

ESI 3-6K-S1

3 / 3.68 / 4 / 4.6 / 5 / 6 kWh

Single-phase hybrid inverter



User-friendly

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



Flexible applications

- Multi-function EMS integrated
- Flexible battery capacity expansion
- Seamless switchover between on and off-grid (10ms)



Safe & Reliable

- IP65 rated design
- Maximum 200% PV input, and max. 16A per MPPT

Model	ESI 3K-S1	ESI 3.68K-S1	ESI 4K-S1	ESI 4.6K-S1	ESI 5K-S1	ESI 5K-S1-A	ESI 6K-S1
PV (Input)							
Recommended Max. PV Power	6000Wp	7360Wp	8000Wp	9200Wp	10000Wp	10000Wp	12000Wp
Max. Input Voltage				550 Vd.c.			
Start-up Voltage ^[1]				100 Vd.c.			
Rated Input Voltage				360 Vd.c.			
MPPT Voltage Range				85-520 Vd.c.			
Number of MPPT				2			
Max. Number of Input Strings per MPPT				1/1			
Max. Input Current				16/16 A			
Backfeed Current				0 A			
Max. Isc				22.5/22.5 A			
Battery							
Voltage Range				350-435 Vd.c.			
Nominal Battery Voltage				400 Vd.c.			
Number of Battery Input Channels				2			
Max. Charging Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	5 kW	6 kW
Max. Discharging Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	5 kW	6 kW
Max. Charging Current				20 A			
Max. Discharging Current				20 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	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	5 kW	6 kW
Rated Current	13.0 A	16.0 A	17.4 A	20.0 A	21.7 A	21.7 A	26 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	5 kVA	6 kVA
Max. Apparent Power	3.3 kVA	3.68 kVA	4.4kVA	4.6 kVA	5.5 kVA	5 kVA	6.6 kVA
Max. Current	14.3 A	16.0 A	19.1 A	20.0 A	23.9 A	22.7 A	28.7 A
Peak Apparent Power	4500 VA, 10s	5520 VA, 10s	6000 VA, 10s	6900 VA, 10s	7500VA, 10s	7500VA, 10s	9000VA, 10s
Inrush Current				60A, 200 ms			
Max. Output Fault Current				32 A			
Power Factor Range				0.8 lagging-0.8 leading			
THDv (@ linear load)				<3%			
Switching Time				10 ms default			
AC Grid (Input and Output)							
Rated Voltage				L+N+PE, 230 Va.c.			
Rated Frequency				50/60 Hz			
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	5 kW	6 kW
Rated Output Current	13.0 A	16.0 A	17.4 A	20.0 A	21.7 A	21.7 A	26.1 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	5 kVA	6 kVA
Max. Apparent Power	3.3 kVA	3.68 kVA	4.4 kVA	4.6 kVA	5.5 kVA	5 kVA	6.6 kVA
Max. Output Current	15.0 A	16.0 A	20.0 A	20.9 A	25.0 A	22.7 A	30.0 A
Inrush Current				60 A, 200 ms			
Max. Output Fault Current				32 A			
Power Factor Range				0.8 lagging-0.8 leading			
THDi				<3%			
Max. Input Current	26.1 A	32.0 A	34.8 A	40.0 A	43.5 A	43.5 A	52.2 A
Efficiency							
Max. MPPT Efficiency				99.9%			
Max. Efficiency	97.7%	97.7%	97.7%	97.8%	97.8%	97.8%	97.8%
European Efficiency	97.0%	97.0%	97.0%	97.1%	97.1%	97.1%	97.1%
Max. Efficiency of Charging/Discharging ^[3]				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			
Anti-islanding Protection				Method (Active frequency shift)			
Surge Protection				PV: Type II, AC: Type II			
General Parameter							
Inverter Topology				Non-Isolation			
Protective Class				Class I			
IP Rating				IP65			
Overvoltage Category				AC III, DC II			
Operating Temperature Range				-10°C ~ +50°C (derating above +45°C)			
Relative Humidity Range				5%-95%			
Max. Operating Altitude				4000m (derating above 2000m)			
Standby Self-consumption ^[4]				<10 W			
Dimensions(W×H×D)				708×410×170 mm			
Cooling Mode				Natural			
Weight				26 kg			
Communication				CAN/RS485/Wi-Fi, 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] Battery-AC maximum efficiency of battery charge and discharge

[4] Standby loss at rated input voltage

*All specifications are subject to change without notice.