ESI-5-12K-T1

5 / 6.5 / 8 / 9.9 / 10 / 12 kW

Three-phase Hybrid Inverter



We've GOT YOU COVERED with CGL insurance.

User-friendly

- Easy installation, support both all-in-one and split installations
- Natural heat dissipation, no extra noise

Flexible applications

- Support 100% three-phase unbalanced loads
- Seamless switchover between on and off-grid (10ms)

Safe and reliable

- Up to 3MPPT with AFCI
- IP66 rated design

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Inverter Module	ESI-5K-T1	ESI-6.5K-T1	ESI-8K-T1	ESI-9.9K-T1-A	ESI-10K-T1	ESI-12K-T1
PV Input						
Recommended Max. PV Power	10 kWp	13 kWp	16 kWp	20 kWp	20 kWp	24 kWp
Max. Input Voltage	1000 Vd.c.					
Start-up Voltage [1]	200 Vd.c.					
Rated Input Voltage	600 Vd.c.					
MPP Voltage Range	160-950 Vd.c.					
Number of MPPT	3					
Max. Number of Input String per MPPT	1/1/1					
Max. Input Current	20/20/20 A					
Max. Isc	25/25/25 A					
Battery						
Voltage Range	350-435 Vd.c.					
Number of Battery Input Channel	1					
Max. Charging Power	10 kW					
Max. Discharging Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	10 kW
Max. Charging Current	25 A					
Max. Discharging Current	15 A	19.5 A	24 A	29.7 A	30 A	30 A
Battery Type [2]	Lithium-ion					
BMS Communication	CAN					
AC Backup						
Rated Output Voltage	3N~+PE, 380/400/415 Va.c.					
Rated Output Frequency	50 / 60 Hz					
Rated Output Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Rated Output Current	7.6/7.2/6.9 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A
Rated Apparent Power	5 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA
Max. Apparent Power	5.5 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Max. Output Current	8.3/8.0/7.6 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A
Peak Output Apparent Power [3]	2 times of rated power, 10s					
THDv(@ linear load)	<3%					
Switching Time	10 ms default					
Asymmetric load	Yes, Supports 100% three-phase unbalanced load					
AC Grid						
Rated Voltage	3(N)~+PE, 380/400/415 Va.c.					
Rated Frequency	50 / 60 Hz					
Rated Output Power	5 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW
Rated Output Current	7.6/7.2/6.9 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7A
Rated Apparent Power	5 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA
Max. Apparent Power	5.5 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA
Max. Output Current	8.3/8.0/7.6 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3A
Max. Input Current	15.2/14.5/13.9 A	19.8/18.8/18.1 A	24.2/23.2/22.2 A	30.3/29.0/27.8 A	30.3/29.0/27.8 A	33.3/31.9/30.6 A
THDi	<3%					
Power Factor Range	0.8 lagging-0.8 leading					
Efficiency						
Max. MPPT Efficiency	99.9%					
Max. Efficiency	98.0%	98.0%	98.0%	98.2%	98.2%	98.2%
European Efficiency	97.0%	97.0%	97.0%	97.5%	97.5%	97.5%
Max. Efficiency of Charging/ Discharging [4]	97.6%	97.6%	97.6%	97.8%	97.8%	97.8%
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					
Anti-island Protection	Yes					
Surge Protection [5]	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	-30℃ to +60℃ (derating above +45℃)					
Relative Humidity Range	5%-95%					
Max. Operating Altitude	4000 m (derating above 2000 m)					
Standby Self-consumption [6]	<10 W					
Installation Method	Wall Mounted					
Dimensions(W*H*D)	708*440*170 mm					
Cooling Mode	Natural					
Weight	30 kg					
Communication	RS485, Optional: WiFi/4G/LAN					
Display	LCD & APP					

[1] Minimum PV voltage to start MPPT operation. [2] Please refer to document "SOFAR inverter Model compatible battery list". [3] Full battery and sun.
[4] Battery-AC maximum efficiency of battery charge and discharge. [5] According to EN/IEC 61643-11. [6] Standby loss at rated input voltage.

*All specifications are subject to change without notice.