

INVERTER GUIDE



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



SUNNY BOY
700U



SUNNY BOY
3000US



SUNNY BOY
4000US



SUNNY BOY
5000US



SUNNY BOY
6000US



SUNNY BOY
7000US



SUNNY TOWER
36



SUNNY TOWER
42



SUNNY CENTRAL
250U



SUNNY CENTRAL
500U
PRELIMINARY

(Input Voltage) Output Voltage	[150 Vdc]	[200 Vdc]	[250 Vdc]	208 V	240 V	208 V	240 V	208 V	240 V	277 V	208 V	240 V	277 V	208 V	240 V	277 V	208 V	240 V	277 V	208 V	240 V	277 V	NA	NA					
DC Input Values																													
Recommended Max. PV Power (Module STC)	575 W	750 W	875 W	3750 W		4375 W	5000 W	6250 W			7500 W			8750 W			45 kW			52.5 kW			295 kW	580 kW					
DC Max. Voltage	150 V	200 V	250 V	500 V		600 V	600 V	600 V			600 V			600 V			600 V			600 V			600 V	600 V					
Peak Power Tracking Voltage	77-120 V	100-160 V	125-200 V	175-400 V	200-400 V	220-480 V	250-480 V	250-480 V			250-480 V			250-480 V			250-480 V			250-480 V			300 V-600 V	300 V-600 V					
DC Minimum Start Voltage	95 V	125 V	150 V	228 V		285 V		300 V			300 V			300 V			300 V			300 V			400 V	400 V					
DC Max. Input Current	7 A		17 A		18 A		21 A			25 A			30 A			150 A			180 A			800 A	1600 A						
Number of Fused String Inputs	2		2 (Inverter) 4 x 15 A (DC Disconnect)		2 (Inverter) 4 x 15 A (DC Disconnect)		3 (Inverter) 4 x 15 A (DC Disconnect)			3 (Inverter) 4 x 15 A (DC Disconnect)			3 (Inverter) 4 x 15 A (DC Disconnect)			24 x 15A AC/DC Disconnect			24 x 15A AC/DC Disconnect			6	9						
AC Output Values																													
AC Nominal Power	460 W	600 W	700 W	3000 W		3500 W	4000 W	5000 W			6000 W			7000 W			36.0 kW			42.0 kW			250 kW	500 kW					
AC Max. Output Power	460 W	600 W	700 W	3000 W		3500 W	4000 W	5000 W			6000 W			7000 W			36.0 kW			42.0 kW			250 kW	500 kW					
AC Max. Output Current	4.4 A	5.7 A	6.6 A	15 A	13 A	17 A	17 A	24 A	21 A	18 A	29 A	25 A	22 A	34 A	29 A	25 A	100 A	87 A	44 A	117 A	101 A	51 A	300 A (@ 480 V)	600 A (@ 480 V)					
AC Output Voltage Range	106-132 V		183-229 V		211-264 V	183-229 V	211-264 V	183-229 V	211-264 V	244-305 V	183-229 V	211-264 V	244-305 V	183-229 V	211-264 V	244-305 V	183-229 V	211-264 V	244-305 V	183-229 V	211-264 V	244-305 V	422-528 V	422-528 V					
AC Nominal Voltage/Field Configurable	120 V/NA		208 V/YES		240 V/YES	208 V/YES	240 V/YES	208 V/YES	240 V/YES	277 V/YES	208 V/YES	240 V/YES	277 V/YES	208 V/YES	240 V/YES	277 V/YES	208 V/YES	240 V/YES	277 V/YES	208 V/YES	240 V/YES	277 V/YES	480 V/NA	480 V/NA					
Total Harmonic Distortion	< 3%		< 4%		< 4%		< 4%			< 4%			< 4%			< 4%			< 4%			< 5%	< 5%						
AC Frequency: Nominal/Range	60 Hz/59.3-60.5 Hz		60 Hz/59.3-60.5 Hz		60 Hz/59.3-60.5 Hz		60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz			60 Hz/59.3-60.5 Hz	60 Hz/59.3-60.5 Hz			
Power Factor	0.99 @ Nominal Power		0.99 @ Nominal Power		0.99 @ Nominal Power		0.99 @ Nominal Power			0.99 @ Nominal Power			0.99 @ Nominal Power			0.99 @ Nominal Power			0.99 @ Nominal Power			0.99 @ Nominal Power			0.99 @ Nominal Power	0.99 @ Nominal Power			
Efficiency																													
Max. Efficiency	93.6 %		96.5 %		96.8 %		96.8 %			97.0 %			97.1 %			97.0 %			97.1 %			97.5 %			97.5 %				
CEC Efficiency	91.5 %		95.0 %		95.5 %		95.5 %			96.0 %			95.5 %			96.0 %			95.5 %			96.0 %			97%			97%	
Safety & Regulatory Compliance																													
EMC	FCC, Part 15, Class A & B		FCC, Part 15, Class A & B		FCC, Part 15, Class A & B		FCC, Part 15, Class A & B			FCC, Part 15, Class A & B			FCC, Part 15, Class A & B			FCC, Part 15, Class A & B			FCC, Part 15, Class A & B			FCC, Part 15, Class A & B			FCC, Part 15, Class A & B				
Certification	UL1741, UL1998 IEEE 1547		UL1741, UL1998 IEEE 1547		UL1741, UL1998 IEEE 1547		UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547			UL1741, UL1998 IEEE 1547				
