

SUNNY TRIPOWER 5000TL – 12000TL



STP 5000TL-20 / STP 6000TL-20 / STP 7000TL-20 / STP 8000TL-20 / STP 9000TL-20 / STP 10000TL-20 / STP 12000TL-20



Economical

- Maximum efficiency of 98.3 %
- Shade management with OptiTrac Global Peak
- Active temperature management with OptiCool

Flexible

- DC input voltage of up to 1,000 V
- Integrated grid management functions
- Reactive power supply
- Module-tailored system design with Optiflex

Communicative

- SMA Webconnect
- Sunny Portal communication
- SMA and SunSpec Modbus communication
- Simple country configuration
- Multifunction relay comes standard

Easy-to-Use

- Three-phase feed-in
- Cable connection without tools
- SUNCLIX DC plug-in system
- Integrated ESS (Electronic Solar Switch)
- Easy wall mounting

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The Three-Phase Inverter – Not Only for Your Home...

...but also perfectly suited to the design of the traditional residential PV system up to the higher power outage range. After all, with the addition of the new 10 kVA and 12 kVA versions to the portfolio, the Sunny Tripower product range covers a broad spectrum of applications. Users benefit from numerous tried-and-tested product features. Highly flexible with its proven Optiflex technology and asymmetrical multistring, it delivers maximum yields with a top efficiency rating and OptiTrac Global Peak. In addition to SMA and Sunspec Modbus communication, it also comes standard with a direct Sunny Portal connection via SMA Webconnect. Other standard features include integrated grid management functions, reactive power supply and suitability for operation with a 30 mA RCD. In summary, when it comes to system design in the 5 kW to 12 kW power classes, the Sunny Tripower is the optimum product solution – for applications ranging from use in your own home and larger PV rooftop systems to implementation of smaller-scale PV farms.

