# 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 |
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| 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.