



#### Efficient

- Maximum efficiency of 97 %
- Multistring technology in all power classes
- Cost savings resulting from 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

#### Easy to Use

- Fanless
- Simplified wall mounting
- SUNCLIX DC plug-in system
- Fast connection without tools

#### Communicative

- Simple country configuration
- Bluetooth® and Speedwire/Webconnect technology as standard

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

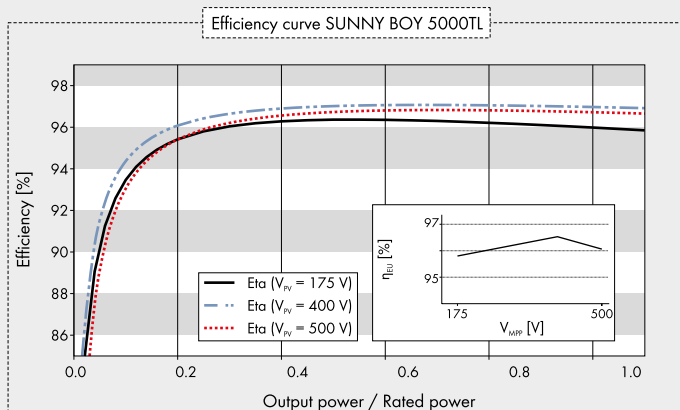
The same. Only better. The universal Sunny Boy.

Getting better all the time. The new transformerless Sunny Boy is the ideal solution, especially for demanding PV arrays and partly shaded systems. 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 creates a cost advantage, since fewer parallel strings are required. In addition, the integrated grid management functions make the device 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 (at $\cos \varphi = 1$ )	3200 W	3880 W
Max. input voltage	750 V	750 V
MPP voltage range / rated input voltage	175 V to 500 V / 400 V	175 V to 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 (at 230 V, 50 Hz)	3000 W	3680 W
Max. AC apparent power	3000 VA	3680 VA
Nominal AC voltage / range	220 V, 230 V, 240 V / 180 V to 280 V	220 V, 230 V, 240 V / 180 V to 280 V
AC power 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	16 A	16 A
Power factor at rated power	1	1
Adjustable displacement power factor	0.8 lagging to 0.8 leading	0.8 lagging to 0.8 leading
Feed-in phases / connection phases	1 / 1	1 / 1
<b>Efficiency</b>		
Max. efficiency / European Efficiency	97 % / 96 %	97 % / 96,4 %
<b>Protective Devices</b>		
Input-side disconnection point	●	●
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 inch)	
Weight	26 kg (57.3 lb)	
Operating temperature range	-25 °C to +60 °C (-13 °F to +140 °F)	
Noise emission (typical)	25 dB(A)	25 dB(A)
Self-consumption (at night)	1 W	1 W
Topology	Transformerless	Transformerless
Cooling method	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-cage terminal	SUNCLIX / spring-cage terminal
Display	Graphic	Graphic
Interfaces: RS485 / Bluetooth® / Speedwire / Webconnect	○ / ● / ●	○ / ● / ●
Multifunction relay / Power Control Module	○ / ○	○ / ○
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (others available upon request)	AS 4777, C10/11, CE, CEI 0-21, EN 50438 <sup>1</sup> , G59/3, G83/2, IEC 61727, MEA <sup>4</sup> , NEN-EN50438, NRS 097-2-1, PEA <sup>4</sup> , PPC, PPDS, RD1699, RD 661, SI 4777, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1, VFR 2013, VFR 2014	
As of December 2015		
● Standard features   ○ Optional features   – Not available, Data at nominal conditions		
Type designation	SB 3000TL-21	SB 3600TL-21



## Accessory



RS485 interface  
DM-485CB-10



Speedwire / Webconnect  
interface SWDM-10



Multifunction relay  
MFR01-10



Additional fan kit  
FANKIT01-10



SMA Power Control  
Module  
PWCMD-10

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

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

<sup>4</sup> Only SB 3600TL-21, SB 5000TL-21

Technical Data	Sunny Boy 4000TL	Sunny Boy 5000TL
<b>Input (DC)</b>		
Max. DC power (at $\cos \varphi = 1$ )	4200 W	5250 W <sup>3</sup>
Max. input voltage	750 V	750 V
MPP voltage range / rated input voltage	175 V to 500 V / 400 V	175 V to 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 (at 230 V, 50 Hz)	4000 W	4600 W
Max. AC apparent power	4000 VA	5000 VA <sup>2</sup>
Nominal AC voltage / range	220 V, 230 V, 240 V / 180 V to 280 V	220 V, 230 V, 240 V / 180 V to 280 V
AC power 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	22 A	22 A
Power factor at rated power	1	1
Adjustable displacement power factor	0.8 lagging to 0.8 leading	0.8 lagging to 0.8 leading
Feed-in phases / connection phases	1 / 1	1 / 1
<b>Efficiency</b>		
Max. efficiency / European Efficiency	97 % / 96.4 %	97 % / 96.5 %
<b>Protective Devices</b>		
Input-side disconnection point	●	●
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 inch)	490 / 519 / 185 mm (19.3 / 20.4 / 7.3 inch)
Weight	26 kg (57.3 lb)	26 kg (57.3 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)	25 dB(A)	25 dB(A)
Self-consumption (at night)	1 W	1 W
Topology	Transformerless	Transformerless
Cooling method	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-cage terminal	SUNCLIX / spring-cage terminal
Display	Graphic	Graphic
Interfaces: RS485 / Bluetooth® / Speedwire / Webconnect	○ / ● / ●	○ / ● / ●
Multifunction relay / Power Control Module	○ / ○	○ / ○
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (others available upon request)	AS 4777, C10/11, CE, CEI 0-21, EN 50438 <sup>1</sup> , G59/3, G83/2, IEC 61727, MEA <sup>4</sup> , NEN-EN50438, NRS 097-2-1, PEA <sup>4</sup> , PPC, PPDS, RD 1699, RD 661, SI 4777, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1, VFR 2013, VFR 2014	AS 4777, C10/11, CE, CEI 0-21, EN 50438 <sup>1</sup> , G59/3, G83/2, IEC 61727, MEA <sup>4</sup> , NEN-EN50438, NRS 097-2-1, PEA <sup>4</sup> , PPC, PPDS, RD 1699, RD 661, SI 4777, UTE C15-712, VDE-AR-N 4105, VDE0126-1-1, VFR 2013, VFR 2014
● Standard features ○ Optional features — Not available, Data at nominal conditions		
Type designation	SB 4000TL-21	SB 5000TL-21

# www.SunnyPortal.com

Professional PV system monitoring, management and data display



www.SMA-Solar.com

SMA Solar Technology