

String inverter



Please also refer to the SMA design tool Sunny Design which can be downloaded free-of-charge at www.SMA.de.



SUNNY BOY 1200 / 1700 SUNNY BOY 2100TL SUNNY BOY 2000HF SUNNY BOY 2500HF SUNNY BOY 2500 / 3000 SUNNY BOY 3000HF SUNNY BOY 3000TL SUNNY BOY 3300TL HC SUNNY BOY 3300 / 3800 SUNNY BOY 4000TL SUNNY BOY 5000TL

Technical Abbreviation	SB 1200 / SB 1700	SB 2100TL	SB 2000HF-30	SB 2500HF-30	SB 2500 / SB 3000	SB 3000HF-30	SB 3000TL-20	SB 3300TL HC	SB 3300 / SB 3800	SB 4000TL-20	SB 5000TL-20
Input (DC)											
Max. DC power	1320 W / 1850 W	2200 W	2100 W	2650 W	2700 W / 3200 W	3150 W	3200 W	3440 W	3820 W / 4040 W	4200 W	5300 W
Max. DC voltage	400 V	600 V	700 V	700 V	600 V	700 V	550 V	750 V	500 V	550 V	550 V
PV voltage range, MPPT (at nominal power output)	100 V - 320 V / 139 V - 320 V	200 V - 480 V	175 V - 560 V	175 V - 560 V	224 V - 480 V / 268 V - 480 V	210 V - 560 V	188 V - 440 V	125 V - 600 V	200 V - 400 V	175 V - 440 V	175 V - 440 V
Max. input current	12.6 A	11 A	12 A	15 A	12 A	15 A	17 A	11 A	20 A	2 x 15 A	2 x 15 A
Number of MPP trackers	1	1	1	1	1	1	1	1	1	2	2
Max. number of strings (parallel)	2	2	2	2	3	2	2	2	3	String A: 2 / String B: 2	String A: 2 / String B: 2
Output (AC)											
Nominal AC output	1200 W / 1550 W	1950 W	2000 W	2500 W	2300 W / 2750 W	3000 W	3000 W	3000 W	3300 W / 3800 W	4000 W	4600 W
Max. AC power	1200 W / 1700 W	2100 W	2000 W	2500 W	2500 W / 3000 W	3000 W	3000 W	3300 W	3600 W / 3800 W	4000 W	5000 W
Max. output current	6.1 A / 8.6 A	11 A	11.4 A	14.2 A	12.5 A / 15 A	16 A	16 A	16 A	18 A	22 A	22 A
Nominal AC-voltage	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V	220 V - 240 V
AC-Grid frequency	50 Hz / 60 Hz	50 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
Power factor (cos φ)	1	1	1	1	1	1	1	1	1	1	1
AC connection	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase	single-phase
Efficiency											
Max. efficiency	92.1 % / 93.5 %	96.0 %	> 96 %	> 96 %	94.1 % / 95.0 %	> 96 %	97.0 %	96.0 %	95.2 % / 95.6 %	97.0 %	97.0 %
Euro ETA	90.9 % / 91.8 %	95.2 %	> 95 %	> 95 %	93.2 % / 93.6 %	> 95 %	96.3 %	94.6 %	94.4 % / 94.7 %	96.4 %	96.5 %
Protection devices											
DC reverse polarity protection	●	●	●	●	●	●	●	●	●	●	●
DC load-disconnecting unit ESS	●	●	●	●	●	●	●	●	●	●	●
AC short-circuit protection	●	●	●	●	●	●	●	●	●	●	●
Ground fault monitoring	●	●	●	●	●	●	●	●	●	●	●
Grid monitoring (SMA Grid Guard)	●	●	●	●	●	●	●	●	●	●	●
Galvanically isolated / all-pole sensitive fault current monitoring unit	●/-	-/●	●/-	●/-	●/-	●/-	-/●	-/●	●/-	-/●	-/●
General data											
Dimensions (W / H / D) in mm	440 / 339 / 214	440 / 339 / 214	348 / 580 / 145	348 / 580 / 145	440 / 339 / 214	348 / 580 / 145	470 / 445 / 180	470 / 490 / 225	450 / 352 / 236	470 / 445 / 180	470 / 445 / 180
Weight	23 kg / 25 kg	16 kg	< 18 kg	< 18 kg	28 kg / 32 kg	< 18 kg	22 kg	28 kg	38 kg	25 kg	25 kg
Operating temperature range	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C	-25 °C ... +60 °C
Noise emission (typical)	≤ 41 dB(A) / ≤ 46 dB(A)	≤ 33 dB(A)	n. s.	n. s.	≤ 33 dB(A) / ≤ 30 dB(A)	n. s.	≤ 25 dB(A)	≤ 29 dB(A)	≤ 40 dB(A) / ≤ 42 dB(A)	≤ 29 dB(A)	≤ 29 dB(A)
Power Consumption: (nighttime)	< 0.1 W	< 0.1 W	n. s.	n. s.	< 0.25 W	n. s.	< 0.5 W	< 0.25 W	< 0.1 W	< 0.5 W	< 0.5 W
Topology	Low frequency transformer	transformerless	HF-transformer	HF-transformer	Low frequency transformer	HF-transformer	transformerless	transformerless	Low frequency transformer	transformerless	transformerless
Cooling concept	Convection	Convection	n. s.	OptiCool	Convection	OptiCool	Convection	Convection	OptiCool	OptiCool	OptiCool
Installation location: indoor / outdoor (IP65)	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●	●/●
Features											
DC connection: SUNCLIX	●*	●*	●●	●●	●*	●●	●*	●*	●*	●*	●*
AC connection: screw terminal / plug connector / spring-type terminal	-/●/-	-/●/-	-/●/-	-/●/-	-/●/-	-/●/-	-/●/-	●/-/-	-/●/-	-/●/-	-/●/-
Display: LCD / Graphic	●/-	●/-	-/●	-/●	●/-	-/●	-/●	●/-	●/-	-/●	-/●
Interfaces: RS485 / Bluetooth®	○/○	○/○	○/●	○/●	○/○	○/●	○/●	○/○	○/○	○/●	○/●
Warranty: 5 / 10 / 15 / 20 / 25 years	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○	●/○/○/○/○
Certificates and approvals	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de	www.SMA.de

Caption: ● Series ○ Optional *Delivery with SUNCLIX; planned for March 2010 Data under nominal conditions
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