

# Single Phase Hybrid Inverter

SUN-12/14/16K-SG01LP1-EU



## Intuitive

- Colorful touch LCD, IP65 protection degree



## Intelligent

- 6 time periods for battery charging/discharging



## Flexible

- AC couple to retrofit existing solar system
- Max. 16 pcs parallel for on-grid and off-grid operation; support multiple batteries parallel



## Reliable

- Max. charging/discharging current of 290A
- Support storing energy from diesel generator

| Model                                              | SUN-12K-SG01LP1-EU                                                                                                                                                                                                                                                                                                                     |                          | SUN-14K-SG01LP1-EU |           | SUN-16K-SG01LP1-EU |  |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|--------------------|-----------|--------------------|--|
| Battery Input Data                                 |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Battery Type                                       |                                                                                                                                                                                                                                                                                                                                        | Lead-acid or Lithium-ion |                    |           |                    |  |
| Battery Voltage Range (V)                          |                                                                                                                                                                                                                                                                                                                                        | 40-60                    |                    |           |                    |  |
| Max. Charging/Discharging Current (A)              |                                                                                                                                                                                                                                                                                                                                        | 220                      | 250                | 290       |                    |  |
| Charging Strategy for Li-ion Battery               |                                                                                                                                                                                                                                                                                                                                        | Self-adaption to BMS     |                    |           |                    |  |
| Number of Battery Input                            |                                                                                                                                                                                                                                                                                                                                        | 2                        |                    |           |                    |  |
| PV String Input Data                               |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Max. PV access power (W)                           | 24000                                                                                                                                                                                                                                                                                                                                  | 28000                    |                    | 32000     |                    |  |
| Max. PV Input Power (W)                            | 19200                                                                                                                                                                                                                                                                                                                                  | 22400                    |                    | 25600     |                    |  |
| Max. PV Input Voltage (V)                          | 500                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| Start-up Voltage (V)                               | 125                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| MPPT Voltage Range (V)                             | 150-425                                                                                                                                                                                                                                                                                                                                |                          |                    |           |                    |  |
| Rated PV Input Voltage (V)                         | 370                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| Max. Operating PV Input Current (A)                | 32+32+32                                                                                                                                                                                                                                                                                                                               |                          |                    |           |                    |  |
| Max. Input Short-Circuit Current (A)               | 60+60+60                                                                                                                                                                                                                                                                                                                               |                          |                    |           |                    |  |
| No. of MPP Trackers/<br>No. of Strings MPP Tracker | 3/2+2+2                                                                                                                                                                                                                                                                                                                                |                          |                    |           |                    |  |
| AC Input/Output Data                               |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Rated AC Input/Output Active Power (W)             | 12000                                                                                                                                                                                                                                                                                                                                  | 14000                    |                    | 16000     |                    |  |
| Max. AC Input/Output Apparent Power (VA)           | 13200                                                                                                                                                                                                                                                                                                                                  | 15400                    |                    | 17600     |                    |  |
| Rated AC Input/Output Current (A)                  | 54.5/52.2                                                                                                                                                                                                                                                                                                                              | 63.6/60.9                |                    | 72.7/69.6 |                    |  |
| Max. AC Input/Output Current (A)                   | 60/57.4                                                                                                                                                                                                                                                                                                                                | 70/67                    |                    | 80/76.5   |                    |  |
| Max. Continuous AC Passthrough (grid to load) (A)  | 100                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| Peak Power (off-grid) (W)                          | 2 times of rated power, 10s                                                                                                                                                                                                                                                                                                            |                          |                    |           |                    |  |
| Power Factor Adjustment Range                      | 0.8 leading to 0.8 lagging                                                                                                                                                                                                                                                                                                             |                          |                    |           |                    |  |
| Rated input/output voltage                         | 220/230V 0.85Un-1.1Un L+N+PE                                                                                                                                                                                                                                                                                                           |                          |                    |           |                    |  |
| Rated Input/Output Grid Frequency/Range(Hz)        | 50/45-55, 60/55-65                                                                                                                                                                                                                                                                                                                     |                          |                    |           |                    |  |
| Total Current Harmonic Distortion THDi             | <3% (of nominal power)                                                                                                                                                                                                                                                                                                                 |                          |                    |           |                    |  |
| DC Injection Current                               | <0.5% In                                                                                                                                                                                                                                                                                                                               |                          |                    |           |                    |  |
| Efficiency                                         |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Max. Efficiency                                    | 97.6%                                                                                                                                                                                                                                                                                                                                  |                          |                    |           |                    |  |
| Euro Efficiency                                    | 96.5%                                                                                                                                                                                                                                                                                                                                  |                          |                    |           |                    |  |
| MPPT Efficiency                                    | >99%                                                                                                                                                                                                                                                                                                                                   |                          |                    |           |                    |  |
| Equipment Protection                               |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Integrated                                         | DC Reverse Polarity Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Arc Fault Circuit Interrupter (AFCI) (optional), Anti-islanding Protection, DC Switch, Insulation Impedance Detection, Residual Current Detection |                          |                    |           |                    |  |
| Surge Protection Level                             | TYPE II(DC), TYPE II(AC)                                                                                                                                                                                                                                                                                                               |                          |                    |           |                    |  |
| Interface                                          |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| LCD/LED Display                                    | LCD                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| Communication Interface                            | WIFI, RS485, CAN                                                                                                                                                                                                                                                                                                                       |                          |                    |           |                    |  |
| General Data                                       |                                                                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Operating Temperature Range (°C)                   | -40 to +60°C, >45°C Derating                                                                                                                                                                                                                                                                                                           |                          |                    |           |                    |  |
| Permissible Ambient Humidity                       | 0-100%                                                                                                                                                                                                                                                                                                                                 |                          |                    |           |                    |  |
| Permissible Altitude                               | 2000m                                                                                                                                                                                                                                                                                                                                  |                          |                    |           |                    |  |
| Noise (dB)                                         | <45                                                                                                                                                                                                                                                                                                                                    |                          |                    |           |                    |  |
| Ingress Protection(IP) Rating                      | IP 65                                                                                                                                                                                                                                                                                                                                  |                          |                    |           |                    |  |
| Inverter Topology                                  | Non-Isolated (solar), Isolated (battery)                                                                                                                                                                                                                                                                                               |                          |                    |           |                    |  |
| Over Voltage Category                              | OVC II(DC), OVC III(AC)                                                                                                                                                                                                                                                                                                                |                          |                    |           |                    |  |
| Cabinet Size (WxHxD mm)                            | 464×763×282 (Excluding Connectors and Brackets)                                                                                                                                                                                                                                                                                        |                          |                    |           |                    |  |
| Weight (kg)                                        | 52                                                                                                                                                                                                                                                                                                                                     |                          |                    |           |                    |  |
| Type of Cooling                                    | Intelligent Air Cooling                                                                                                                                                                                                                                                                                                                |                          |                    |           |                    |  |
| Warranty                                           | 5 Years/10 Years<br>the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy                                                                                                                                                                                                     |                          |                    |           |                    |  |
| Grid Regulation                                    | IEC 61727,IEC 62116,NRS 097                                                                                                                                                                                                                                                                                                            |                          |                    |           |                    |  |
| Safety EMC/Standard                                | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2                                                                                                                                                                                                                                                                                 |                          |                    |           |                    |  |