

Sunny Boy 700U Technical Data

Input Values (250 _{VDC})		
Recommended max PV Power	P_{PV}	1000 Wp STC
Max DC Power	$P_{DC, max}$	700 Wp PTC
Max DC Voltage	$V_{DC, max}$	250 Vdc
PV Voltage range, MPP	V_{PV}	123V to 250V
Max input current	$I_{PV, max}$	7 A
DC Voltage ripple	V_{PP}	< 10%
DC Disconnectors		Optional external DC Disconnect/Breaker
Pole confusion protection		Short Circuit diode
Ground fault protection	I_{Dif}	> 1000 mA
Input Values (200 _{VDC})		
Recommended max PV Power	P_{PV}	840 Wp STC
Max DC Power	$P_{DC, max}$	600 Wp PTC
Max DC Voltage	$V_{DC, max}$	250 Vdc
PV Voltage range, MPP	V_{PV}	100V to 200V
Max input current	$I_{PV, max}$	7 A
DC Voltage ripple	V_{PP}	< 10%
DC Disconnectors		Optional external DC Disconnect/Breaker
Pole confusion protection		Short Circuit diode
Ground fault protection	I_{Dif}	> 1000 mA
Input Values (150 _{VDC})		
Recommended max PV Power	P_{PV}	640 Wp STC
Max DC Power	$P_{DC, max}$	460 Wp PTC
Max DC Voltage	$V_{DC, max}$	250 Vdc
PV Voltage range, MPP	V_{PV}	77V to 150V
Max input current	$I_{PV, max}$	7 A
DC Voltage ripple	V_{PP}	< 10%
DC Disconnectors		Optional external DC Disconnect/Breaker
Pole confusion protection		Short Circuit diode
Ground fault protection	I_{Dif}	> 1000 mA
Output Values (250 _{VDC})		
Max AC Power	P_{AC}	700 W
Total Harmonic Distortion	THD_{IAC}	< 4% (With K_V grid < 2% and P_{AC} > 0.5 P_{ACnom})

Operating Range, Grid Voltage	V_{AC}	106 V to 132 V
Operating Range, Grid Frequency	f_{AC}	59.3 Hz - 60.5 Hz
Phase Shift (Ref. Fundamental)	$\cos(\phi)$	0°
Output Values (200_{VDC})		
Max AC Power	P_{AC}	600 W
Total Harmonic Distortion	THD_{IAC}	< 4% (With $K_{Vgrid} < 2%$ and $P_{AC} > 0.5 P_{ACnom}$)
Operating Range, Grid Voltage	V_{AC}	106 V to 132 V
Operating Range, Grid Frequency	f_{AC}	59.3 Hz - 60.5 Hz
Phase Shift (Ref. Fundamental)	$\cos(\phi)$	0°
Output Values (150_{VDC})		
Max AC Power	P_{AC}	460 W
Total Harmonic Distortion	THD_{IAC}	< 4% (With $K_{Vgrid} < 2%$ and $P_{AC} > 0.5 P_{ACnom}$)
Operating Range, Grid Voltage	V_{AC}	106 V to 132 V
Operating Range, Grid Frequency	f_{AC}	59.3 Hz - 60.5 Hz
Phase Shift (Ref. Fundamental)	$\cos(\phi)$	0°
Output Protection		
Islanding Protection		V_{AC} ; f_{AC} in accordance with UL 1741
Ground Fault Protection		IDIF; In accordance with UL 1741
AC Disconnect		External AC Breaker
Short Circuit Protection		Current Controlled
Oversvoltage Classification		III
Efficiency		
Peak Efficiency (250 _{VDC})		93 % (Rebate Efficiency)
Peak Efficiency (200 _{VDC})		93 % (Rebate Efficiency)
Peak Efficiency (150 _{VDC})		93 % (Rebate Efficiency)
Power Consumption		
Internal consumption in operation		< 4 W
Internal consumption at night		0.1 W
American Standards		
Hardware Safety		UL 1741
Firmware Safety		UL 1998
Power Quality		IEEE 519
Anti-Islanding		IEEE 929
Surge Testing		ANSI C62.41, C1 & C3

Electro-Magnetic Interference		FCC Part 15 A & B
Size and Weight		
Width		322 mm
Height		320 mm
Depth		180 mm
Weight		ca. 16 kg
Enclosure Ratings		
DIN EN 60529		IP 65
NEMA Rating		NEMA 4X
Ambient Conditions		
Ambient Temperature Range		-13°F to +140°F or -25°C to +60°C
Relative Humidity Level		0 to 100%