

Technical data	Sunny Tripower 5.0 Smart Energy	Sunny Tripower 6.0 Smart Energy	Sunny Tripower 8.0 Smart Energy	Sunny Tripower 10.0 Smart Energy
<b>Input (PV DC)</b>				
Max. PV array power	7500 Wp	9000 Wp	12000 Wp	15000 Wp
Max. usable input power (P <sub>DC max</sub> ) at input A / input B	4500 W / 4500 W	5400 W / 5400 W	7200 W / 7200 W	6000 W / 12000 W
Max. input voltage	1000 V	1000 V	1000 V	1000 V
MPP voltage range	210 V to 800 V	250 V to 800 V	330 V to 800 V	280 V to 800 V
Rated input voltage	600 V			
Min. input voltage / initial input voltage	150 V / 180 V			
Max. usable input current at input A / input B	12.5 A / 12.5 A			12.5 A / 25 A
Max. DC short-circuit current at input A / input B	20 A / 20 A			20 A / 40 A
Number of independent MPP inputs / strings per MPP input	2/A: 1; B: 1			2/A: 1; B: 2
<b>Battery connection</b>				
Battery type	Lithium-ion <sup>1)</sup>			
Voltage range	150 V to 600 V			
Max. charging current / max. discharging current	30 A <sup>2)</sup> / 30 A <sup>2)</sup>			
Number of independent battery inputs	1			
Max. charging power / max. discharging power <sup>3)</sup>	7500 W / 6000 W	9000 W / 7200 W	10600 W / 10600 W	
<b>AC connection</b>				
Rated power (at 230 V, 50 Hz)	5000 W	6000 W	8000 W	10000 W
Max. apparent AC power	5000 VA	6000 VA	8000 VA	10000 VA
Nominal AC voltage	3 / N / PE; 220 V / 380 V 3 / N / PE; 230 V / 400 V 3 / N / PE; 240 V / 415 V			
AC voltage range	156 V to 277 V			
AC grid frequency / range	50 Hz / 45 Hz to 55 Hz			
Rated grid frequency / rated grid voltage	50 Hz / 230 V			
Rated output current	3 x 7.3 A	3 x 8.7 A	3 x 11.6 A	3 x 14.5 A
Max. output current	3 x 7.6 A	3 x 9.1 A	3 x 12.1 A	3 x 15.2 A
Power factor at rated power / adjustable displacement power factor	1 / 0.8 overexcited to 0.8 underexcited			
Feed-in line conductors / connection line conductors	3 / 3			
<b>Efficiency</b>				
Max. efficiency / European efficiency	98.2 % / 97.3 %	98.2 % / 97.5 %	98.2 % / 97.8 %	98.1 % / 97.5 %
<b>Output (AC backup) during on-grid mode</b>				
Max. connectable power for backup load	13800 W			
Max. output current for backup load	3 x 20 A			
<b>Output (AC backup) during off-grid mode</b>				
Rated power 1~/3~ (at 230 V, 50 Hz)	1660 W / 5000 W	2000 W / 6000 W	2660 W / 8000 W	3330 W / 10000 W
Max. apparent AC power	5000 VA	6000 VA	8000 VA	10000 VA
Output power / output apparent power < 5 min	6000 W / 6000 VA	7200 W / 7200 VA	12000 W / 12000 VA	
Output power / output apparent power < 10 s	10000 W / 10000 VA		12000 W / 12000 VA	
Nominal AC voltage	3 / N / PE; 230 V / 400 V			
AC grid frequency	50 Hz			
Switching time to backup operation	30 ms to 10 s (adjustable)			
<b>Protective devices</b>				
Input-side disconnection point (PV DC)	●			
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 61140)	I			
Overvoltage category (according to IEC 60664-1) grid/battery/PV	III/II/II			
Surge Protection Devices (SPD)	DC type II / AC type II			
<b>General data</b>				
Dimensions (W/H/D)	500 mm / 598 mm / 173 mm (19.7 inch / 23.5 inch / 6.8 inch)			
Weight	30 kg (66 lbs)			
Operating temperature range	-25 °C to +60 °C (-13 °F to +140 °F)			
Noise emission, typical	30 dB(A)			
Self-consumption (night)	44 W			
Topology / cooling method	Transformerless/convection			
Degree of protection (according to IEC 60529) / climate category (according to IEC 60721-3-4)	IP65/4K26			
Max. permissible value for relative humidity (non-condensing)	100 %			
<b>Equipment</b>				
PV connection / BAT connection	SUNCLIX / MC4, incl. MC4 battery cable, 3 m			
AC terminals	AC CONNECTOR (5 x 1.5 to 10 mm <sup>2</sup> )			
Display via smartphone, tablet, laptop	●			
Number of interfaces: Wi-Fi/Ethernet/BAT-CAN	1 / 2 / 1			
Number of digital inputs / outputs	5 / 1			
Communication protocols	Modbus (SMA, Sunspec), Speedwire/Webconnect			
Shade management: SMA ShadeFix (integrated)	●			
Warranty: 5/10 years	● / ● <sup>4)</sup>			
Certificates and approvals (more available upon request)	CE, CEI0-21 int./ext., C10/11 int./ext., EN50549-1, G98/G99, IEC 62109-1/2, NA/EEA-NE7, NRS 097-2-1, RD1699/413, TOR generator type A, VDE126-1-1, VDE AR-E2510-2, VDE-AR-N4105			
Country availability of SMA Smart Connected	AT, BE, CH, DE, ES, GB, LU, NL, IT, UK, ZA			
Model type number	STP5.0-3SE-40	STP6.0-3SE-40	STP8.0-3SE-40	STP10.0-3SE-40

● Standard features ○ Optional – Not available Information refers to nominal conditions Status: 07/2025 1) See "List of Approved Batteries" at [www.SMA-Solar.com](http://www.SMA-Solar.com)

2) U<sub>pv</sub> < 700V and U<sub>BAT</sub> > 220 V 3) Depending on battery connected 4) When device is registered via the SMA product registration page ([my.sma-service.com](http://my.sma-service.com)). The conditions of the SMA limited factory warranty apply. You can find additional information at [SMA-Solar.com](http://SMA-Solar.com)