

# 9

## Technical Specifications

### 9.1 SUN2000-(6K/10K/15K)-MBL0 Technical Specifications

#### Efficiency

| Technical Specifications | SUN2000-6K-MBL0 | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|--------------------------|-----------------|------------------|------------------|
| Maximum efficiency       | 97.60%          | 97.60%           | 97.60%           |
| European efficiency      | 96.90%          | 97.10%           | 97.10%           |

#### Input

| Technical Specifications               | SUN2000-6K-MBL0                      | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|----------------------------------------|--------------------------------------|------------------|------------------|
| Recommended maximum input DC power     | 9000 W                               | 15000 W          | 22500 W          |
| Maximum input voltage <sup>a</sup>     | 800 V                                |                  |                  |
| Maximum input current per MPPT         | 20 A (one PV string)/30 A (one MPPT) |                  |                  |
| Maximum short-circuit current per MPPT | 40 A                                 |                  |                  |

| Technical Specifications                                                                                                                                                 | SUN2000-6K-MBL0 | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------|------------------|
| Minimum startup voltage                                                                                                                                                  | 200 V           |                  |                  |
| MPPT voltage range                                                                                                                                                       | 160–800 V       |                  |                  |
| Full-load MPPT voltage range                                                                                                                                             | 260–735 V       |                  |                  |
| Rated input voltage                                                                                                                                                      | 360 V           |                  |                  |
| Maximum number of inputs                                                                                                                                                 | 4               |                  |                  |
| Number of MPPTs                                                                                                                                                          | 2               |                  |                  |
| Rated battery voltage                                                                                                                                                    | 450 V DC        |                  |                  |
| Battery voltage range                                                                                                                                                    | 350–800 V DC    |                  |                  |
| Maximum battery current                                                                                                                                                  | 26.25 A         |                  |                  |
| Battery type                                                                                                                                                             | Li-ion          |                  |                  |
| Note a: The maximum input voltage is the maximum DC input voltage that the inverter can withstand. If the input voltage exceeds this value, the inverter may be damaged. |                 |                  |                  |

Output

| Technical Specifications                      | SUN2000-6K-MBL0                          | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|-----------------------------------------------|------------------------------------------|------------------|------------------|
| Rated output power                            | 6000 W                                   | 10000 W          | 15000 W          |
| Maximum apparent power                        | 6600 VA                                  | 11000 VA         | 16500 VA         |
| Maximum active power (cosφ = 1)               | 6600 W                                   | 11000 W          | 16500 W          |
| Rated output voltage                          | 230 V AC, 3W+PE                          |                  |                  |
| Maximum output voltage at long-term operation | Refer to the local power grid standards. |                  |                  |

| Technical Specifications                    | SUN2000-6K-MBL0                                                               | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|---------------------------------------------|-------------------------------------------------------------------------------|------------------|------------------|
| Rated output current                        | 15 A/230 V AC                                                                 | 25.1 A/230 V AC  | 37.6 A/230 V AC  |
| Maximum output current                      | 16.6 A/230 V AC                                                               | 27.6 A/230 V AC  | 41.5 A/230 V AC  |
| Output voltage frequency                    | 50 Hz                                                                         |                  |                  |
| Power factor                                | 0.8 leading ... 0.8 lagging                                                   |                  |                  |
| Output DC component (DCI)                   | < 0.5% of the rated output                                                    |                  |                  |
| Maximum total harmonic distortion (AC THDi) | < 3% under rated conditions. Single harmonic meets the VDE 4105 requirements. |                  |                  |

## Protection

| Technical Specifications          | SUN2000-6K-MBL0                                                            | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|-----------------------------------|----------------------------------------------------------------------------|------------------|------------------|
| Overvoltage category              | PV II/AC III                                                               |                  |                  |
| Input DC switch                   | Supported                                                                  |                  |                  |
| Anti-islanding protection         | Supported                                                                  |                  |                  |
| Output overcurrent protection     | Supported                                                                  |                  |                  |
| Input reverse polarity protection | Supported                                                                  |                  |                  |
| DC surge protection               | TYPE II                                                                    |                  |                  |
| AC surge protection               | Yes, compatible with TYPE II protection class according to EN/IEC 61643-11 |                  |                  |
| Insulation resistance detection   | Supported                                                                  |                  |                  |

| Technical Specifications                | SUN2000-6K-MBL0 | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|-----------------------------------------|-----------------|------------------|------------------|
| Residual current monitoring unit (RCMU) | Supported       |                  |                  |

## Display and Communication

| Technical Specifications | SUN2000-6K-MBL0          | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|--------------------------|--------------------------|------------------|------------------|
| Display                  | LED indicators; WLAN+app |                  |                  |
| WLAN-FE Dongle           | Supported                |                  |                  |
| 4G Smart Dongle          | Optional                 |                  |                  |
| RS485 communication      | Supported                |                  |                  |
| Built-in WLAN            | Supported                |                  |                  |
| DC MBUS                  | Supported                |                  |                  |
| AFCI                     | Supported                |                  |                  |
| PID recovery             | Supported                |                  |                  |

