ESI-8-12K-S1

8 / 9.99 / 12 kW

Single-phase hybrid inverter



We've GOT YOU COVERED with CGL insurance.

User-friendly

- Easy installation, support both all-in-one and split installations
- Modular and stacking integrated design

Flexible applications

- Multi-function EMS integrated
- Seamless switchover between on and off-grid (4 ms)

Safe & Reliable

- Up to 3 MPPTs with AFCI
- IP66 rated design

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Inverter Module	ESI-8K-S1	ESI-9.99K-S1-A	ESI-12K-S1
PV Input			
Recommended Max. PV Power	16 kWp	20 kWp	24 kWp
Max. Input Voltage		600 Vd.c.	
Start-up Voltage [1]		90 Vd.c.	
Rated Input Voltage		360 Vd.c.	
MPP Voltage Range		60-550 Vd.c.	
Number of MPPT		3	
Max. Number of Input String per MPPT		1 / 1 / 1	
Max. Input Current		20 / 20 / 20 A	
Backfeed Current		0 / 0 / 0 A	
Max. Isc		25 / 25/25 A	
Battery			
Voltage Range		120-576 Vd.c.	
Nominal Battery Voltage		400 Vd.c.	
Number of Battery Input Channels		1	
Max. Charging Power		12 kW	
Max. Discharging Power	8 kW	9.99 kW	12 kW
Max. Charging Current		50 A	
Max. Discharging Current		50 A	
Battery Type [2]		Lithium-ion	
BMS Communication		CAN	
AC Backup (Output)			
Rated Voltage		L+N+PE, 230 Va.c.	
Rated Frequency		50 / 60 Hz	
Rated Power	8 kW	9.99 kW	12 kW
Rated Current	34.8 A	43.3 A	52.2 A
Rated Apparent Power	8 kVA	9.99 kVA	12 kVA
Max. Apparent Power	8.8 kVA	9.99 kVA	13.2 kVA
Max. Current	38.3 A	43.3 A	57.4 A
Peak Apparent Power [3]		1.5 times of rated power, 10 s	
Inrush Current		60 A, 200 ms	
Max. Output Fault Current		63 A	
Power Factor Range		0.8 lagging - 0.8 leading	
THDv(@ linear load)		< 3%	
Switching Time [4]		4 ms default	
AC Grid (Input and Output)			
Rated Voltage		L+N+PE, 230 Va.c.	
Rated Frequency		50 / 60 Hz	
Rated Output Power	8 kW	9.99 kW	12 kW
Rated Output Current	34.8 A	43.3 A	52.2 A
Rated Apparent Power	8 kVA	9.99 kVA	12 kVA
Max. Apparent Power	8.8 kVA	9.99 kVA	13.2 kVA
Max. Output Current	38.3 A	43.3 A	57.4 A
Inrush Current		60 A, 200 ms	
Max. Output Fault Current		63 A	
Power Factor Range		0.8 lagging - 0.8 leading	
THDi		< 3%	
Max. Input Current [5]		63 A	
Efficiency			
Max. MPPT Efficiency		99.9%	
Max. Efficiency		97.7%	
European Efficiency		97.0%	
Max. Efficiency of Charging/Discharging[6]		97.0%	
Protection			
DC Switch		Yes	
PV Reverse Connection Protection		Yes	
Battery Reverse Connection Protection		Yes	
Output Short Circuit Protection		Yes	
Output Overcurrent Protection		Yes	
Output Overvoltage Protection		Yes	
Insulation Impedance Detection		Yes	
Residual Current Detection		Yes	
AFCI		Yes	
Anti-islanding Protection		Method (Active frequency shift)	
Surge Protection [7]		PV: Type II, AC: Type II	
General Parameter			
Inverter Topology		Non-Isolation	
Protective Class		Class I	
IP Rating		IP66	
Overvoltage Category		AC III, DC II	
Operating Temperature Range		-25℃ ~ +50℃ (derating above +45℃)	
Relative Humidity Range		5%-95%	
Max. Operating Altitude		4000 m (derating above 2000 m)	
Standby Self-consumption [8]		< 10 W	
Dimensions (W×H×D)		708×440×170 mm	
Cooling Mode		Intelligent Airflow	
Weight		35 kg	
Communication		CAN / RS485 / WiFi, Optional: 4G / LAN	
Display		LCD & APP	
Country of Manufacture		China	

[1] Minimum PV voltage to start MPPT operation. [2] Please refer to document "SOFAR inverter Model compatible battery list". [3] Full sun and battery.
[4] In the on-grid mode, the nominal power of the hybrid inverter is higher than the total power of the home loads. [5] Continuous AC passthrough current from grid to load.
[6] Battery-AC maximum efficiency of battery charge and discharge. [7] According to EN/IEC 61643-11. [8] Standby loss at rated input voltage.

*All specifications are subject to change without notice.