

SC 4400 UP



Efficient

- Overdimensioning up to 150% 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, optionally available with DC-coupled storage system

Convenience

- Improved DC connection area
- Easy to connect with external additional devices
- Auxiliary power supply for external equipment is optionally available

SUNNY CENTRAL UP

The new Sunny Central with the largest output in Japan

With an output of up to 4400 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.

Technical Data	Sunny Central 4400 UP
DC side	
MPP voltage range V_{DC} (at 25 °C / at 50 °C)	962 to 1325 V / 1000 V
Min. DC voltage $V_{DC, min}$ / Operation start voltage $V_{DC, Start}$	934 V / 1112 V
Max. DC voltage $V_{DC, max}$	1500 V
Max. DC current $I_{DC, max}$	4750 A
Max. short-circuit current $I_{DC, SC}$	8400 A
Number of DC inputs	24 inputs (fused at every pole), 24 double pole fused
Number of DC inputs with optional DC coupled storage	18 double pole fused for PV and 6 double pole fused for batteries
Max. number of DC cables per DC input (for each polarity)	2 x 400 mm ²
Integrated zone monitoring	○
Available PV fuse sizes (per input)	200 A, 250 A, 315 A, 350 A, 400 A, 450 A, 500 A
Available battery fuse size (per input)	750 A
AC side	
Nominal AC power at $\cos \varphi = 1$ (at 35 °C / at 50 °C)	4400 kVA ¹²⁾ / 3960 kVA
Nominal AC current $I_{AC, nom}$ (at 35 °C / at 50 °C)	3850 A / 3465 A
Max. total harmonic distortion	< 3% at nominal power
Nominal AC voltage / nominal AC voltage range ¹¹⁾	660 V / 528 V to 759 V
AC power 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)}	● >0.99 / 0.8 overexcited to 0.8 underexcited
Phase/Line type	3 phase/4 lines, 3 phase/3 lines
Insulation	Isolated, negative grounding (option)
Protection to the grid	OV, UV, OF, UV, FRT
Efficiency	
Max. efficiency ²⁾ / European efficiency ²⁾ / CEC efficiency ³⁾	98.8% / 98.7% / 98.5%
Protective Devices	
Input-side disconnection point	DC load break switch
Output-side disconnection point	AC circuit breaker
DC overvoltage protection	Surge arrester, type I & II
AC overvoltage protection	○ Surge arrester, class I & II
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III
Ground-fault monitoring / remote ground-fault monitoring	○ / ○
Insulation monitoring	○
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
Weight	< 3700 kg
Self-consumption (max. ⁴⁾ / partial load 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
Noise emission ⁷⁾	63.0 dB(A)
Temperature range (standby)	-40 °C to 60 °C
Temperature range (storage)	-40 °C to 70 °C
Max. 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⁾	● / ○
Fresh air consumption	6500 m ³ /h
Features	
Enclosure / roof color	RAL 9016 / RAL 7004
Standards and directives complied with	CE, IEC / EN 62109-1, IEC / EN 62109-2, AR-N 4110, IEEE1547, UL 840 Cat. IV, Arrêté du 23/04/08
EMC standards	IEC 55011, IEC 61000-6-2, FCC Part 15 Class A
Quality standards and directives complied with	VDI/VDE 2862 page 2, DIN EN ISO 9001
● Standard features ○ Optional – not available	
Type designation	SC 4400 UP

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

2) Efficiency measured without internal power supply

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 out from 5% to 100% P_n at 25 °C