## General Specifications

| Technical Specifications   | SUN2000-6K-MBL0                                           | SUN2000-10K-MBL0                    | SUN2000-15K-MBL0                    |
|----------------------------|-----------------------------------------------------------|-------------------------------------|-------------------------------------|
| Dimensions (H x W x D)     | 460 mm x 546 mm x 228 mm                                  |                                     |                                     |
| Net weight                 | 21 kg                                                     |                                     |                                     |
| Noise                      | < 45 dB (typical working condition)                       | < 50 dB (typical working condition) | < 50 dB (typical working condition) |
| Operating temperature      | -25°C to +60°C                                            |                                     |                                     |
| Relative humidity          | 0-100% RH                                                 |                                     |                                     |
| Cooling mode               | Smart air cooling                                         |                                     |                                     |
| Maximum operating altitude | 4000 m (derated when the altitude is greater than 2000 m) |                                     |                                     |

| Technical Specifications | SUN2000-6K-MBL0 | SUN2000-10K-MBL0 | SUN2000-15K-MBL0 |
|--------------------------|-----------------|------------------|------------------|
| Storage temperature      | -40°C to +70°C  |                  |                  |
| IP rating                | IP66            |                  |                  |
| Topology                 | Transformerless |                  |                  |

Wireless Communication Parameters

| Technical Specifications | Inverter Built-in WiFi | WLAN-FE Smart Dongle             | 4G Smart Dongle                                                                                                                                                                                                                                                                                                                       |
|--------------------------|------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Frequency                | 2400–2483.5 MHz        | SDongleA-05:<br>2400–2483.5 MHz  | SDongleB-06-EU (WiFi):<br>2400–2483.5 MHz<br>SDongleB-06-EU (4G): <ul style="list-style-type: none"><li>• Supports LTE FDD: B1/B3/B5/B8.</li><li>• Supports LTE TDD: B7/B20/B28/B38/B40/B41.</li><li>• Supports GSM/GPRS/EDGE: 900 MHz/1800 MHz.</li></ul>                                                                            |
| Protocols and standards  | WLAN 802.11b/g/n       | SDongleA-05:<br>WLAN 802.11b/g/n | SDongleB-06-EU (WiFi):<br>WLAN 802.11b/g/n<br>SDongleB-06-EU (4G): <ul style="list-style-type: none"><li>• Supports LTE FDD (with receive diversity): B1/B3/B5/B8.</li><li>• Supports LTE TDD (with receive diversity): B7/B20/B28/B38/B40/B41.</li><li>• Supports GSM: 900 MHz/1800 MHz.</li><li>• Supports digital audio.</li></ul> |

| Technical Specifications | Inverter Built-in WiFi | WLAN-FE Smart Dongle | 4G Smart Dongle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------|------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bandwidth                | ≤ 20 MHz               | ≤ 20 MHz             | <p>LTE features:</p> <ul style="list-style-type: none"><li>• Supports a maximum of 3GPP R8 non-CA Cat 4 FDD and TDD.</li><li>• Supports 1.4 MHz/3 MHz/5 MHz/10 MHz/15 MHz/20 MHz RF bandwidth.</li><li>• Supports MIMO in the downlink.</li><li>• LTE FDD: maximum downlink rate of 150 Mbit/s and maximum uplink rate of 50 Mbit/s</li><li>• LTE TDD: maximum downlink rate of 130 Mbit/s and maximum uplink rate of 30 Mbit/s</li></ul> <p>UMTS features:</p> <ul style="list-style-type: none"><li>• Supports 3GPP R7 HSDPA+, HSDPA, HSUPA, and WCDMA.</li><li>• Supports QPSK and 16QAM modulation.</li><li>• HSDPA+: maximum downlink rate of 21 Mbit/s</li><li>• HSUPA: maximum uplink rate of 5.76 Mbit/s</li><li>• WCDMA: maximum downlink rate of 384 kbit/s and maximum uplink rate of 384 kbit/s</li></ul> <p>GSM features:</p> <p>GPRS:</p> <ul style="list-style-type: none"><li>• Supports GPRS multislots class 12.</li><li>• Coding schemes: CS-1, CS-2, CS-3, and CS-4</li><li>• Maximum downlink rate: 85.6 kbit/s; maximum uplink rate: 85.6 kbit/s</li></ul> <p>EDGE:</p> |

| Technical Specifications | Inverter Built-in WiFi | WLAN-FE Smart Dongle | 4G Smart Dongle                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------|------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                          |                        |                      | <ul style="list-style-type: none"><li>• Supports EDGE multislot class 12.</li><li>• Supports GMSK and 8-PSK modulation and coding schemes.</li><li>• Downlink coding format: MCS 1–9</li><li>• Uplink coding format: MCS 1–9</li><li>• Maximum downlink rate: 236.8 kbit/s; maximum uplink rate: 236.8 kbit/s</li></ul> SDongleB-06-EU (WiFi): 20 MHz/40 MHz (optional)                                                                                               |
| Maximum transmit power   | ≤ 20 dBm EIRP          | ≤ 20 dBm EIRP        | <ul style="list-style-type: none"><li>• Class 4 (33 dBm±2 dB), EGSM900 frequency band</li><li>• Class 1 (30 dBm±2 dB), DCS1800 frequency band</li><li>• Class E2 (27 dBm±3 dB), EGSM900 8-PSK</li><li>• Class E2 (26 dBm±3 dB), DCS1800 8-PSK</li><li>• Class 3 (24 dBm+1/–3 dB), WCDMA frequency band</li><li>• Class 3 (23 dBm±2 dB), LTE FDD frequency band</li><li>• Class 3 (23 dBm±2 dB), LTE TDD frequency band</li></ul> SDongleB-06-EU (WiFi): ≤ 20 dBm EIRP |