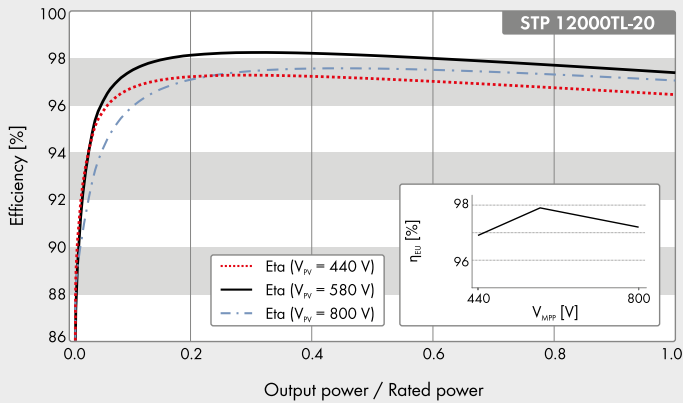
SUNNY TRIPOWER

5000TL / 6000TL / 7000TL / 8000TL / 9000TL / 10000TL / 12000TL

| Technical Data | Sunny Tripower 5000TL | Sunny Tripower 6000TL |
|--|---|---|
| Input (DC) | | |
| Max. generator power | 9000 W _p | 9000 W _p |
| Max. input voltage | 1000 V | 1000 V |
| MPP voltage range / rated input voltage | 245 V to 800 V/580 V | 295 V to 800 V/580 V |
| Min. input voltage / start input voltage | 150 V / 188 V | 150 V / 188 V |
| Max. input current input A / input B | 11 A / 10 A | 11 A / 10 A |
| Max. short-circuit current input A / input B | 17 A / 15 A | 17 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 (at 230 V, 50 Hz) | 5000 W | 6000 W |
| Max. AC apparent power | 5000 VA | 6000 VA |
| Nominal AC voltage | 3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V | 3 / N / PE; 220 / 380 V 3 / N / PE; 230 / 400 V 3 / N / PE; 240 / 415 V |
| Nominal AC voltage range | 160 to 280 V | 160 V to 280 V |
| AC grid frequency / range | 50 Hz, 60 Hz / -5 Hz to +5 Hz | 50 Hz, 60 Hz / -5 Hz to +5 Hz |
| Rated power frequency / rated grid voltage | 50 Hz / 230 V | 50 Hz / 230 V |
| Max. output current | 7.3 A | 8.7 A |
| Power factor at rated power | 1 | 1 |
| Adjustable displacement power factor | 0.8 overexcited to 0.8 underexcited | 0.8 overexcited to 0.8 underexcited |
| Feed-in phases / connection phases | 3 / 3 | 3 / 3 |
| Efficiency | | |
| Max. efficiency / European efficiency | 98 % / 97.1 % | 98 % / 97.4 % |
| Protective devices | | |
| DC disconnect device | ● | ● |
| Ground fault monitoring / grid monitoring | ● / ● | ● / ● |
| 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) | 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch) | 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch) |
| Weight | 37 kg (81.6 lb) | 37 kg (81.6 lb) |
| Operating temperature range | -25 °C to +60 °C (-13 °F to +140 °F) | -25 °C to +60 °C (-13 °F to +140 °F) |
| Noise emission (typical) | 40 dB(A) | 40 dB(A) |
| Self-consumption (at night) | 1 W | 1 W |
| Topology / cooling concept | Transformerless / Opticool | Transformerless / Opticool |
| Degree of protection (according to IEC 60529) | IP65 | IP65 |
| Climatic category (according to IEC 60721-3-4) | 4K4H | 4K4H |
| Maximum permissible value for relative humidity (non-condensing) | 100 % | 100 % |
| Features | | |
| DC connection / AC connection | SUNCLIX / spring-cage terminal | SUNCLIX / spring-cage terminal |
| Display | Graphic | Graphic |
| Interface: RS485, Modbus, Speedwire / Webconnect | ○ / ● / ● | ○ / ● / ● |
| Multifunction relay / Power Control Module | ● / ○ | ● / ○ |
| Guarantee: 5 / 10 / 15 / 20 years | ● / ○ / ○ / ○ | ● / ○ / ○ / ○ |
| Certificates and permits (more available on request) | AS 4777.2:2015, CE, CEI 0-21:2016, C10/11:2012, DIN EN 62109-1, EN 50438 ¹ , G59/3, G83/2, IEC 61727/MEA ² , IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014 | |
| Type designation | STP 5000TL-20 | STP 6000TL-20 |

| Sunny Tripower 7000TL | Sunny Tripower 8000TL | Sunny Tripower 9000TL |
|--|--|--|
| 13500 W _p | 13500 W _p | 13500 W _p |
| 1000 V | 1000 V | 1000 V |
| 290 V to 800 V / 580 V | 330 V to 800 V / 580 V | 370 V to 800 V / 580 V |
| 150 V / 188 V | 150 V / 188 V | 150 V / 188 V |
| 15 A / 10 A | 15 A / 10 A | 15 A / 10 A |
| 25 A / 15 A | 25 A / 15 A | 25 A / 15 A |
| 2 / A:2; B:2 | 2 / A:2; B:2 | 2 / A:2; B:2 |
| 7000 W | 8000 W | 9000 W |
| 7000 VA | 8000 VA | 9000 VA |
| 3 / N / PE; 220 / 380 V | 3 / N / PE; 220 / 380 V | 3 / N / PE; 220 / 380 V |
| 3 / N / PE; 230 / 400 V | 3 / N / PE; 230 / 400 V | 3 / N / PE; 230 / 400 V |
| 3 / N / PE; 240 / 415 V | 3 / N / PE; 240 / 415 V | 3 / N / PE; 240 / 415 V |
| 160 V to 280 V | 160 V to 280 V | 160 V ... 280 V |
| 50 Hz, 60 Hz / -5 Hz to +5 Hz | 50 Hz, 60 Hz / -5 Hz to +5 Hz | 50 Hz, 60 Hz / -5 Hz ... +5 Hz |
| 50 Hz / 230 V | 50 Hz / 230 V | 50 Hz / 230 V |
| 10.2 A | 11.6 A | 13.1 A |
| 1 | 1 | 1 |
| 0.8 overexcited to 0.8 underexcited | 0.8 overexcited to 0.8 underexcited | 0.8 overexcited to 0.8 underexcited |
| 3 / 3 | 3 / 3 | 3 / 3 |
| 98 % / 97.5 % | 98 % / 97.6 % | 98 % / 97.6 % |
| | | |
| I / III | I / III | I / III |
| 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch) | 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch) | 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inch) |
| 37 kg (81.6 lb) | 37 kg (81.6 lb) | 37 kg (81.6 lb) |
| -25 °C to +60 °C (-13 °F to +140 °F) | -25 °C to +60 °C (-13 °F to +140 °F) | -25 °C to +60 °C (-13 °F to +140 °F) |
| 40 dB(A) | 40 dB(A) | 40 dB(A) |
| 1 W | 1 W | 1 W |
| Transformerless / Opticool | Transformerless / Opticool | Transformerless / Opticool |
| IP65 | IP65 | IP65 |
| 4K4H | 4K4H | 4K4H |
| 100 % | 100 % | 100 % |
| SUNCLIX / spring-cage terminal | SUNCLIX / spring-cage terminal | SUNCLIX / spring-cage terminal |
| Graphic | Graphic | Graphic |
| | | |
| AS 4777.2:2015, CE, CEI 0-21:2016, C10/11:2012, DIN EN 62109-1, EN 50438 ¹ , G59/3, G83/2, IEC 61727/MEA ² , IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014 | | |
| STP 7000TL-20 | STP 8000TL-20 | STP 9000TL-20 |

