

SUNNY CENTRAL

500CP XT / 630CP XT / 720CP XT / 760CP XT



SC 500CP-10 / SC 630CP-10 / SC 720CP-10 / SC 760CP-10



Profitable

- Significantly reduced specific price thanks to increased power
- Maximum yields with low system costs

Durable

- Full nominal power in continuous operation at ambient temperatures up to 50 °C
- Optimized for extreme climatic conditions between -40 °C and 62 °C
- Active temperature management with OptiCool™

Flexible

- Wide DC input voltage range for flexible use of various module configurations
- Perfectly adjusted for the temperature-dependent behavior of PV arrays

Versatile

- All grid management functions are included, prepared for "Q at Night" including pure reactive power operation
- Customized computer platform for optimal monitoring and control of inverters

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The extended CP: more features included

More power: With its extended functions, the new Sunny Central CP XT series is now even more efficient. The reduced specific price, meaning that maximum yields are achieved with lower system costs. The Sunny Central CP XT is also optimized for cold temperatures down to -40 °C and with full nominal power in continuous operation up to 50 °C. The inverter includes all grid management functions and is prepared for Q at Night. The tailor-made computer platform allows for optimal monitoring and control.

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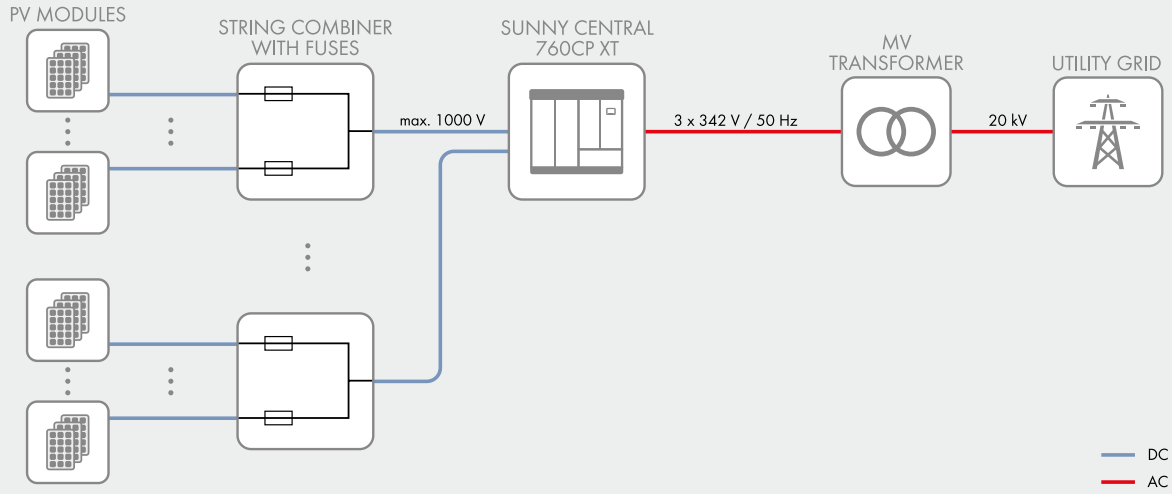
500CP XT / 630CP XT / 720CP XT / 760CP XT

