Microgrids self-powering management

SUNSYS PCS² IM

Power Conversion System and Storage for microgrids from 33 kW to MW

The SUNSYS PCS² IM is a modular bidirectional power converter for energy storage. Thanks to its modular parallel configuration, several MW can be reached.

High performance

- The SUNSYS PCS² IM modular design provides high output efficiency even with low power thanks to its Dynamic Power Control function.
- The SUNSYS PCS² IM is also able to provide a high quality and stable power supply during islanding operation, with boosted overload and short-circuit capability.

Total flexibility

- The SUNSYS PCS² IM is a modular and scalable solution making it easy to adapt to future evolution. Its design also enables it to be used to update existing photovoltaic installations.
- What's more, its compatibility with multiple battery technologies provides a lot of flexibility to the installation.

Autonomous operation

- The SUNSYS PCS² IM is able to disconnect from the grid whilst supplying the loads, acting as a voltage generator (islanding mode).
- It also manages an automatic balancing between production and consumption.
- When the main grid is restored, it will reconnect it without any interruption of the power supply.

Maximum availability

- Its modular design enables fully secure "hot swapping" of conversion modules, allowing the rest of the installation to continue working. This operation can be performed without special clearance.

Easy to manage and maintain

- The SUNSYS PCS² is a full front access solution allowing quick and easy, comfortable, safe and risk-free installation and maintenance.
- Thanks to its display on the front face, it also enables ergonomic operation and monitoring.

The solution for

> Off-grid microgrids
> Grid-connected microgrids
> Smart buildings

Strong points

> High performance
> Total flexibility
> Autonomous operation
> Maximum availability
> Easy to manage and maintain

Compliance with specifications

> IEC 62909-1

Grid code compliance

> CEI 0-16
> CEI 0-21
> VDE 0126-1-1/A1
> VDE AR N 4105

Complementary solutions

In addition to the SUNSYS PCS² IM, we offer a complete range of options for your energy storage projects, including Microgrid Control Module - with Power Management System and Islanding Controller -, AC and DC distribution modules - with protection devices - and integration in containers.

The manufacturer's guarantee

We offer a comprehensive support service package: commissioning, on-site testing, preventive maintenance visits, 24-hour call out and rapid on-site repairs, genuine spare parts, etc.

References

www.socomec.com/references-smart-solutions_en.html

socomec Innovative Power Solutions

Technical data

	SUNSYS PCS² IM				
Configuration	With transfomer			Without transformer	
Model	SUN-ES33KTR30IS	SUN-ES66KTR30IS	SUN-ES100TR30IS	SUN-ES132ET30IS	SUN-ES200ET30IS
INPUT (DC)					
Battery voltage	Full power from 450 to 825 VDC – 350 to 850 VDC with derating				
Number of independent power modules	1	2	3	4	6
Maximum discharging current	80 A	160 A	240 A	160 A + 160 A	240 A + 240 A
Maximum recharging current	80 A	160 A	240 A	160 A + 160 A	240 A + 240 A
OUTPUT (AC)					
Rated power	33.0 kW	66.0 kW	100.0 kW	132.0 kW	200.0 kW
Rated apparent power	33.0 kVA	66.0 kVA	100.0 kVA	132.0 kVA	200.0 kVA
Rated voltage	400 Vrms(1) 3ph +N			280 Vrms(1) 3ph	
Voltage tolerance	320 to 480 Vrms(1) 3ph+N			224 to 336 Vrms(1) 3ph	
Rated frequency	50 Hz(1)				
Frequency range	47.5 to 51.5 Hz(1)				
Rated current	48 Arms	96 Arms	144 Arms	272 Arms	412 Arms
Off-grid symmetrical overload	110% for 30 min - 125% for 10 min - 150% for 30 sec				
Off-grid asymmetrical overload	190% for 30 min - 215% for 10 min - 260% for 30 sec(2)				
Off-grid symmetrical short-circuit	90 Arms for 40 ms + 75 Arms for 60 ms	180 Arms for 40 ms + 150 Arms for 60 ms	270 Arms for 40 ms + 225 Arms for 60 ms	360 Arms for 40 ms + 300 Arms for 60 ms(2)	540 Arms for 40 ms + 450 Arms for 60 ms(2)
Off-grid asymmetrical short-circuit	145 Arms for 40 ms + 115 Arms for 60 ms	290 Arms for 40 ms + 230 Arms for 60 ms	435 Arms for 40 ms + 345 Arms for 60 ms	580 Arms for 40 ms + 460 Arms for 60 ms(2)	870 Arms for 40 ms + 690 Arms for 60 ms(2)
THDI (%)	< 4%				
Topology	Single conversion				
EFFICIENCY					
Maximum efficiency	96.3%			97.5%	
ENVIRONMENT					
Environment category	Non air-conditioned indoor space				
Degree of protection	IP 20				
Operating ambient temperature	-5 to +50 °C				
Rated temperature	0 to +40 °C				
Storage temperature	-5 °C to +60 °C				
Relative humidity	5 % to 95 % without condensation				
Cooling system	Smart cooling				
Acoustic level at 1 m	< 60 dB	< 64 dB		<67 dB	
Altitude	0 to 1000 m (full power)				
DIMENSIONS & WEIGHTS					
Dimensions (W x D x H)	600 x 795 x 1400 mm		1200 x 795 x 1400 mm	805 x 806 x 2150 mm	
Weight	355 kg	530 kg	816 kg	440 kg	510 kg

(1) Depending on the specific country and regulations.
(2) With external transformer 280 / 400 VAC.