Inspections Division
Date: 12/23/13



SB 3000TL-20 / SB 4000TL-20 / SB 5000TL-20

### High Yields

- Maximum efficiency of 97 %
- Multi-String technology*
- Transformerless, with H5 topology
- Shade management with OptiTrac Global Peak

### Safe

- Integrated ESS DC switch-disconnector

### Simple

- Easily accessible connection area
- Cable connection without tools
- DC plug system SUNCLIX

### Communicative

- *Bluetooth*® technology as standard
- Multilingual graphic display
- Multi-function relay as standard

# SUNNY BOY 3000TL / 4000TL / 5000TL

## Perfection Plus. Usability. The transformerless Sunny Boy generation

More communicative, easier to use and more efficient than ever: this Sunny Boy is setting new standards in inverter technology. A modern graphic display, readout of daily values even after sunset, simplified installation concept and wireless communication via *Bluetooth*®: The new Sunny Boys fulfill every wish. With the new OptiTrac Global Peak shade management and an optimal efficiency of 97 %, the inverters ensure optimum solar yield. As transformerless, multi-string devices, the Sunny Boy 4000TL and 5000TL provide maximum flexibility for plant design, and are the first choice for demanding generator designs.

*Sunny Boy 4000TL / 5000TL

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| Technical data | Sunny Boy 3000TL | Sunny Boy 4000TL | Sunny Boy 4000TL/V | Sunny Boy 5000TL |
|---|---|---|---|---|
| **Input (DC)** | | | | |
| Max. DC power (@ cos φ =1) | 3200 W | 4200 W | 4200 W | 5300 W |
| Max. DC voltage | 550 V | 550 V | 550 V | 550 V |
| MPP voltage range | 188 V – 440 V | 175 V – 440 V | 175 V – 440 V | 175 V – 440 V |
| DC nominal voltage | 400 V | 400 V | 400 V | 400 V |
| Min. DC voltage / start voltage | 125 V / 150 V | 125 V / 150 V | 125 V / 150 V | 125 V / 150 V |
| Max. input current / per string | 17 A / 17 A | 2 x 15 A / 15 A | 2 x 15 A / 15 A | 2 x 15 A / 15 A |
| Number of MPP trackers / strings per MPP tracker | 1 / 2 | 2 / A: 2, B: 2 | 2 / A: 2, B: 2 | 2 / A: 2, B: 2 |
| **Output (AC)** | | | | |
| AC nominal power (@ 230 V, 50 Hz) | 3000 W | 4000 W | 3680 W | 4600 W |
| Max. AC apparent power | 3000 VA | 4000 VA | 4000 VA | 5000 VA |
| Nominal AC voltage; range | 220, 230, 240 V; 180 – 280 V | 220, 230, 240 V; 180 – 280 V | 220, 230, 240 V; 180 – 280 V | 220, 230, 240 V; 180 – 280 V |
| AC grid frequency; range | 50, 60 Hz; ± 5 Hz | 50, 60 Hz; ± 5 Hz | 50, 60 Hz; ± 5 Hz | 50, 60 Hz; ± 5 Hz |
| Max. output current | 16 A | 22 A | 22 A | 22 A |
| Power factor (cos φ) | 1 | 1 | 1 | 1 |
| Phase conductors / connection phases | 1 / 1 | 1 / 1 | 1 / 1 | 1 / 1 |
| **Efficiency** | | | | |
| Max. efficiency / Euro-eta | 97.0 % / 96.3 % | 97.0 % / 96.4 % | 97.0 % / 96.4 % | 97.0 % / 96.5 % |
| **Protection devices** | | | | |
| DC reverse-polarity protection | ● | ● | ● | ● |
| ESS switch-disconnector | ● | ● | ● | ● |
| AC short circuit protection | ● | ● | ● | ● |
| Ground fault monitoring | ● | ● | ● | ● |
| Grid monitoring (SMA Grid Guard) | ● | ● | ● | ● |
| Galvanically isolated / all-pole sensitive fault current monitoring unit | –/● | –/● | –/● | –/● |
| Protection class / overvoltage category | I / III | I / III | I / III | I / III |
| **General data** | | | | |
| Dimensions (W / H / D) in mm | 470 / 445 / 180 | 470 / 445 / 180 | 470 / 445 / 180 | 470 / 445 / 180 |
| Weight | 22 kg | 25 kg | 25 kg | 25 kg |
| Operating temperature range | –25 °C ... +60 °C | –25 °C ... +60 °C | –25 °C ... +60 °C | –25 °C ... +60 °C |
| Noise emission (typical) | ≤ 25 dB(A) | ≤ 29 dB(A) | ≤ 29 dB(A) | ≤ 29 dB(A) |
| Internal consumption (night) | < 0.5 W | < 0.5 W | < 0.5 W | < 0.5 W |
| Topology | transformerless | transformerless | transformerless | transformerless |
| Cooling concept | Convection | OptiCool | OptiCool | OptiCool |
| Electronics protection rating / connection area (as per IEC 60529) | IP65 / IP54 | IP65 / IP54 | IP65 / IP54 | IP65 / IP54 |
| Climatic category (per IEC 60721-3-4) | 4K4H | 4K4H | 4K4H | 4K4H |
| **Features** | | | | |
| DC connection: SUNCLIX | ● | ● | ● | ● |
| AC connection: screw terminal / plug connector / spring-type terminal | –/–/● | –/–/● | –/–/● | –/–/● |
| Display: text line / graphic | –/● | –/● | –/● | –/● |
| Interfaces: RS485 / *Bluetooth*® | o/● | o/● | o/● | o/● |
| Warranty: 5 / 10 / 15 / 20 / 25 years | ●/o/o/o/o | ●/o/o/o/o | ●/o/o/o/o | ●/o/o/o/o |
| Certificates and permits (more available on request) | CE, VDE 0126-1-1, DK 5940, RD 1663, G83/1-1, PPC, AS4777, EN 50438*, C10/C11, PPDS | | | |
| * Does not apply to all national deviations of EN 50438 | | | | |
| ● Standard features o Optional features – not available | | | | |
| Data at nominal conditions | | | | |
| Type designation | SB 3000TL-20 | SB 4000TL-20 | SB 4000TL-20/V 0159 | SB 5000TL-20 |

## Accessories

RS485 interface
DM-485CB-10

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