ESI 3-6K-S1

3 / 3.68 / 4 / 4.6 / 5 / 6 kW

SINGLE-PHASE STACKED ALL-IN-ONE SYSTEM



Product advantages

- Stacking integrated design, easy installation
- Supports mixing old and new batteries, simple maintenance
- Built-in PCU, battery available energy increased by 6%
- Maximum 16A PV input current, compatible with high-current / bifacial modules
- Battery with physical and electrical isolation, safer system



Model	ESI 3K-S1	ESI 3.68K-S1	ESI 4K-S1	ESI 4.6K-S1	ESI 5K-S1	ESI 6K-S1
PV Input						
System Schematic						
Recommended Max. PV Power	4500Wp	5400Wp	6000Wp	6900Wp	7500W	9000Wp
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					
Max. Isc	22.5/22.5 A					
Battery						
Voltage Range	350-435 Vd.c.					
Number of Battery Input Channels	2					
Max. Charging Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Max. Discharging Power	3 kW	3.68 kW	4 kW	4.6 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						
Rated Output Voltage	L+N+PE,220/230/240 Va.c.					
Rated Output Frequency	50/60 Hz					
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Rated Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Peak Output Apparent Power	4500VA, 60s	5520VA, 60s	6000VA, 60s	6900VA, 60s	7500VA, 60s	9000VA, 60s
THDv(@ linear load)	<3%					
Switching Time	10 ms default					
AC Grid						
Rated Voltage	L+N+PE,220/230/240 Va.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	3 kW	3.68 kW	4 kW	4.6 kW	5 kW	6 kW
Rated Output Current	13.6/13.0/12.5 A	16.7/16.0/15.3 A	18.2/17.4/16.7 A	20.9/20.0/19.2 A	22.7/21.7/20.8 A	27.3/26.1/25.0 A
Rated Apparent Power	3 kVA	3.68 kVA	4 kVA	4.6 kVA	5 kVA	6 kVA
Max. Apparent Power[3]	3.3 kVA	3.68 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA
Max. Output Current[4]	15.0/14.3/13.8 A	16.7/16.0/15.3 A	20.0/19.1/18.3 A	20.9/20.0/19.2 A	25.0/23.9/22.9 A	30.0/28.7/27.5 A
Max. Input Current	27.3/26.1/25.0 A	33.5/32.0/30.7 A	36.4/34.8/33.3 A	41.8/40.0/38.3 A	45.5/43.5/41.7 A	54.5/52.2/50.0 A
THDi	<3%					
Power Factor Range	0.8 lagging-0.8 leading					
Efficiency						
Max. MPPT Efficiency	99.9%					
Max. Efficiency	97.7%	97.7%	97.7%	97.8%	97.8%	97.8%
European Efficiency	97.0%	97.0%	97.0%	97.1%	97.1%	97.1%
Max. Efficiency of Charging/Discharging[5]	97%					
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	PV:Type II, AC:Type II					
Protection						
Inverter Topology	Non-Isolation					
Protective Class	Class I					
IP Rating	IP65					
Overvoltage Category	AC III, DC II					
Operating Temperature Range	-10℃ to +50℃ (derating above +45℃)					
Relative Humidity Range	5%-95%					
Max. Operating Altitude	4000 m (derating above 2000 m)					
Standby Self-consumption[6]	<10 W					
Dimensions(W*H*D)	708*410*170 mm					
Cooling Mode	Natural					
Weight	26 kg					
Communication	CAN/RS485/WiFi,Optional: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] Maximum apparent power of ESI 5K-S1 for Belgian and Australian safety codes is 5 kVA.
[4] Maximum output current of ESI 5K-S1 for Belgian and Australian safety codes is 22.7/21.7/20.8 A.
[5] Battery-AC maximum efficiency of battery charge and discharge
[6] Standby loss at rated input voltage