



Sunny Central UP

The new Sunny Central: more power per cubic meter

Efficient

- Up to 4 inverters can be transported in one standard shipping container
- Overdimensioning up to 200% is possible
- Full power at ambient temperatures of up to 35°C

Robust

- Intelligent air cooling system OptiCool for efficient cooling
- Suitable for outdoor use in all climatic ambient conditions worldwide

Flexible

- One device for all applications
- PV application with DC-coupled battery-storage system and charging from the AC utility as an option

Easy to Use

- Improved DC connection area
- Connection area for customer equipment
- Integrated voltage support for internal and external loads

With an output of up to 3067 kVA and system voltages of 1500 V_{DC}, the SMA central inverter allows for more efficient system design and a reduction in specific costs for PV and battery power plants.

A separate voltage supply and additional space are available for the installation of customer equipment.

True 1500 V technology and the intelligent cooling system OptiCool ensure smooth operation even in extreme ambient temperature as well as a long service life of 25 years.

SUNNY CENTRAL UP

Technical Data	Sunny Central 2660 UP	Sunny Central 2800 UP
DC side		
MPP voltage range V_{DC} (at 25°C / at 50°C)	880 V to 1325 V / 1100 V	921 V to 1325 V / 1100 V
Min. DC voltage $V_{DC, min}$ / start voltage $V_{DC, Start}$	849 V / 1030 V	891 V / 1071 V
Max. DC voltage $V_{DC, max}$	1500 V	1500 V
Max. DC current $I_{DC, max}$ / with DC coupling	3200 A / 4800 A	3200 A / 4800 A
Max. DC short-circuit current $I_{DC, SC}$	8400 A	8400 A
Number of DC inputs	24 double pole fused / 32 single pole fused	
Number of DC inputs with optional DC battery coupling	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A, 630 A	
Available battery fuse size (per input)	750 A	
AC side		
Nominal AC power at $\cos \varphi = 1$ (at 35°C / at 50°C) ^{12/13)}	2667 kVA / 2400 kVA	2800 kVA / 2520 kVA
Nominal AC active power at $\cos \varphi = 0.8$ (at 35°C / at 50°C) ^{12/13)}	2134 kW / 1920 kW	2240 kW / 2016 kW
Nominal AC current $I_{AC, nom}$ (at 35°C / at 50°C)	2566 A / 2309 A	2566 A / 2309 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range ^{1) 8)}	600 V / 480 V to 720 V	630 V / 504 V to 756 V
AC grid frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals ⁹⁾	> 2	
Power factor at rated power / displacement power factor adjustable ⁸⁾¹⁰⁾	1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency ²⁾ / European efficiency ²⁾ / CEC efficiency ³⁾	98.8% / 98.6% / 98.4%	98.8% / 98.6% / 98.4%
Protective Devices		
Input-side disconnection point	DC load-break switch	
Output-side disconnection point	AC circuit breaker	
DC overvoltage protection	Surge arrester type I and type II	
AC overvoltage protection (optional)	Surge arrester, class I and class II	
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	
Ground fault monitoring remote-controlled	○	
Insulation monitoring / module protection to mitigate PID effect and TCO corrosion	● / ○	
Degree of protection: electronics / air duct / connection area (as per IEC 60529)	IP54 / IP34 / IP34	
General Data		
Dimensions (W / H / D)	2815 / 2318 / 1588 mm (110.8 / 91.3 / 62.5 inch)	
Weight	< 3400 kg / < 7500 lb	
Self-consumption (max. ⁴⁾ / partial ⁵⁾ / average ⁶⁾)	< 8100 W / < 1800 W / < 2000 W	
Self-consumption (standby)	< 370 W	
Internal auxiliary power supply	Integrated 8.4 kVA transformer	
Operating temperature range ⁸⁾	-25°C to 60°C / -13°F to 140°F	
Sound power LWA with rated power inverter / Inverter + Silencer Kit ⁷⁾	91 dB(A) / 85 dB(A)	
Temperature range (standby)	-40°C to 60°C / -40°F to 140°F	
Temperature range (storage)	-40°C to 70°C / -40°F to 158°F	
Maximum permissible value for relative humidity (condensing / non-condensing)	95% to 100% (2 month / year) / 0% to 95%	
Maximum operating altitude above MSL ⁸⁾ 1000 m / 2000 m 11) / 3000 m 11)	● / ○ / ○	● / ○ / –
Fresh air consumption	6500 m³/h	
Equipment		
DC connection	Terminal lug on each input (without fuse)	
AC connection	with busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Client, Modbus Server	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply for external loads	○ (2.5 kVA)	
Standards and directives complied with	AR-N 4110/20/30, CE, IEC / EN 62109-1 / -2, IEEE1547, UL 840 Cat. IV, CEI 0-16, EN 50549-2, NTS 2.1	
EMC standards	IEC / EN 55011, IEC 61000-6-2/-4, FCC Part 15 Subpart B, IEC 62920	
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
Type designation	SC 2660 UP	SC 2800 UP

