

C&I ENERGY STORAGE

100kW-2.5MW C&I ESS (STS)

C&I storage system · 257.23 kWh · 4 models


257.23 kWh

ENERGY CAPACITY

819.2 V

NOMINAL VOLTAGE

≥6000 cycles

CYCLE LIFE

100 – 125 kW

RATED POWER

Parameter	Unit	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
PV input					
MPPT module models		SUN-MPPT-L01-EU-AM8 / SUN-MPPT-L01-EU-AM8-P / SUN-MPPT-L01-EU-AM10			
Max. PV input voltage	V	800			
Start-up voltage	V	200			
MPPT voltage range	V	180 – 750			
MPPT module: Full-load MPPT voltage range	V	450 – 750			
Rated PV input voltage	V	600			
MPPT module: Max. PV access power (AM8 / AM8-P / AM10)	kW	200 / 250 / 250			
MPPT module: Max. PV input power (AM8 / AM8-P / AM10)	kW	160 / 200 / 200			
MPPT module: Number of MPPT trackers (AM8 / AM8-P / AM10)		8 / 8 / 10			
MPPT module: Max. operating PV input current per tracker (AM8 / AM8-P / AM10)	A	40 / 48 / 40			
MPPT module: Max. short-circuit current per tracker (AM8 / AM8-P / AM10)	A	60 / 72 / 60			
MPPT module: DC output voltage range	V	630 – 1000			
MPPT module: Max. DC output current (AM8 / AM8-P / AM10)	A	200 / 250 / 250			
PCS DC input voltage range	V	630 – 1000			
PCS max. DC input current	A	200		250	
AC output					
Rated output power	W	100000	125000	100000	125000

Parameter	Unit	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
Max. apparent power	VA	110000	125000	110000	125000
Rated AC voltage	V	400			
Rated AC output current	A	145	181.2	145	181.2
Phase		Three-phase			
Rated AC frequency	Hz	50/60			
Max. AC output current	A	159.5	181.2	159.5	181.2
Total harmonic distortion (THDi)	%	<3			
Power factor		-1 to +1 (adjustable)			
Peak (surge) power	W	200000	250000	200000	250000
Rated grid voltage options and range		220/380 V; 230/400 V; range 0.85 Un-1.1 Un			
Grid connection type		3L+N+PE			
Rated grid frequency and range		50 Hz (45-55 Hz); 60 Hz (55-65 Hz)			
DC injection current		<0.5% In			
On/off-grid switching time	ms	<10			
Max. continuous off-grid load (% of PCS rated power)	%	≤70			
Generator input		Yes			
Max. parallel units		25	20	25	20
Battery					
Battery type		Lithium-ion			
Battery voltage range	V	630 – 1000			
Max. charge current	A	175	200	175	200
Max. discharge current	A	175	200	175	200
Charging strategy for Li-ion battery		Self-adaption to BMS			
Number of battery inputs		1			
Battery system model		BOS-B Pro-A3			
Cell type		LiFePO4			
Usable energy capacity	Wh	231510			
Nominal voltage	V	819.2			
Nominal capacity	Ah	314			
Cycle life	cycles	≥6000			
Depth of discharge (DoD)	%	90			
BMS		Independent BMS (CAN communication)			
Battery module model		BOS-B-Pack16-A3			
Battery module nominal energy	kWh	16.08			
Battery module nominal voltage	V	51.2			
Battery module weight (approx.)	kg	126			
Battery module dimensions (W x H x D)	mm	526 × 274.2 × 795.9			

Parameter	Unit	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
Battery modules in series per cluster (optional)		5 – 16			
Matching mode: PCS only		14-16 modules for PCS on-grid applications; 15-16 modules for PCS off-grid applications			
Matching mode: PCS + MPPT		16 modules (on/off-grid) for MPPT open-circuit voltage <=800 V; 15 modules (on/off-grid) for MPPT open-circuit voltage <=750 V; 14 modules (on-grid) for MPPT open-circuit voltage <=700 V			
Battery cluster max. charge/discharge current	A	180			
Max. battery clusters per PCS		16			
Battery operating temperature		Charge 0-55 °C; discharge -20-55 °C			
Battery storage temperature	°C	0 – 35			
Battery high-voltage control box (PDU) model		BOS-B-PDU-2-A			
Battery high-voltage control box operating voltage	V	200 – 1000			
Battery high-voltage control box nominal charge/discharge current	A	180			
Battery high-voltage control box dimensions (W x H x D)	mm	526 × 167.2 × 788.6			
Battery high-voltage control box weight	kg	32			
Efficiency					
Max. efficiency	%	98.5			
European efficiency	%	97.8			
MPPT efficiency	%	>99.9			
MPPT module: Max. efficiency	%	>99			
Protection					
Protection functions		AC output overcurrent protection; AC output overvoltage protection; AC output short-circuit protection; Thermal protection; Anti-islanding protection; Insulation impedance detection; Residual current detection; Surge protection Type II (DC); Surge protection Type II (AC)			
MPPT module protections		DC input reverse protection; DC switch; Surge protection Type II; DC arc protection (optional); Anti-PID (optional)			
General data					
Dimensions (W x H x D)	mm	543 × 310 × 775			
Weight	kg	81.86			
Ingress protection (IP rating)		IP65			
Operating temperature range	°C	-40 – 60			
Relative humidity	%	0 – 95			
Max. operating altitude	m	4000			
Cooling		Intelligent air cooling			
Noise level	dB	<75			
Topology		Non-isolated			
Installation		Rack mounted			
Warranty	years	5 – 10			

