

# Three Phase Hybrid Inverter

SUN-14/15/16/18/20K-SG05LP3-AU-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>-AU-SM2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | SUN-15K-SG05LP3<br>-AU-SM2 | SUN-16K-SG05LP3<br>-AU-SM2 | SUN-18K-SG05LP3<br>-AU-SM2 | SUN-20K-SG05LP3<br>-AU-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)           | 14000                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 15000                      | 16000                      | 18000                      | 20000                      |
| Rated AC Input/Output Current (A)                  | 20.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 21.8                       | 23.2                       | 26.1                       | 29                         |
| Max. AC Input/Output Current (A)                   | 20.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 21.8                       | 23.2                       | 26.1                       | 29                         |
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                            |                            |                            |                            |
| Rated Input/Output Voltage/Range (V)               | 230/400V , 240/415V 0.85Un-1.1Un                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                            |                            |                            |                            |
| Rated Input/Output Grid Frequency/Range(Hz)        | 50/45-55                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Grid Connection Form                               | 3L+N+PE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
| Total Current Harmonic Distortion THDi             | <3% (of nominal power)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |
| DC Injection Current                               | <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)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Interface                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Communication Interface                            | RS485/CAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                            |                            |                            |                            |
| Monitor Mode                                       | GPRS/WIFI/Bluetooth/4G/LAN(optional)                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
| General Data                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Operating Temperature Range (°C)                   | -40 to +60°C, >45°C Derating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                            |                            |                            |                            |
| Permissible Ambient Humidity                       | 0-100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |
| Permissible Altitude                               | 3000m                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| Noise (dB)                                         | <60                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                            |                            |                            |                            |
| Ingress Protection(IP) Rating                      | IP 65                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                            |                            |                            |                            |
| Inverter Topology (solar/battery)                  | Transformerless/ HF Transformer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                            |                            |                            |                            |
| Over Voltage Category                              | OVC II(DC), OVC III(AC)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
| Cabinet Size (WxHxD mm)                            | 456×750×268.5 (Excluding Connectors and Brackets)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                            |                            |                            |                            |
| Weight (kg)                                        | 51.9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                            |                            |                            |                            |
| Type of Cooling                                    | Intelligent Air Cooling                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                            |                            |                            |                            |
| Warranty                                           | 10 Years                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                            |                            |                            |                            |
| Grid Regulation                                    | AS/NZS 4777.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                            |                            |                            |                            |
| Safety / EMC Standard                              | IEC/EN 61000-6-1/2/3/4, IEC/EN 62109-1, IEC/EN 62109-2                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                            |                            |                            |                            |