Efficiency curve



Accessories



Power Control Module
PWCBRD-10



RS485 interface
485BRD-10

¹ Does not apply to all national appendices of EN 50438

² Only STP 9000TL-20

● Standard feature ○ Optional feature – Not available
Last updated: May 2017
Data at nominal conditions

| Sunny Tripower 10000TL | Sunny Tripower 12000TL | |
|--|--|--|
| 13500 W _p | 18000 W _p | |
| 1000 V | 1000 V | |
| 370 V to 800 V / 580 V | 440 V to 800 V / 580 V | |
| 150 V / 188 V | 150 V / 188 V | |
| 18 A / 10 A | 18 A / 10 A | |
| 25 A / 15 A | 25 A / 15 A | |
| 2 / A:2; B:2 | 2 / A:2; B:2 | |
| 10000 W | 12000 W | |
| 10000 VA | 12000 VA | |
| 3 / N / PE; 220 / 380 V | 3 / N / PE; 220 / 380 V | |
| 3 / N / PE; 230 / 400 V | 3 / N / PE; 230 / 400 V | |
| 3 / N / PE; 240 / 415 V | 3 / N / PE; 240 / 415 V | |
| 160 V to 280 V | 160 V to 280 V | |
| 50 Hz, 60 Hz / -5 Hz to +5 Hz | 50 Hz, 60 Hz / -5 Hz to +5 Hz | |
| 50 Hz / 230 V | 50 Hz / 230 V | |
| 14.5 A | 17.4 A | |
| 1 | 1 | |
| 0.8 overexcited to 0.8 underexcited | 0.8 overexcited to 0.8 underexcited | |
| 3 / 3 | 3 / 3 | |
| 98 % / 97.6 % | 98.3 % / 97.9 % | |
| ● | ● | |
| ● / ● | ● / ● | |
| ● / ● / – | ● / ● / – | |
| ● | ● | |
| I / III | I / III | |
| 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inches) | 470 / 730 / 240 mm (18.5 / 28.7 / 9.5 inches) | |
| 37 kg (81.6 lb) | 38 kg / 84 lbs | |
| -25°C to +60 °C (-13 °F to +140 °F) | -25°C to +60 °C (-13 °F to +140 °F) | |
| 40 dB(A) | 40 dB(A) | |
| 1 W | 1 W | |
| Transformerless / Opticool | Transformerless / Opticool | |
| IP65 | IP65 | |
| 4K4H | 4K4H | |
| 100 % | 100 % | |
| SUNCLIX / spring-cage terminal | SUNCLIX / spring-cage terminal | |
| Graphic | Graphic | |
| ○ / ● / ● | ○ / ● / ● | |
| ● / ○ | ● / ○ | |
| ● / ○ / ○ / ○ | ● / ○ / ○ / ○ | |
| AS 4777.2:2015, CE, CEI 0-21:2016, C10/11:2012, DIN EN 62109-1, EN 50438 ¹ , G59/3, G83/2, IEC 61727/MEA ² , IEC 62109-2, NEN EN 50438, NRS 097-2-1, PPC, PPDS, RD 661/2007, RD 1699:2011, SI 4777, UTE C15-712-1, VDE0126-1-1, VDE AR-N 4105, VFR 2013, VFR 2014 | | |
| STP 10000TL-20 | STP 12000TL-20 | |

SUNNY PORTAL



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SUNNY PLACES

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www.SMA-Solar.com

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