Technical Data	Sunny Central 500CP XT	Sunny Central 630CP XT
Input (DC)		
Max. DC power (at $\cos \varphi = 1$)	560 kW	713 kW
Max. input voltage	1000 V	1000 V
$V_{MPP_{min}}$ at $I_{MPP} < I_{DCmax}$	430 V	500 V
MPP voltage range (at 25 °C / at 50 °C at 50 Hz) ^{1) 2)}	449 V to 850 V / 430 V to 850 V	529 V to 850 V / 500 V to 850 V
MPP voltage range (at 25 °C / at 50 °C at 60 Hz) ^{1) 2)}	449 V to 850 V / 436 V to 850 V	529 V to 850 V / 505 V to 850 V
Rated input voltage	449 V	529 V
Max. input current	1250 A	1350 A
Max. DC short-circuit current	2500 A	2500 A
Number of independent MPP inputs	1	1
Number of DC inputs	9	9
Output (AC)		
Rated power (at 25 °C) / nominal AC power (at 50 °C)	550 kVA / 500 kVA	700 kVA / 630 kVA
Nominal AC voltage / nominal AC voltage range	270 V / 243 V to 310 V	315 V / 284 V to 362 V
AC power frequency / range	50 Hz, 60 Hz / 47 Hz to 63 Hz	50 Hz, 60 Hz / 47 Hz to 63 Hz
Rated power frequency / rated grid voltage	50 Hz / 270 V	50 Hz / 315 V
Max. output current / max. total harmonic distortion	1176 A / 1238 A ³⁾ / 0,03	1283 A / 1350 A ³⁾ / 0,03
Power factor at rated power / displacement power factor adjustable	1 / 0.9 leading to 0.9 lagging	
Feed-in phases / connection phases	3 / 3	3 / 3
Efficiency⁴⁾		
Max. efficiency / European efficiency / CEC efficiency	98,6% / 98,4% / 98,5%	98,7% / 98,5% / 98,5%
Protective devices		
Input-side disconnection device	Motor-driven load-break switch	Motor-driven load-break switch
Output-side disconnection device	AC circuit breaker	AC circuit breaker
DC overvoltage protection	Type I surge arrester	Type I surge arrester
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	Lightning Protection Level III
Stand-alone grid detection active / passive	● / –	● / –
Grid monitoring	●	●
Ground fault monitoring / remote-controlled ground fault monitoring	○ / ○	○ / ○
Insulation monitoring	○	○
Surge arrester for auxiliary power supply	●	●
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 60664-1)	I / III	I / III
General data		
Dimensions (W / H / D)	2562 / 2272 / 956 mm (101 / 89 / 38 inches)	
Weight in kg	1900 kg / 4200 lb	1900 kg / 4200 lb
Operating temperature range	–25 °C to 62 °C / –13 °F to 144 °F	
Extended operating temperature range	○ (–40 °C to 62 °C / –40 °F to 144 °F)	
Noise emission ⁵⁾	63 db(A)	64 db(A)
Max. self-consumption (operation) ⁶⁾ / self-consumption (night)	1900 W / < 100 W	1900 W / < 100 W
External auxiliary supply voltage	230 V / 400V (3 / N / PE)	230 V / 400V (3 / N / PE)
Cooling concept	OptiCool	OptiCool
Degree of protection: electronics / connection area (according to IEC 60529) / according to IEC 60721-3-4	IP54 / IP43 / 4C2, 4S2	IP54 / IP43 / 4C2, 4S2
Application in unprotected outdoor environments / indoor	● / ○	● / ○
Maximum permissible value for relative humidity (non-condensing)	15% to 95%	15% to 95%
Maximum operating altitude above MSL 2000 m / 4000 m	● / ○	● / ○
Fresh air consumption (inverter)	3000 m ³ /h	3000 m ³ /h
Features		
DC connection / AC connection	Ring terminal lug / ring terminal lug	
Display	HMI touch display	
Communication / protocols	Ethernet (optical fiber optional), Modbus	
DC current monitoring (Zone monitoring / String monitoring)	○ / ○	
SC-COM / Plant monitoring	● / ○ (via Sunny Portal)	
Color enclosure / door / base / roof	RAL 9016 / 9016 / 7004 / 7004	
Guarantee: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○	
Configurable grid management functions	Power reduction, reactive power setpoint, dynamic grid support (e.g. LVRT)	
Certificates and approvals (more available on request)	EN 61000-6-2, EN 61000-6-4, EMC-conformity, CE-conformity, BDEW-MSRL / FGW / TR8, Arrêté du 23/04/08, R.D. 1663 / 2000, R.D. 661 / 2007, P.O. 12.3 / IEEE 1547 ⁷⁾	
● Standard features ○ Optional features – Not available		
Type designation	SC 500CP-10	SC 630CP-10

- 1) At 1.05 $U_{AC, nom}$ and $\cos \varphi = 1$
- 2) Further AC voltages, DC voltages and power classes can be configured (for more detailed information, see technical information at www.SMA.de)
- 3) up to + 5% I_{max} possible at $V_{AC} < V_{AC, Nom}$
- 4) Efficiency measured without internal power supply
- 5) Sound pressure level at a distance of 10 m
- 6) Self-consumption at rated operation
- 7) Designed and type-tested in accordance with IEEE 1547, serial tests optional available

