x 145 x 397 (SCS)	NO BATTERY	7	833 W	680W	550W	385W
	318 x 190 x 421 (B. BOX)	n° 12 - 12V x 9Ah	40				

SC102K

Type	Dimensions mm. H x L x P / H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX LOAD	AUTON. 90min MAX LOAD	AUTON. 120min MAX LOAD
Power supply without batteries 2KVA (power CEI 50171 1666VA / 1666W)							
SC102K-S	318 x 190 x 421 (SCS)	NO BATTERY	13	1,66 KW	0 W	0 W	0 W
Power supply with batteries 2KVA (power CEI 50171 1666VA / 1666W)							
SC102K-6x9	318 x 190 x 421 (SCS+Bat)	n° 6 - 12V x 9 Ah	30	1,66 KW	340W	230W	150W
SC102K-12x9	318 x 190 x 421 (SCS)	NO BATTERY	13	1,66 KW	660W	510W	366W
	318 x 190 x 421 (B.BOX)	n° 12 - 12V x 9Ah	40				
SC102K-18x9	318 x 190 x 421 (SCS)	NO BATTERY	13	1,66 KW	1000W	800W	570W
	318 x 190 x 535 (B.BOX)	n° 18 - 12V x 9Ah	61				
SC102K-24x9	318 x 190 x 421 (SCS)	NO BATTERY	13	1,66 KW	1360W	1100W	780W
	2 x 318 x 190 x 421 (B.BOX)	n° 24 - 12V x 9 Ah	30				

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SC103K

Type	Dimensions mm. H x L x P / H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX LOAD	AUTON. 90min MAX LOAD	AUTON. 120min MAX LOAD
Power supply without batteries 3KVA (power CEI 50171 2500VA / 2500W)							
SC103K-S	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	0 W	0 W	0 W
Power supply with batteries 3KVA (power CEI 50171 2500VA / 2500W)							
SC103K-6x9	318 x 190 x 421 (SCS+Bat)	n° 6 - 12V x 9 Ah	30	2,5 KW	340W	230W	150W
SC103K-12x9	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	660W	510W	366W
	318 x 190 x 421 (B.BOX)	n° 12 - 12V x 9Ah	40				
SC103K-18x9	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	1000W	800W	570W
	318 x 190 x 535 (B.BOX)	n° 18 - 12V x 9Ah	61				
SC103K-24x9	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	1360W	1100W	780W
	2-318 x 190 x 421 (B.BOX)	n° 24 - 12V x 9Ah	40+40				
SC103K-6X60	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	2250W	1750W	1250W
	1000 x 650 x 550 (B.BOX)	n° 6 - 12V x 60Ah	250				
SC103K-12X60	318 x 190 x 421 (SCS)	NO BATTERY	13	2,5 KW	4500W	3500 W	2250W
	1000 x 650 x 550 (B.BOX)	n° 12 - 12V x 60Ah	350				

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SC106K

Type	Dimensions mm. H x L x P / H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX LOAD	AUTON. 90min MAX LOAD	AUTON. 120min MAX LOAD
Power supply without batteries 6KVA (power CEI 50171 5000VA / 5000W)							
SC106K-S	SC106K-S	NO BATTERY	13	5 KW	0 W	0 W	0 W
Power supply with batteries 6KVA (power CEI 50171 5000VA / 5000W)							
SC106K-20x9	576 x 250 x 592 (SCS+Bat)	n° 20 - 12V x 9 Ah	85	5 KW	1100W	900W	700W
SC106K-40x9	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	2250W	1850W	1400W
	576 x 250 x 592 (B.BOX)	n° 40 - 12V x 9Ah	125				
SC106K-60x9	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	3400W	2800W	2150W
	576 x 250 x 830 (B.BOX)	n° 60 - 12V x 9Ah	190				
SC106K-80x9	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	4500W	3750W	2900W
	2-576 x 250 x 592 (B.BOX)	n° 80 - 12V x 9Ah	125+125				
SC106K-20x60	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	7300W	5700W	4000W
	1000 x 650 x 550 (B.BOX)	n° 20 - 12V x 60Ah	420				
SC106K-20x100	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	12500W	10500W	7500W
	1400 x 650 x 710 (B.BOX)	n° 20 - 12V x 100Ah	800				
SC106K-40x60	576 x 250 x 592 (SCS)	NO BATTERY	22	5 KW	14500W	11600W	8500W
	1600 x 820 x 800 (B.BOX)	n° 40 - 12V x 60Ah	950				

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SC110K

Type	Dimensions mm. H x L x P / H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX LOAD	AUTON. 90min MAX LOAD	AUTON. 120min MAX LOAD
Power supply without batteries 10KVA (power CEI 50171 8330VA / 8330W)							
SC110K-S	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	0 W	0 W	0 W
Power supply with batteries 10KVA (power CEI 50171 8330VA / 8330W)							
SC110K-20x9	576 x 250 x 592 (SCS+Bat)	n° 20 - 12V x 9 Ah	85	8,33 KW	1100W	900W	700W
SC110K-40x9	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	2250W	1850W	1400W
	576 x 250 x 592 (B.BOX)	n° 40 - 12V x 9Ah	125				
SC110K-60x9	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	3400W	2800W	2150W
	576 x 250 x 830 (B.BOX)	n° 60 - 12V x 9Ah	190				
SC110K-80x9	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	4500W	3750W	2900W
	2-576 x 250 x 592 (B.BOX)	n° 80 - 12V x 9Ah	125+125				
SC110K-20x60	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	7300W	5700W	4000W
	1000 x 650 x 550 (B.BOX)	n° 20 - 12V x 60Ah	500				
SC110K-20x100	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	12500W	10500W	7500W
	1400 x 650 x 710 (B.BOX)	n° 20 - 12V x 100Ah	800				
SC110K-40x60	576 x 250 x 592 (SCS)	NO BATTERY	24	8,33 KW	14500W	11600W	8500W
	1600 x 820 x 800 (B.BOX)	n° 40 - 12V x 60Ah	950				

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SC13T10K – input three phase 400Vac+N / output single phase 230Vac

Type	Dimensions mm. H x W x D	Battery	Weight ± Kg	Power P.F. 1,0	AUTON. 60min MAX load	AUTON. 90min MAX load	AUTON. 120min MAX load
SOCCORRITORE SENZA BATTERIE 10KVA (potenza CEI 50171 8000VA / 7500W)							
SC13T10K-S	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	0 W	0 W	0 W
SOCCORRITORE COMPLETO CON BATTERIA 10KVA (potenza CEI 50171 8000VA / 7500W)							
SC13T10K-40x9	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	2250W	1850W	1400W
	576 x 250 x 592 (B.BOX)	n° 40 - 12V x 9Ah	125				
SC13T10K-60x9	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	3400W	2800W	2150W
	576 x 250 x 830 (B.BOX)	n° 60 - 12V x 9Ah	190				
SC13T10K-80x9	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	4500W	3750W	2900W
	2-576 x 250 x 592 (B.BOX)	n° 80 - 12V x 9Ah	125+125				
SC13T10K-20x60	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	7300W	5700W	4000W
	1000 x 650 x 550 (B.BOX)	n° 20 - 12V x 60Ah	500				
SC13T10K-20x100	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	12500W	10500W	7500W
	1400 x 650 x 710 (B.BOX)	n° 20 - 12V x 100Ah	800				
SC13T10K-40x60	576 x 250 x 592 (SCS)	NO BATTERY	24	7,5 KW	14500W	11600W	8500W
	1600 x 820 x 800 (B.BOX)	n° 40 - 12V x 60Ah	950				

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