SMA

Efficient

- Maximum efficiency of 98.1%
- OptiTrac™ Global Peak for best tracking efficiency
- *Bluetooth*® communication

Safe

- Electronic string fuse and failure detection
- Optional DC overvoltage protector (Type II)
- String current monitoring

Flexible

- DC input voltage up to 1000 V
- Integrated grid management functions
- Custom plant design with Optiflex

Simple

- Three-phase feed-in
- Cable connection without tools
- SUNCLIX® DC plug system
- Easily accessible connection area

SUNNY TRIPOWER
10000TL / 12000TL / 15000TL / 17000TL

The three-phase inverter for easy system design

The Sunny Tripower is packed full of innovation. Thanks to the new SMA Optiflex technology, which features two MPP inputs and a very broad input voltage range, the three-phase Sunny Tripower is suited to almost any module configuration. This flexibility simplifies plant design and is perfect for systems up to the megawatt range. The Sunny Tripower also assists grid managers. It meets all the requirements for reactive power supply, utility interaction management and grid support. The Optiprotect safety concept, with its self-learning string failure detection, electronic string fuse and available DC overvoltage protector (Type II), ensures maximum uptime.

Technical data	Sunny Tripower 10000TL	Sunny Tripower 12000TL
Input (DC)		
Max. DC power (@ cos φ = 1)	10200 W	12250 W
Max. input voltage	1000 V	1000 V
MPP voltage range / rated input voltage	320 V – 800 V / 600 V	380 V – 800 V / 600 V
Min. input voltage / initial input voltage	150 V / 188 V	150 V / 188 V
Max. input current input A / input B	22 A / 11 A	22 A / 11 A
Max. input current per string input A^2 / input B^2	33 A / 12.5 A	33 A / 12.5 A
Number of independent MPP inputs / strings per MPP input	2 / A:4, B:1	2 / A:4, B:1
Output (AC)		
Rated power (@ 230 V, 50 Hz)	10000 W	12000 W
Max. apparent AC power	10000 VA	12000 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 V – 280 V	160 V – 280 V
AC power frequency / range	50 Hz, 60 Hz / -6 Hz ... +5 Hz	50 Hz, 60 Hz / -6 Hz ... +5 Hz
Rated power frequency / rated grid voltage	50 Hz / 230 V	50 Hz / 230 V
Max. output current	16 A	19.2 A
Power factor at rated power	1	1
Adjustable displacement power factor	0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited
Feed-in phases / connection phases	3 / 3	3 / 3
Efficiency		
Max. efficiency / European weighted efficiency	98.1 % / 97.7 %	98.1 % / 97.7 %
Protective devices		
DC disconnect device	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
DC surge arrester type II	○	○
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	I / III	I / III
General data		
Dimensions (W / H / D)	665 / 690 / 265 mm (26.2 / 27.2 / 10.4 inch)	665 / 690 / 265 mm (26.2 / 27.2 / 10.4 inch)
Weight	59 kg / 130.07 lb	59 kg / 130.07 lb
Operating temperature range	-25 °C ... +60 °C / -13 °F ... +140 °F	-25 °C ... +60 °C / -13 °F ... +140 °F
Noise emission (typical)	51 dB(A)	51 dB(A)
Self-consumption (night)	1 W	1 W
Topology / cooling concept	Transformerless / OptiCool	Transformerless / OptiCool
Degree of protection / connection area degree of protection	IP65 / IP54	IP65 / IP54
Climatic category (according to IEC 60721-3-4)	4K4H	4K4H
Max. permissible value for relative humidity (non-condensing)	100 %	100 %
Features		
DC coupling	SUNCLIX	SUNCLIX
AC coupling	Spring clamp terminal	Spring clamp terminal
Display	Graphic	Graphic
Interface: RS485 / *Bluetooth* / multi-function relay	○ / ● / ●	○ / ● / ●
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (more available on request)	CE, VDE0126-1-1, RD661/2007, PPC, AS4777, EN50438[1], C10/11, PPDS, IEC61727, ENEL-Guida, UTEC15-712-1, G59/2, VDE-AR-N4105, BDEW 2008, RD1699	
Certificates and approvals (planned)	CEI 0-21	
Type designation	STP 10000TL-10	STP 12000TL-10

Sunny Tripower 15000TL	Sunny Tripower 17000TL		
15340 W	17410 W		
1000 V	1000 V		
360 V – 800 V / 600 V	400 V – 800 V / 600 V		
150 V / 188 V	150 V / 188 V		
33 A / 11 A	33 A / 11 A		
40 A / 12.5 A	40 A / 12.5 A		
2 / A:5; B:1	2 / A:5; B:1		
15000 W	17000 W		
15000 VA	17000 VA		
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		
160 V – 280 V	160 V – 280 V		
50 Hz, 60 Hz / -6 Hz ... +5 Hz	50 Hz, 60 Hz / -6 Hz ... +5 Hz		
50 Hz / 230 V	50 Hz / 230 V		
24 A	24.6 A		
1	1		
0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited		
3 / 3	3 / 3		
98.2 % / 97.8 %	98.2 % / 97.8 %		
●	●		
● / ●	● / ●		
○	○		
● / ● / –	● / ● / –		
●	●		
I / III	I / III		
665 / 690 / 265 mm (26.2 / 27.2 / 10.4 inch)	665 / 690 / 265 mm (26.2 / 27.2 / 10.4 inch)		
59 kg / 130.07 lb	59 kg / 130.07 lb		
-25 °C ... +60 °C / -13 °F ... +140 °F	-25 °C ... +60 °C / -13 °F ... +140 °F		
51 dB(A)	51 dB(A)		
1 W	1 W		
Transformerless / OptiCool	Transformerless / OptiCool		
IP65 / IP54	IP65 / IP54		
4K4H	4K4H		
100 %	100 %		
SUNCLIX	SUNCLIX		
Spring clamp terminal	Spring clamp terminal		
Graphic	Graphic		
○ / ● / ●	○ / ● / ●		
● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○		
CE, VDE0126-1-1, RD661/2007, PPC, AS4777, EN50438[1], C10/11, PPDS, IEC61727, ENEL-Guida, UTEC15-712-1, G59/2, VDE-AR-N4105, BDEW 2008, RD1699			
CEI 0-21			
STP 15000TL-10	STP 17000TL-10		

Accessories

Efficiency curve SUNNY TRIPOWER 17000TL

Eta (V_PV = 400 V)
Eta (V_PV = 600 V)
Eta (V_PV = 800 V)
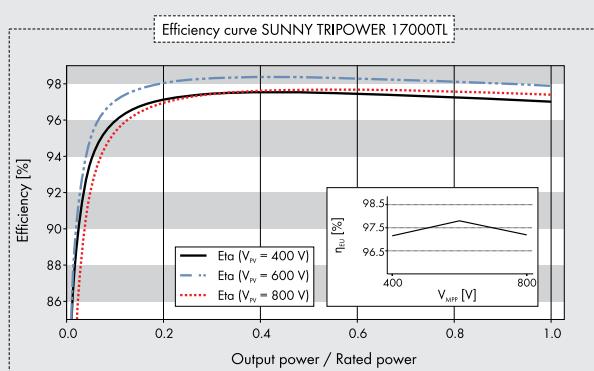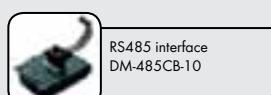
RS485 interface
DM-485CB-10
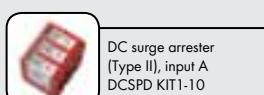
DC surge arrester
(Type II), input A
DCSPD KIT1-10
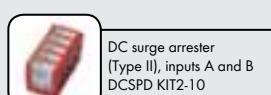
DC surge arrester
(Type II), inputs A and B
DCSPD KIT2-10

* Does not apply to all national deviations of EN 50438

** To be observed in case of a short circuit in the electronic string fuse

● Standard features   ○ Optional features   – Not available

Data at nominal conditions

SUNNY DESIGN
System design made easy

With Sunny Design, PV system design is easier than ever. By simply entering some basic system parameters, this free software helps solar installers and system planners visualize possible PV plant designs and select the optimum configuration quickly and easily. Sunny Design offers a user-friendly interface and a practical input wizard for assistance. It also provides data for an economic evaluation of the system along with a technical analysis of the included components. Sunny Design saves solar professionals valuable time and results in a customized PV system for the end user.

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