Technical Data	Sunny Central 720CP XT	Sunny Central 760CP XT
Input (DC)		
Max. DC power (at $\cos \varphi = 1$)	808 kW	853 kW
Max. input voltage	1000 V	1000 V
$V_{MPP, min}$ at $I_{MPP} < I_{DC, max}$	480 V	505 V
MPP voltage range (at 25 °C / at 50 °C at 50 Hz) ^{1) 2)}	577 V to 850 V / 525 V to 850 V	609 V to 850 V / 554 V to 850 V
MPP voltage range (at 25 °C / at 50 °C at 60 Hz) ^{1) 2)}	577 V to 850 V / 525 V to 850 V	609 V to 850 V / 554 V to 850 V
Rated input voltage	577 V	609 V
Max. input current	1400 A	1400 A
Max. DC short-circuit current	2500 A	2500 A
Number of independent MPP inputs	1	1
Number of DC inputs	9	9
Output (AC)		
Rated power (at 25 °C) / nominal AC power (at 50 °C)	792 kVA / 720 kVA	836 kVA / 760 kVA
Nominal AC voltage / nominal AC voltage range	324 V / 292 V to 372 V	342 V / 308 V to 393 V
AC power frequency / range	50 Hz, 60 Hz / 47 Hz to 63 Hz	50 Hz, 60 Hz / 47 Hz to 63 Hz
Rated power frequency / rated grid voltage	50 Hz / 324 V	50 Hz / 342 V
Max. output current / max. total harmonic distortion	1411 A / 0,03	1411 A / 0,03
Power factor at rated power / displacement power factor adjustable	1 / 0.9 leading to 0.9 lagging	
Feed-in phases / connection phases	3 / 3	3 / 3
Efficiency⁴⁾		
Max. efficiency / European efficiency / CEC efficiency	98,6% / 98,4% / 98,5%	98,6% / 98,4% / 98,5%
Protective devices		
Input-side disconnection device	Motor-driven load-break switch	Motor-driven load-break switch
Output-side disconnection device	AC circuit breaker	AC circuit breaker
DC overvoltage protection	Type I surge arrester	Type I surge arrester
Lightning protection (according to IEC 62305-1)	Lightning Protection Level III	Lightning Protection Level III
Stand-alone grid detection active / passive	● / –	● / –
Grid monitoring	●	●
Ground fault monitoring / remote-controlled ground fault monitoring	○ / ○	○ / ○
Insulation monitoring	○	○
Surge arrester for auxiliary power supply	●	●
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 60664-1)	I / III	I / III
General data		
Dimensions (W / H / D)	2562 / 2272 / 956 mm (101 / 89 / 38 inches)	
Weight in kg	1900 kg / 4200 lb	1900 kg / 4200 lb
Operating temperature range	–25 °C to 62 °C / –13 °F to 144 °F	
Extended operating temperature range	○ (–40 °C to 62 °C / –40 °F to 144 °F)	
Noise emission ⁵⁾	64 db(A)	64 db(A)
Max. self-consumption (operation) ⁶⁾ / self-consumption (night)	1950 W / < 100 W	1950 W / < 100 W
External auxiliary supply voltage	230 V / 400V (3 / N / PE)	230 V / 400V (3 / N / PE)
Cooling concept	OptiCool	OptiCool
Degree of protection: electronics / connection area (according to IEC 60529) / according to IEC 60721-3-4	IP54 / IP43 / 4C2, 4S2	IP54 / IP43 / 4C2, 4S2
Application in unprotected outdoor environments / indoor	● / ○	● / ○
Maximum permissible value for relative humidity (non-condensing)	15% to 95%	15% to 95%
Maximum operating altitude above MSL 2000 m / 4000 m	● / ○	● / ○
Fresh air consumption (inverter)	3000 m ³ /h	3000 m ³ /h
Features		
DC connection / AC connection	Ring terminal lug / ring terminal lug	
Display	HMI touch display	
Communication / protocols	Ethernet (optical fiber optional), Modbus	
DC current monitoring (Zone monitoring / String monitoring)	○ / ○	
SC-COM / Plant monitoring	● / ○ (via Sunny Portal)	
Color enclosure / door / base / roof	RAL 9016 / 9016 / 7004 / 7004	
Guarantee: 5 / 10 / 15 / 20 years	● / ○ / ○ / ○	
Configurable grid management functions	Power reduction, reactive power setpoint, dynamic grid support (e.g. LVRT)	
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● Standard features ○ Optional features – Not available		
Type designation	SC 720CP-10	SC 760CP-10

PLANT DIAGRAM



EFFICIENCY CURVE