Reverse Polarity Protection	Short Circuit Diode		Short Circuit Diode		Short Circuit Diode		Short Circuit Diode			Short Circuit Diode			Short Circuit Diode			Short Circuit Diode			Short Circuit Diode			Short Circuit Diode			Software Controlled			Software Controlled	
Short-Circuit Protection	Current Controlled		Current Controlled		Current Controlled		Current Controlled			Current Controlled			Current Controlled			Current Controlled			Current Controlled			Current Controlled			Current Controlled			Current Controlled	
General Information																													
Size (HxWxD) (in)	12.6 x 12.7 x 7.1 in		13.8 x 17.8 x 9.3 in 11 x 7.3 x 7.6 in		13.8 x 17.8 x 9.3 in 11 x 7.3 x 7.6 in		24.1 x 18.4 x 9.5 in 11 x 7.3 x 7.6 in			24.1 x 18.4 x 9.5 in 11 x 7.3 x 7.6 in			24.1 x 18.4 x 9.5 in 11 x 7.3 x 7.6 in			70.5 x 43.3 x 39 in			70.5 x 43.3 x 39 in			80 x 110 x 33			80 x 134 x 33				
Shipping Size (in)	9 x 15 x 15 in		19 x 15 x 23 in 22.8 x 16 x 11 in		19 x 15 x 23 in 22.8 x 16 x 11 in		31 x 15 x 23 in 22.8 x 16 x 11 in			31 x 15 x 23 in 22.8 x 16 x 11 in			31 x 15 x 23 in 22.8 x 16 x 11 in			41 x 45 x 79 in Call for Info			41 x 45 x 79 in Call for Info			88 x 74 x 40 and 88 x 48 x 40			88 x 96 x 40 and 88 x 59.5 x 40				
Shipping Size DC Disconnect (in)																													
Weight (lbs)	51 lbs		84 lbs 8 lbs		84 lbs 8 lbs		141 lbs 8 lbs			141 lbs 8 lbs			141 lbs 8 lbs			330 lbs/ 1176 lbs with 6 inverters			330 lbs/ 1176 lbs with 6 inverters			4200 lbs			6725 lbs				
Shipping Weight (lbs)	57 lbs		97 lbs 9 lbs		97 lbs 9 lbs		148 lbs 9 lbs			148 lbs 9 lbs			148 lbs 9 lbs			500 lbs/ 1388 lbs with 6 inverters Call for Info			500 lbs/ 1388 lbs with 6 inverters Call for Info			1863 lbs and 3186 lbs			2737 lbs and 4846 lbs				
Shipping Weight DC Disconnect (lbs)																													
Ambient Temperature Range	-13 to +113 °F -25 to +45 °C		-13 to +113 °F -25 to +45 °C		-13 to +113 °F -25 to +45 °C		-13 to +113 °F -25 to +45 °C			-13 to +113 °F -25 to +45 °C			-13 to +113 °F -25 to +45 °C			-13 to +113 °F -25 to +45 °C			-13 to +113 °F -25 to +45 °C			-13 to +113 °F -25 to +45 °C			-13 to 123 °F full power output up to 122 °F at reduced power				
Power Consumption: standby/nighttime	<4 W/0.1 W		<7 W/0.1 W		<7 W/0.1 W		<7 W/0.1 W			<7 W/0.1 W			<7 W/0.1 W			<42 W/0.6 W			<42 W/0.6 W			69 W Standby, <1000 W with fans			69 W Standby, <1500 W with fans				
Topology	Low frequency transformer True sinewave		Low frequency transformer True sinewave		Low frequency transformer True sinewave		Low frequency transformer True sinewave			Low frequency transformer True sinewave			Low frequency transformer True sinewave			Low frequency transformer True sinewave			Low frequency transformer True sinewave			Low frequency transformer, True sinewave with galvanic insulation			Low frequency transformer, True sinewave with galvanic insulation				
Cooling Concept	Convection		OptiCool Forced Active Cooling		OptiCool Forced Active Cooling		OptiCool Forced Active Cooling			OptiCool Forced Active Cooling			OptiCool Forced Active Cooling			OptiCool Forced Active Cooling			OptiCool Forced Active Cooling			OptiCool Forced Active Cooling			Variable speed forced air			Variable speed forced air	
Mounting Location: Indoor/Outdoor (NEMA 3R)	●/● (NEMA 3X)		●/●		●/●		●/●			●/●			●/●			●/●			●/●			●/●			●/●			●/●	
Features																													
Display: LCD	●		●		●		●			●			●			●			●			●			●			●	
Additional Communication Boards: RS485/Wireless	○/○		○/○		○/○		○/○			○/○			○/○			○/○			○/○			○/○			○/○			○/○	
Lid Color: aluminum/red/blue/yellow	-/●/○/○		●/○/○/○		●/○/○/○		●/○/○/○			●/○/○/○			●/○/○/○			●/○/○/○			●/○/○/○			●/○/○/○			●/○/○/○			NA	
Warranties	10 year		10 year		10 year		10 year			10 year			10 year			10 year			10 year			10 year			10 year			5 year	

Legend: ● Standard ○ Optional Data under nominal conditions.
Last modified: October 2008 - Technical specifications subject to change without notice.
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