● Standard feature ○ Optional feature – Not available

Technical Data	Sunny Central 2930 UP	Sunny Central 3060 UP
DC side		
MPP voltage range V _{DC} (at 25 °C / at 50 °C)	962 V to 1325 V / 1100 V	1003 V to 1325 V / 1100 V
Min. DC voltage V _{DC, min} / start voltage V _{DC, Start}	934 V / 1112 V	976 V / 1153 V
Max. DC voltage V _{DC, max}	1500 V	1500 V
Max. DC current I _{DC, max} / with DC coupling	3200 A / 4800 A	3200 A / 4800 A
Max. DC short-circuit current I _{DC, SC}	8400 A	8400 A
Number of DC inputs	24 double pole fused / 32 single pole fused	
Number of DC inputs with DC coupling option for batteries	18 double pole fused (36 single pole fused) for PV and 6 double pole fused for batteries	
Max. number of DC cables per DC input (for each polarity)	2 x 800 kcmil, 2 x 400 mm²	
Integrated zone monitoring	○	
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A, 630 A	
Available battery fuse size (per input)	750 A	
AC side		
Nominal AC power at cos φ =1 (at 35 °C / at 50 °C) ^{12/13)}	2933 kVA / 2640 kVA	3067 kVA / 2760 kVA
Nominal AC active power at cos φ =0.8 (at 35 °C / at 50 °C) ^{12/13)}	2346 kW / 2112 kW	2454 kW / 2208 kW
Nominal AC current I _{AC, nom} (at 35 °C / at 50 °C)	2566 A / 2309 A	2566 A / 2309 A
Max. total harmonic distortion	< 3% at nominal power	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range ^{11 8)}	660 V / 528 V to 792 V	690 V / 552 V to 828 V
AC grid frequency / range	50 Hz / 47 Hz to 53 Hz 60 Hz / 57 Hz to 63 Hz	
Min. short-circuit ratio at the AC terminals ⁹⁾	> 2	
Power factor at rated power / displacement power factor adjustable ⁸⁾¹⁰⁾	1 / 0.8 overexcited to 0.8 underexcited	
Efficiency		
Max. efficiency ²⁾ / European efficiency ²⁾ / CEC efficiency ³⁾	98.9% / 98.7% / 98.5%	98.9% / 98.7% / 98.5%
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Input-side disconnection point	DC load-break switch	
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Insulation monitoring / module protection to mitigate PID effect and TCO corrosion	● / ○	
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Fresh air consumption	6500 m³/h	
Equipment		
DC connection	Terminal lug on each input (without fuse)	
AC connection	with busbar system (three busbars, one per line conductor)	
Communication	Ethernet, Modbus Client, Modbus Server	
Enclosure / roof color	RAL 9016 / RAL 7004	
Supply for external loads	○ (2.5 kVA)	
Standards and directives complied with	AR-N 4110/20/30, CE, IEC / EN 62109-1 / -2, IEEE1547, UL 840 Cat. IV, CEI 0-16, EN 50549-2, NTS 2.1	
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Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001	
Type designation	SC 2930 UP	SC 3060 UP

● Standard feature ○ Optional feature – Not available

1) At grid voltage lower than nominal AC voltage, the nominal AC power decreases in the same proportion

2) Efficiency measured without self-consumption

3) Efficiency measured with internal power supply

4) Self-consumption at rated operation

5) Self-consumption at < 75% P_n at 25 °C

6) Self-consumption averaged for 5% to 100% P_n at 25 °C

7) Derating of 3% with Silencer Kit use by reducing the airflow; detailed information on the sound power is available under NDA.

