



Efficient

- Maximum efficiency of 97 %
- Multi-string technology, also in the 3 kW model
- Cost savings due to fewer parallel strings
- Shade management with OptiTrac Global Peak

Flexible

- Maximum DC input voltage of 750 V
- Integrated grid management functions thanks to reactive power supply

Simple

- Without fan
- Simplified wall mounting
- SUNCLIX DC plug-in system
- Quick connection without tools

Communicative

- Simple country configuration
- Bluetooth technology as standard
- Multi-function relay included



SUNNY BOY 3000TL / 4000TL / 5000TL with Reactive Power Control

Universally applicable thanks to integrated grid management functions

The ideal solution particularly for demanding PV arrays and partially shaded plants: As multi-string devices, the new transformerless Sunny Boy 3000TL, 4000TL and 5000TL models offer maximum planning and realization flexibility. The high DC voltage of 750 V proves to be a cost advantage, since fewer parallel strings are required. In addition, the integrated grid management functions make the devices suitable for universal applications and allow them to actively support the grid. The new wall mounting system further facilitates installation.

SUNNY BOY 3000TL/4000TL/5000TL with Reactive Power Control

| Technical Data | Sunny Boy 3000TL | Sunny Boy 4000TL |
|--|---|--|
| Input (DC) | | |
| Max. DC power (@ $\cos \varphi=1$) | 3200 W | 4200 W |
| Max. input voltage | 750 V | 750 V |
| MPP voltage range / rated input voltage | 175 V - 500 V / 400 V | 175 V - 500 V / 400 V |
| Min. input voltage / initial input voltage | 125 V / 150 V | 125 V / 150 V |
| Max. input current input A / input B | 15 A / 15 A | 15 A / 15 A |
| Max. input current per string input A / input B | 15 A / 15 A | 15 A / 15 A |
| Number of independent MPP inputs / strings per MPP input | 2 / A:2; B:2 | 2 / A:2; B:2 |
| Output (AC) | | |
| Rated power (@ 230 V, 50 Hz) | 3000 W | 4000 W |
| Max. apparent AC power | 3000 VA | 4000 VA |
| Nominal AC voltage / range | 220 V, 230 V, 240 V / 180 V - 280 V | 220 V, 230 V, 240 V / 180 V - 280 V |
| AC power frequency / range | 50 Hz, 60 Hz / -5 Hz ... +5 Hz | 50 Hz, 60 Hz / -5 Hz ... +5 Hz |
| Rated grid frequency / rated grid voltage | 50 Hz / 230 V | 50 Hz / 230 V |
| Max. output current | 16 A | 22 A |
| Power factor at rated output power | 1 | 1 |
| Adjustable displacement factor | 0.8 overexcited ... 0.8 underexcited | 0.8 overexcited ... 0.8 underexcited |
| Phase conductors / connection phases | 1 / 1 | 1 / 1 |
| Efficiency | | |
| Max. efficiency / European efficiency | 97 % / 96.3 % | 97 % / 96.4 % |
| Protection | | |
| Input-side disconnection device | ● | ● |
| Ground fault monitoring / grid monitoring | ● / ● | ● / ● |
| DC surge arrester Type II, can be integrated | — | — |
| DC reverse-polarity protection / AC short-circuit current capability / galvanically isolated | ● / ● / — | ● / ● / — |
| All-pole sensitive residual current monitoring unit | ● | ● |
| Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) | I / III | I / III |
| General Data | | |
| Dimensions (W / H / D) | 490 / 519 / 185 mm (19.3 / 20.4 / 7.3 in) | 490 / 519 / 185 mm (19.3 / 20.5 / 7.3 in) |
| Weight | 26 kg / 57.3 lb | 26 kg / 57.3 lb |
| Operating temperature range | -25 °C ... +60 °C / -13 °F ... +140 °F | -25 °C ... +60 °C / -13 °F ... +140 °F |
| Noise emission (typical) | 25 dB(A) | 25 dB(A) |
| Self-consumption at night | 1 W | 1 W |
| Topology | Transformerless | Transformerless |
| Cooling concept | Convection | Convection |
| Degree of protection (according to IEC 60529) | IP65 | IP65 |
| Degree of protection of connection area (according to IEC 60529) | IP54 | IP54 |
| Climatic category (according to IEC 60721-3-4) | 4K4H | 4K4H |
| Maximum permissible value for relative humidity (non-condensing) | 100 % | 100 % |
| Features | | |
| DC terminal | SUNCLIX | SUNCLIX |
| AC terminal | Spring-type terminal | Spring-type terminal |
| Display | Graphic | Graphic |
| Interface: RS485 / Bluetooth | ○ / ● | ○ / ● |
| Warranty: 5 / 10 / 15 / 20 / 25 years | ● / ○ / ○ / ○ / ○ | ● / ○ / ○ / ○ / ○ |
| Multi-function relay | ● | ● |
| Certificates and approvals (more available on request) | CE, VDE0126-1-1, DK 5940 ED2.2, G83/1-1, RD 1663, PPC, AS4777, EN 50438*, PPDS, KEMCO**, AR4105 | |
| Type designation | SB 3000TL-21 | SB 4000TL-21 |

