

# Three Phase Hybrid Inverter

SUN-14/15/16/18/20K-SG05LP3-EU-SM2



- 100** 100% unbalanced output, each phase; Max. output up to 50% rated power
-  AC couple to retrofit existing solar system
- 10** Max. 10 pcs parallel for on-grid and off-grid operation; Support multiple batteries parallel
- 350** Max. charging/discharging current of 350A
- 48** 48V low voltage battery, transformer isolation design
- 6** 6 time periods for battery charging/discharging
-  Support storing energy from diesel generator

**Deye**

Stock Code: 605117.SH

| Model                                                                                                          | SUN-14K-SG05LP3<br>-EU-SM2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SUN-15K-SG05LP3<br>-EU-SM2 | SUN-16K-SG05LP3<br>-EU-SM2 | SUN-18K-SG05LP3<br>-EU-SM2 | SUN-20K-SG05LP3<br>-EU-SM2 |
|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Battery Input Data                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Battery Type                                                                                                   | Lead-acid or Lithium-ion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Battery Voltage Range (V)                                                                                      | 40-60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| Max. Charging Current (A)                                                                                      | 260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 280                        | 300                        | 330                        | 350                        |
| Max. Discharging Current (A)                                                                                   | 260                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 280                        | 300                        | 330                        | 350                        |
| Charging Strategy for Li-ion Battery                                                                           | Self-adaption to BMS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
| Number of Battery Input                                                                                        | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                            |                            |                            |
| PV String Input Data                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Max. PV Access Power (W)                                                                                       | 28000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 30000                      | 32000                      | 36000                      | 40000                      |
| Max. PV Input Power (W)                                                                                        | 22400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 24000                      | 25600                      | 28800                      | 32000                      |
| Max. PV Input Voltage (V)                                                                                      | 800                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                            |                            |                            |
| Start-up Voltage (V)                                                                                           | 160                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                            |                            |                            |
| MPPT Voltage Range (V)                                                                                         | 160-650                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
| Rated PV Input Voltage (V)                                                                                     | 550                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                            |                            |                            |
| Max. Operating PV Input Current (A)                                                                            | 36+36                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| Max. Input Short-Circuit Current (A)                                                                           | 54+54                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| No. of MPP Trackers/<br>No. of Strings MPP Tracker                                                             | 2/2+2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| AC Input/Output Data                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Rated AC Input/Output Active Power (W)                                                                         | 14000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15000                      | 16000                      | 18000                      | 20000                      |
| Max. AC Input/Output Apparent Power (VA)                                                                       | 15400                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 16500                      | 17600                      | 19800                      | 22000                      |
| Rated AC Input/Output Current (A)                                                                              | 21.3/20.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 22.8/21.8                  | 24.3/23.2                  | 27.3/26.1                  | 30.4/29                    |
| Max. AC Input/Output Current (A)                                                                               | 23.4/22.4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 25/24                      | 26.7/25.6                  | 30/28.7                    | 33.4/31.9                  |
| Max. Continuous AC Passthrough (grid to load) (A)                                                              | 70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |                            |                            |                            |
| Peak Power (off-grid) (W)                                                                                      | 2 times of rated power, 10s                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |                            |                            |                            |
| Power Factor Adjustment Range                                                                                  | 0.8 leading to 0.8 lagging                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                            |                            |                            |
|                                                                                                                | 220/380V, 230/400V 0.85Un-1.1Un                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
|                                                                                                                | 50/45-55, 60/55-65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                            |                            |                            |                            |
|                                                                                                                | 3L+N+PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
|                                                                                                                | <3% (of nominal power)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |
|                                                                                                                | <0.5% In                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Efficiency                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Max. Efficiency                                                                                                | 97.6%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| Euro Efficiency                                                                                                | 97.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| MPPT Efficiency                                                                                                | >99%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
| Equipment Protection                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Integrated                                                                                                     | DC Polarity Reverse Connection Protection, AC Output Overcurrent Protection, Thermal Protection, AC Output Overvoltage Protection, AC Output Short Circuit Protection, DC Component Monitoring, Overvoltage Load Drop Protection, Ground Fault Current Monitoring, Arc Fault Circuit Interrupter (optional), Power Network Monitoring, Island Protection Monitoring, Earth Fault Detection, DC Input Switch, DC Terminal Insulation Impedance Monitoring, Residual Current (RCD) Detection, Surge protection level |                            |                            |                            |                            |
| Surge Protection Level                                                                                         | TYPE II(DC), TYPE II(AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Operating Temperature Range (                                                                                  | RS485/RS232/CAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
|                                                                                                                | GPRS/WIFI/Bluetooth/4G/LAN(optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
|                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
|                                                                                                                | -40 to +60°C, >45°C Derating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                            |                            |                            |
|                                                                                                                | 0-100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |
|                                                                                                                | 3000m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
|                                                                                                                | <60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                            |                            |                            |
|                                                                                                                | IP 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
|                                                                                                                | Non-Isolated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                            |                            |                            |
|                                                                                                                | OVC II(DC), OVC III(AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
|                                                                                                                | 456×750×268.5 (Excluding Connectors and Brackets)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                            |                            |                            |
|                                                                                                                | 51.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
|                                                                                                                | Intelligent Air Cooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
|                                                                                                                | 5 Years/10 Years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |                            |                            |                            |
| the Warranty Period Depends the Final Installation Site of Inverter, More Info Please Refer to Warranty Policy |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Grid Regulation                                                                                                | IEC 61727, IEC 62116, CEI 0-21, EN 50549, NRS 097, RD 140, UNE 217002, OVE-Richtlinie R25, G99, VDE-AR-N 4105                                                                                                                                                                                                                                                                                                                                                                                                      |                            |                            |                            |                            |
| Safety / EMC Standard                                                                                          | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |