

SB 3000TL-21 / SB 3600TL-21 / SB 4000TL-21 / SB 5000TL-21



**Economical**

- Maximum efficiency of 97%
- Multi-string technology in all power classes
- Cost saving due to fewer parallel strings
- Shade management with OptiTrac Global Peak

**Flexible**

- Maximum DC input voltage of 750 V
- Integrated grid management functions and reactive power provision

**Simple**

- Without fan
- Easier wall mounting
- SUNCLIX DC plug-in system
- Fast connection, no tools required

**Communicative**

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

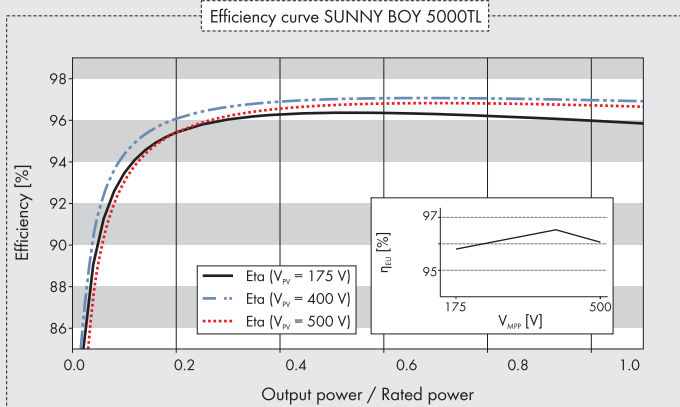
**SUNNY BOY 3000TL / 3600TL / 4000TL / 5000TL  
with Reactive Power Control**

The same. Only better. The universally usable Sunny Boy.

It all remains the best: The new transformerless Sunny Boy is the ideal solution, especially for demanding PV arrays and partly shaded plants. Version 20 of the successful Sunny Boy offers a further array of advantages. It's more flexible in its range of applications, provides even more efficient yields, and it's easier to use. 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.

# SUNNY BOY 3000TL / 3600TL / 4000TL / 5000TL with Reactive Power Control

Technical data	Sunny Boy 3000TL	Sunny Boy 3600TL
<b>Input (DC)</b>		
Max. DC power (@ $\cos \varphi = 1$ )	3200 W	3880 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
<b>Output (AC)</b>		
Rated power (@ 230 V, 50 Hz)	3000 W	3680 W
Max. apparent AC power	3000 VA	3680 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 power frequency / rated grid voltage	50 Hz / 230 V	50 Hz / 230 V
Max. output current	16 A	16 A
Power factor at rated power	1	1
Displacement power factor, adjustable	0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited
Feed-in phases / connection phases	1 / 1	1 / 1
<b>Efficiency</b>		
Max. efficiency / European weighted efficiency	97 % / 96 %	97 % / 96.3 %
<b>Protective devices</b>		
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
<b>General data</b>		
Dimensions (W/H/D)	490 / 519 / 185 mm (19.3 / 20.4 / 7.3 inches)	490 / 519 / 185 mm (19.3 / 20.4 / 7.3 inches)
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 (night)	1 W	1 W
Topology	Transformerless	Transformerless
Cooling concept	Convection	Convection
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 %
<b>Features</b>		
DC connection / AC connection	SUNCLIX / Spring clamp terminal	SUNCLIX / Spring clamp terminal
Display	Graphic	Graphic
Interface: RS485 / Bluetooth / Webconnect / Speedwire <sup>4</sup>	○ / ● / ○ / ○	○ / ● / ○ / ○
Multi-function relay / Power Control Module	○ / ○	○ / ○
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (additional on request)	CE, VDE0126-1-1, VDE-AR-N 4105, UTE C15-712, C10/11, RD1699, RD661, PPDS, PPC, G83/1-1, G59/2, EN50438 <sup>1</sup> , IEC 61727, PEA, AS 4777, CEI 0-21	
Version: July 2012		
● Standard features ○ Optional features – Not available		
Type designation	SB 3000TL-21	SB 3600TL-21



## Accessories



RS485 interface  
DM-485CB-10



Webconnect interface with  
WEBCONDM-10 Speed-  
wire function



Interface to Speedwire  
fieldbus SPWDM-10 <sup>4</sup>



Additional fan kit  
FANKIT01-10



Multi-function relay  
MFR01-10



Power Control Module  
PWCMOD-10

<sup>1</sup> Does not apply to all national appendices of EN 50438

<sup>2</sup> 4600 VA with VDE-AR-N-4105 / <sup>3</sup> 4825 W with VDE-AR-N 4105

<sup>4</sup> In planning

Technical data	Sunny Boy 4000TL	Sunny Boy 5000TL
<b>Input (DC)</b>		
Max. DC power (@ $\cos \varphi = 1$ )	4200 W	5250 W <sup>3</sup>
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
<b>Output (AC)</b>		
Rated power (@ 230 V, 50 Hz)	4000 W	4600 W
Max. apparent AC power	4000 VA	5000 VA <sup>2</sup>
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 power frequency / rated grid voltage	50 Hz / 230 V	50 Hz / 230 V
Max. output current	22 A	22 A
Power factor at rated power	1	1
Displacement power factor, adjustable	0.8 overexcited ... 0.8 underexcited	0.8 overexcited ... 0.8 underexcited
Feed-in phases / connection phases	1 / 1	1 / 1
<b>Efficiency</b>		
Max. efficiency / European weighted efficiency	97 % / 96.4 %	97 % / 96.5 %
<b>Protective devices</b>		
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
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Topology	Transformerless	Transformerless
Cooling concept	Convection	Convection
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 %
<b>Features</b>		
DC connection / AC connection	SUNCLIX / Spring clamp terminal	SUNCLIX / Spring clamp terminal
Display	Graphic	Graphic
Interface: RS485 / Bluetooth / Webconnect / Speedwire <sup>4</sup>	○ / ● / ○ / ○	○ / ● / ○ / ○
Multi-function relay / Power Control Module	○ / ○	○ / ○
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (additional on request)	CE, VDE0126-1-1, VDE-AR-N 4105, UTE C15-712, C10/11, RD1699, RD661, PPDS, PPC, G83/1-1, G59/2, EN50438 <sup>1</sup> , IEC 61727, PEA, AS 4777, CEI 0-21	
● Standard features ○ Optional features - Not available		
Type designation	SB 4000TL-21	SB 5000TL-21

# www.SunnyPortal.com

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