

# Three Phase Hybrid Inverter

SUN-(29.9-35)K-SG02HP3-AU-BM3-P  
SUN-(40-50)K-SG02HP3-AU-BM4-P



## Efficient

- High voltage battery, higher efficiency



## Intelligent

- 6 time periods for battery charging/discharging



## Flexible

- AC couple to retrofit existing solar system
- Max. 10 pcs parallel for on-grid and off-grid operation; support multiple batteries parallel



## Reliable

- Max. charging/discharging current of 160A
- Support storing energy from diesel generator
- 100% unbalanced output

| Model                                              | SUN-29.9K-SG02HP3<br>-AU-BM3-P                                                                                                                                                                                                                                                                                                                                 | SUN-30K-SG02HP3<br>-AU-BM3-P | SUN-35K-SG02HP3<br>-AU-BM3-P | SUN-40K-SG02HP3<br>-AU-BM4-P | SUN-50K-SG02HP3<br>-AU-BM4-P |
|----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Battery Input Data                                 |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Battery Type                                       | Lithium-ion                                                                                                                                                                                                                                                                                                                                                    |                              |                              |                              |                              |
| Battery Voltage Range (V)                          | 160-800                                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Max. Charging/Discharging Current (A)              | 160                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| Charging Strategy for Li-ion Battery               | Self-adaption to BMS                                                                                                                                                                                                                                                                                                                                           |                              |                              |                              |                              |
| Number of Battery Input                            | 1                                                                                                                                                                                                                                                                                                                                                              |                              |                              |                              |                              |
| PV String Input Data                               |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Max. PV access power (W)                           | 59800                                                                                                                                                                                                                                                                                                                                                          | 60000                        | 70000                        | 80000                        | 100000                       |
| Max. PV Input Power (W)                            | 47840                                                                                                                                                                                                                                                                                                                                                          | 48000                        | 56000                        | 64000                        | 80000                        |
| Max. PV Input Voltage (V)                          | 1000                                                                                                                                                                                                                                                                                                                                                           |                              |                              |                              |                              |
| Start-up Voltage (V)                               | 180                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| MPPT Voltage Range (V)                             | 150-850                                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Rated PV Input Voltage (V)                         | 600                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| Max. Operating PV Input Current (A)                | 36+36+36                                                                                                                                                                                                                                                                                                                                                       |                              |                              | 36+36+36+36                  |                              |
| Max. Input Short-Circuit Current (A)               | 55+55+55                                                                                                                                                                                                                                                                                                                                                       |                              |                              | 55+55+55+55                  |                              |
| No. of MPP Trackers/<br>No. of Strings MPP Tracker | 3/2+2+2                                                                                                                                                                                                                                                                                                                                                        |                              |                              | 4/2+2+2                      |                              |
| AC Input/Output Data                               |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Rated AC Input/Output Active Power (W)             | 29900                                                                                                                                                                                                                                                                                                                                                          | 30000                        | 35000                        | 40000                        | 50000                        |
| Max. AC Input/Output Apparent Power (VA)           | 29900                                                                                                                                                                                                                                                                                                                                                          | 30000                        | 35000                        | 40000                        | 50000                        |
| Rated AC Input/Output Current (A)                  | 43.4                                                                                                                                                                                                                                                                                                                                                           | 43.5                         | 50.8                         | 58                           | 72.5                         |
| Max. AC Input/Output Current (A)                   | 43.4                                                                                                                                                                                                                                                                                                                                                           | 43.5                         | 50.8                         | 58                           | 72.5                         |
| Max. Continuous AC Passthrough (grid to load) (A)  | 200                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| Peak Power (off-grid) (W)                          | 1.5 times of rated power, 10s                                                                                                                                                                                                                                                                                                                                  |                              |                              |                              |                              |
| Power Factor Adjustment Range                      | 0.8 leading to 0.8 lagging                                                                                                                                                                                                                                                                                                                                     |                              |                              |                              |                              |
| Rated input/output voltage                         | 230/400V 240/415V 0.85Un-1.1Un 3L+N+PE                                                                                                                                                                                                                                                                                                                         |                              |                              |                              |                              |
| Rated Input/Output Grid Frequency/Range(Hz)        | 50/45-55                                                                                                                                                                                                                                                                                                                                                       |                              |                              |                              |                              |
| Total Current Harmonic Distortion THDi             | <3% (of nominal power)                                                                                                                                                                                                                                                                                                                                         |                              |                              |                              |                              |
| DC Injection Current                               | <0.5% In                                                                                                                                                                                                                                                                                                                                                       |                              |                              |                              |                              |
| Generator Data                                     |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Nominal Input Voltage (V)                          | 230/400V 240/415V                                                                                                                                                                                                                                                                                                                                              |                              |                              |                              |                              |
| Rated Input Current (A)                            | 200                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| Power Factor                                       | 0.8 leading-0.8 lagging                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Frequency                                          | 50Hz                                                                                                                                                                                                                                                                                                                                                           |                              |                              |                              |                              |
| Backup Data                                        |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Nominal Output Voltage (V)                         | 230/400V 240/415V                                                                                                                                                                                                                                                                                                                                              |                              |                              |                              |                              |
| Rated Output Current (A)                           | 43.3                                                                                                                                                                                                                                                                                                                                                           | 43.5                         | 50.8                         | 58                           | 72.5                         |
| Rated Apparent Power (VA)                          | 29900                                                                                                                                                                                                                                                                                                                                                          | 30000                        | 35000                        | 40000                        | 50000                        |
| Power Factor                                       | 0.8 leading-0.8 lagging                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Frequency                                          | 50Hz                                                                                                                                                                                                                                                                                                                                                           |                              |                              |                              |                              |
| Efficiency                                         |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Max. Efficiency                                    | 97.6%                                                                                                                                                                                                                                                                                                                                                          |                              |                              |                              |                              |
| Euro Efficiency                                    | 97.0%                                                                                                                                                                                                                                                                                                                                                          |                              |                              |                              |                              |
| 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(Active Frequency shift), DC Switch, Insulation Impedance Detection, Residual Current Detection |                              |                              |                              |                              |
| Surge Protection Level                             | TYPE II(DC), TYPE II(AC)                                                                                                                                                                                                                                                                                                                                       |                              |                              |                              |                              |
| Interface                                          |                                                                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| LCD/LED Display                                    | LCD+LED                                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| 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                               | 3000m                                                                                                                                                                                                                                                                                                                                                          |                              |                              |                              |                              |
| Noise (dB)                                         | ≤65                                                                                                                                                                                                                                                                                                                                                            |                              |                              |                              |                              |
| Ingress Protection(IP) Rating                      | IP 65                                                                                                                                                                                                                                                                                                                                                          |                              |                              |                              |                              |
| Protection Level                                   | Class I                                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Inverter Topology                                  | Non-Isolated                                                                                                                                                                                                                                                                                                                                                   |                              |                              |                              |                              |
| Over Voltage Category                              | OVC II(DC), OVC III(AC)                                                                                                                                                                                                                                                                                                                                        |                              |                              |                              |                              |
| Cabinet Size (WxHxD mm)                            | 528×793×278 (Excluding Connectors and Brackets)                                                                                                                                                                                                                                                                                                                |                              |                              |                              |                              |
| Weight (kg)                                        | 65                                                                                                                                                                                                                                                                                                                                                             |                              |                              |                              |                              |
| 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                                                                                                                                                                                                                                                                                                         |                              |                              |                              |                              |