

ESI-5-12K-T1

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

Three-phase Hybrid Inverter



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

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.