Accessories


 RS485 interface
DM-485CB-10

* Does not apply to all national deviations of EN 50438

** Only SB 3000TL-21

*** 4600 VA with VDE-AR-N-4105

● Standard features ○ Optional features – Not available

Provisional data, as of March 2011

Data at nominal conditions

| Technical Data | Sunny Boy 5000TL | |
|--|--|--|
| Input (DC) | | |
| Max. DC power (@ $\cos \varphi=1$) | 5300 W | |
| Max. input voltage | 750 V | |
| MPP voltage range / rated input voltage | 175 V - 500 V / 400 V | |
| Min. input voltage / initial input voltage | 125 V / 150 V | |
| Max. input current input A / input B | 15 A / 15 A | |
| Max. input current per string input A / input B | 15 A / 15 A | |
| Number of independent MPP inputs / strings per MPP input | 2 / A:2; B:2 | |
| Output (AC) | | |
| Rated power (@ 230 V, 50 Hz) | 4600 W | |
| Max. apparent AC power | 5000 VA*** | |
| Nominal AC voltage / range | 220 V, 230 V, 240 V / 180 V - 280 V | |
| AC power frequency / range | 50 Hz, 60 Hz / -5 Hz ... +5 Hz | |
| Rated grid frequency / rated grid voltage | 50 Hz / 230 V | |
| Max. output current | 22 A | |
| Power factor at rated output power | 1 | |
| Adjustable displacement factor | 0.8 overexcited ... 0.8 underexcited | |
| Phase conductors / connection phases | 1 / 1 | |
| Efficiency | | |
| Max. efficiency / European efficiency | 97% / 96.5% | |
| Protection | | |
| Input-side disconnection device | ● | |
| Ground fault monitoring / grid monitoring | ● / ● | |
| DC surge arrester Type II, can be integrated | – | |
| DC reverse-polarity protection / AC short-circuit current capability / galvanically isolated | ● / ● / – | |
| All-pole sensitive residual current monitoring unit | ● | |
| Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) | I / III | |
| General Data | | |
| Dimensions (W / H / D) | 490 / 519 / 185 mm (19.3 / 20.5 / 7.3 in) | |
| Weight | 26 kg / 57.3 lb | |
| Operating temperature range | -25 °C ... +60 °C / -13 °F ... +140 °F | |
| Noise emission (typical) | 25 dB(A) | |
| Self-consumption at night | 1 W | |
| Topology | Transformerless | |
| Cooling concept | Convection | |
| Degree of protection (according to IEC 60529) | IP65 | |
| Degree of protection of connection area (according to IEC 60529) | IP54 | |
| Climatic category (according to IEC 60721-3-4) | 4K4H | |
| Maximum permissible value for relative humidity (non-condensing) | 100 % | |
| Features | | |
| DC terminal | SUNCLIX | |
| AC terminal | Spring-type terminal | |
| Display | Graphic | |
| Interface: RS485 / Bluetooth | ○ / ● | |
| Warranty: 5 / 10 / 15 / 20 / 25 years | ● / ○ / ○ / ○ / ○ | |
| Multi-function relay | ● | |
| Certificates and approvals (more available on request) | CE, VDE0126-1-1, DK 5940 ED2.2, G83/1-1, RD 1663, PPC, AS4777, EN 50438*, PPDS | |
| Type designation | SB 5000TL-21 | |