7) Sound pressure level at a distance of 10 m

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

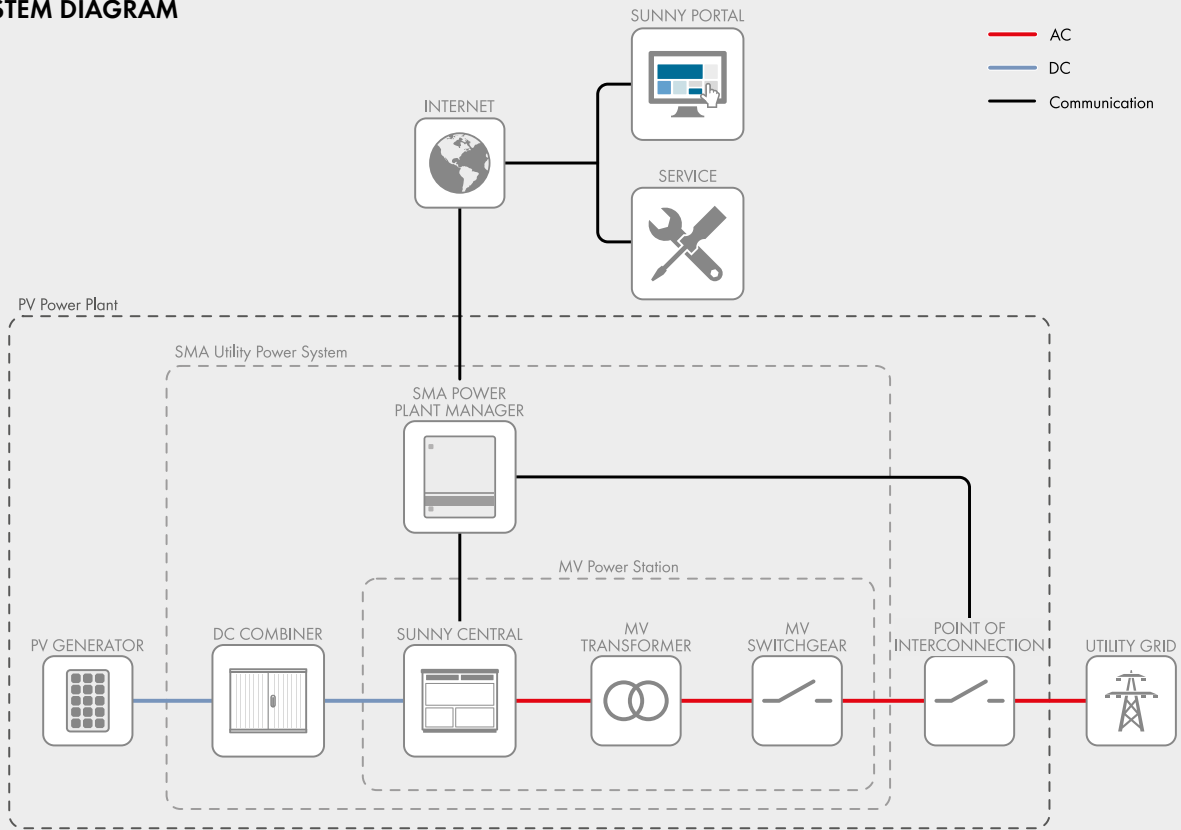
9) A short-circuit ratio of < 2 requires a special approval from SMA

10) Depending on the DC voltage

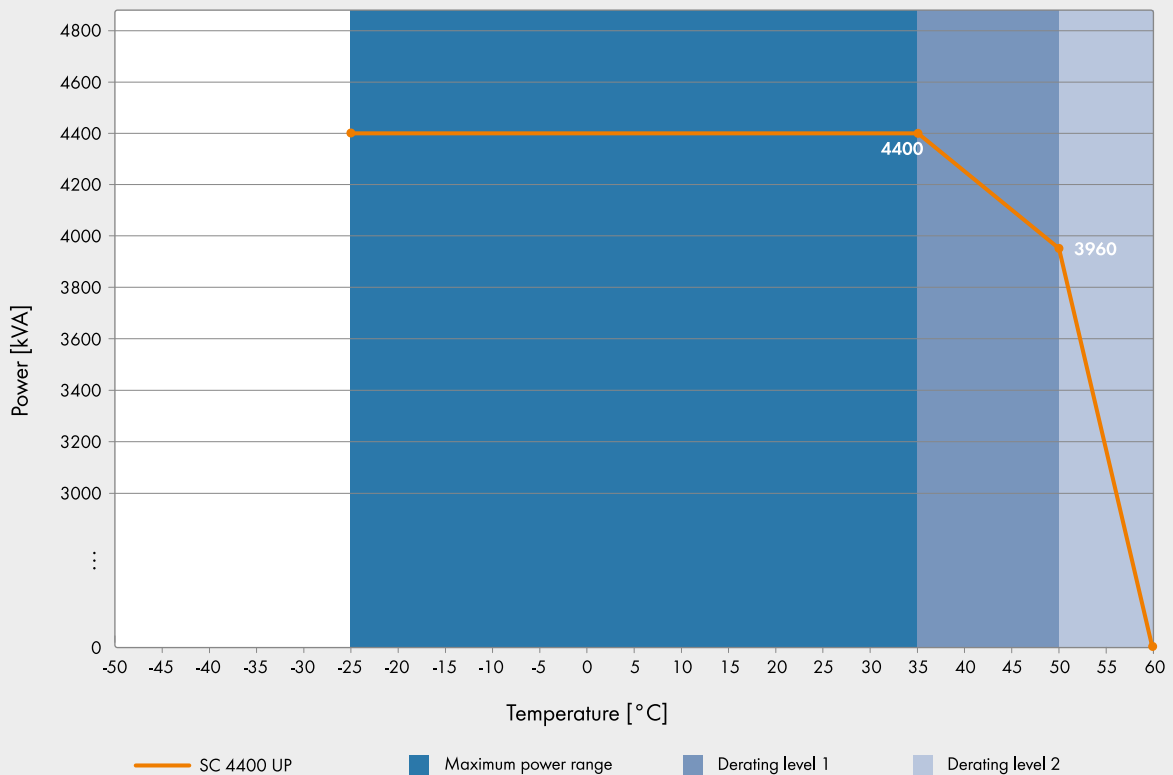
11) Earlier temperature-dependent de-rating and reduction of DC open-circuit voltage

12) Nominal AC power at 35 °C achievable up to a maximum of 1000 V_{DC}

SYSTEM DIAGRAM



TEMPERATURE BEHAVIOR (at 1000 m)



ENERGY
THAT
CHANGES

