

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



REACTIVE POWER CONTROL

Efficient

- Maximum efficiency of 97 %
- Multi-String technology now in the 3-kW version
- Cost savings due to reduced number of parallel strings
- Shade management with OptiTrac Global Peak

Flexible

- Maximum DC input voltage: 750 V
- Integrated grid management functions through reactive power provision

Simple

- Convection cooling
- Easier wall mounting
- DC plug system SUNCLIX
- Fast connection, no tools required

Communicative

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

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

Universal application through 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 contribute to active grid support. Finally, 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 / start 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. AC apparent power	3000 VA	4000 VA
AC nominal voltage / range	220 V, 230 V, 240 V/180 V-280 V	220 V, 230 V, 240 V/180 V-280 V
AC grid 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 power	1	1
Displacement power factor, configurable	0.8 leading ... 0.8 lagging	0.8 leading ... 0.8 lagging
Phase conductors/connection phases	1 / 1	1 / 1
Efficiency		
Max. efficiency / European efficiency	97 % / 96.3 %	97 % / 96.4 %
Protection devices		
Input-side disconnection device	●	●
Ground fault monitoring / grid monitoring	● / ●	● / ●
DC surge arrester (type II), can be integrated	–	–
DC reverse-pole protection / AC short-circuit protection / Galvanically isolated	● / ● / –	● / ● / –
All-pole-sensitive residual current monitoring unit	●	●
Protection class (as per IEC 62103) / Overvoltage category (as per IEC 60644-1)	I/III	I/III
General Data		
Dimensions (W/H/D)	490 / 519 / 185 mm (19.3 / 20.4 / 7.3 inch)	490 / 519 / 185 mm (19.3 / 20.5 / 7.3 inch)
Weight	26 kg / 57.3 lb	26 kg / 57.3 lb
Operation 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
Protection rating (as per EN 60529)	IP65	IP65
Connection area protection rating (as per IEC 60529)	IP54	IP54
Climatic category (per IEC 60721-3-4)	4K4H	4K4H
Maximum permissible value for relative humidity, non-condensing	100 %	100 %
Features		
DC connection	SUNCLIX	SUNCLIX
AC connection	Spring terminal	Spring terminal
Display	Graphics	Graphics
Interface: RS485 / Bluetooth	○ / ●	○ / ●
Warranty: 5/10/15/20/25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Multi-function relay	●	●
Certificates and licenses (more available on request)	CE, VDE0126-1-1, Enel Guida, UTE C15-712-1, C10/11, G83/1-1, G59/2, RD 1663/2000, RD 661/2007, PPC, AS4777, EN 50438*, PPDS, VDE-AR-N 4105	
Type designation	SB 3000TL-21	SB 4000TL-21

Accessories



RS485 interface
DM-485CB-10

* Does not apply to all national deviations of EN 50438

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

● Standard features ○ Optional features – Not available

Preliminary information - last updated: 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 / start 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. AC apparent power	5000 VA***	
AC nominal voltage / range	220 V, 230 V, 240 V / 180 V-280 V	
AC grid 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 power	1	
Displacement power factor, configurable	0.8 leading ... 0.8 lagging	
Phase conductors/connection phases	1 / 1	
Efficiency		
Max. efficiency / European efficiency	97 % / 96.5 %	
Protection devices		
Input-side disconnection device	●	
Ground fault monitoring / grid monitoring	● / ●	
DC surge arrester (type II), can be integrated	–	
DC reverse-pole protection / AC short-circuit protection / Galvanically isolated	● / ● / –	
All-pole-sensitive residual current monitoring unit	●	
Protection class (as per IEC 62103) / Overvoltage category (as per IEC 60644-1)	I/III	
General Data		
Dimensions (W/H/D)	490 / 519 / 185 mm (19.3 / 20.5 / 7.3 inch)	
Weight	26 kg / 57.3 lb	
Operation 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	
Protection rating (as per EN 60529)	IP65	
Connection area protection rating (as per IEC 60529)	IP54	
Climatic category (per IEC 60721-3-4)	4K4H	
Maximum permissible value for relative humidity, non-condensing	100 %	
Features		
DC connection	SUNCLIX	
AC connection	Spring terminal	
Display	Graphics	
Interface: RS485 / Bluetooth	○ / ●	
Warranty: 5/10/15/20/25 years	● / ○ / ○ / ○ / ○	
Multi-function relay	●	
Certificates and licenses (more available on request)	CE, VDE0126-1-1, Enel Guida, UTE C15-712-1, C10/11, G83/1-1, G59/2, RD 1663/2000, RD 661/2007, VDE-AR-N 4105, PPC, AS4777, EN 50438*, PPDS	
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