8) Values apply only to inverters. Permissible values for SMA MV solutions from SMA can be found in the corresponding datasheets.

9) A short-circuit ratio of < 2 requires a special approval from SMA

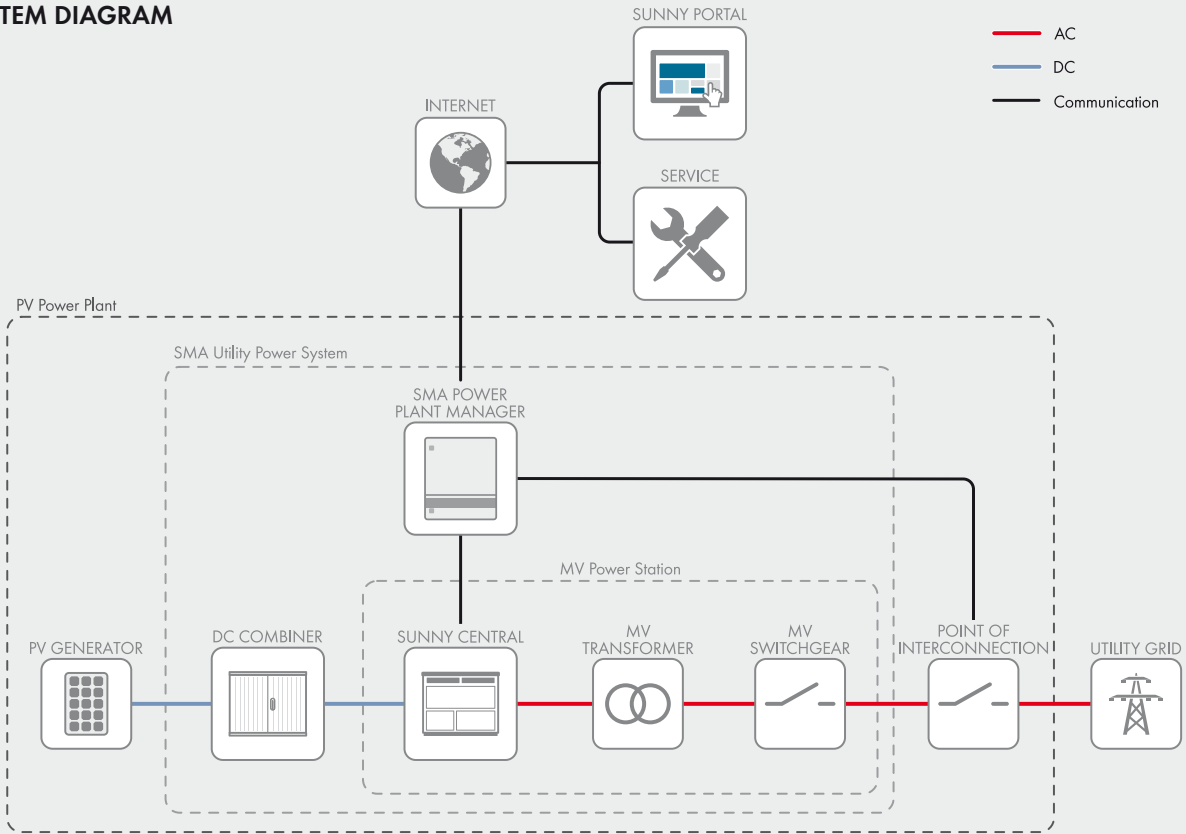
10) Depending on the input voltage

11) Earlier temperature-dependent de-rating and reduction of DC open-circuit voltage

12) Nominal AC power at 35 °C achievable up to a maximum of 1050 VDC

13) The "AC charging power" in DC-coupled operation is depending on operating conditions.

SYSTEM DIAGRAM



TEMPERATURE BEHAVIOR (AT $\cos \Phi = 1$)