Parameter	Unit	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
Over-voltage category		OVC II (DC); OVC III (AC)			
Battery system: Dimensions (W x H x D)	mm	2150 × 1305 × 800			
Battery system: Weight (approx.)	kg	2240			
Battery system: Enclosure protection (IP)		IP20			
Battery system: Relative humidity	%	5 – 85			
Battery system: Max. altitude	m	3000			
Battery system: Thermal management		Smart fan cooling			
Battery system: Warranty	years	10			
Communication					
Display		LCD			
Communication interfaces		Wi-Fi; RS485; CAN; Meter			
Monitoring		Local touchscreen control; remote monitoring via cloud platform			
Battery system: Communication ports		TCP; RS485; CAN			
Battery system: Display		LCD showing SOC and fault code			
Battery system: Status indicator		Yellow: battery high voltage power on; red: battery system alarm			
Certifications					
Certifications and standards		IEC/EN 62477-1; IEC/EN 62109-1; IEC/EN 61439-1/-2; CE; IEC 62619; IEC 62040; UN38.3			
Grid codes		IEC 61727; IEC 62116; CEI 0-21; EN 50549; NRS 097; RD 140; UNE 217002; OVE-Richtlinie R25; G99; VDE-AR-N 4105			
System					
System rated power	kW	100 – 2500			
System energy capacity	kWh	257.23			
EMS		Integrated EMS: zero-export, TOU optimization, peak shaving, demand management			
Fire protection		Integrated aerosol fire suppression			
Max. continuous backup duration	h	32			
MPPT module: Over-voltage category		OVC II			
MPPT module: Ingress protection		IP65			
MPPT module: Cooling		Intelligent air cooling			
MPPT module: Dimensions (W x H x D)(AM8 / AM8-P / AM10)	mm	543 x 198 x 700 / 543 x 198 x 700 / 543 x 198 x 720			
MPPT module: Weight (AM8 / AM8-P / AM10)	kg	41.75 / 41.75 / 50.6			
MPPT module: Operating temperature	°C	-40 – 60			
MPPT module: Relative humidity	%	0 – 95			
MPPT module: Max. altitude	m	4000			
MPPT module: Warranty	years	10			

Parameter	Unit	SUN-100K-PCS01HP3	SUN-125K-PCS01HP3	SUN-100K-PCS02HP3	SUN-125K-PCS02HP3
MPPT module: Terminals		OT terminal (DC port / AC port)			
MPPT module: Display		LED			
MPPT module: Communication		CAN; RS485			
STS module model		SUN-ST5500L			
STS module: Independent power paths		3(generator / load / grid), each supporting 500 kW			
STS module: Rated power (grid/PCS side, load side, generator side)	kW	500			
STS module: Rated current	A	725			
STS module: Rated voltage		220/380 V; 230/400 V (three-phase)			
STS module: Grid connection form		3L/N/PE			
STS module: Rated frequency	Hz	50/60			
STS module: Operating temperature	°C	-25 – 60			
STS module: Relative humidity	%	0 – 95			
STS module: Max. altitude	m	4000			
STS module: Ingress protection		IP20			
STS module: Over-voltage category		OVC III			
STS module: Cooling		Natural cooling			
STS module: Dimensions (W x H x D)	mm	543 × 575 × 671			
STS module: Weight	kg	108			
STS module: Warranty	years	10			
STS module: Terminals		OT terminal (DC port / AC port)			
STS module: Communication		CAN; RS485			
Max. PCS units per STS module		5	4	5	4
Max. STS modules in parallel		5			

Specifications are subject to change without notice. Values are typical at 25 °C unless stated.

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