

SUNNY CENTRAL 500CP XT / 630CP XT / 720CP XT / 760CP XT / 800CP XT / 850CP XT / 900CP XT



Economical

- Up to 1 MW power class
- Significant savings in balance of system components due to 1,000 V operating voltage
- Outdoor enclosure simplifies deployment

Efficient

- Highest efficiency in its class
- Full nominal power at ambient temperatures up to 50 °C
- 10% additional power for continuous operation at ambient temperatures up to 25 °C

Flexible

- Wide DC input voltage for flexible use of various module configurations
- Optional extended input range up to 1,100 V
- Optional DC disconnects

Versatile

- Powerful grid management functions (incl. LVRT and Frequency Ride Through)
- Optimized for extreme climate conditions including -40 °C to 62 °C

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Unmatched performance for utility-scale PV

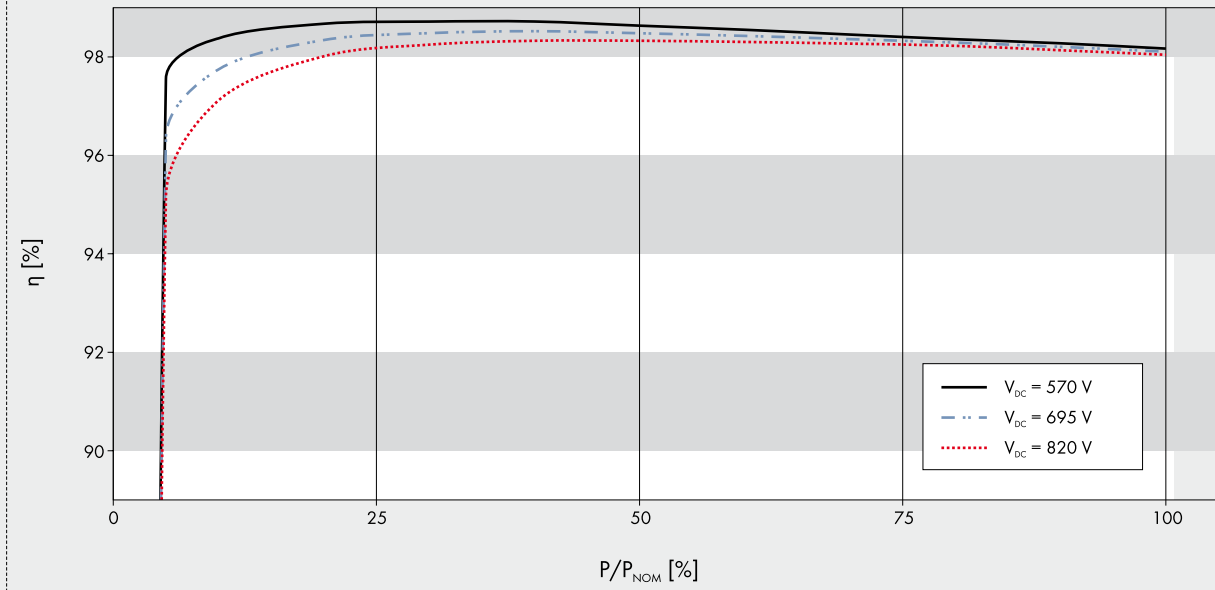
With its extended features, the new Sunny Central CP XT series maximizes both energy production and project investment returns through innovative technology and an extensive suite of integrated grid management functions. The Sunny Central CP XT is also optimized for cold temperatures down to -40 °C and provides full nominal power in continuous operation up to 50 °C. The Sunny Central CP XT can also be integrated with the Power Plant Controller as well as the Medium-Voltage Power Platform for utility-scale applications.

Technical data	Sunny Central 500CP XT	Sunny Central 630CP XT	Sunny Central 720CP XT
Input (DC)			
Max. DC power (@ cos φ = 1)	560 kW	713 kW	808 kW
Max. input voltage ¹	1000 V / 1100 V optional	1000 V / 1100 V optional	1000 V / 1100 V optional
Minimum input voltage / U_{MPP_min} at $I_{MPP} < I_{DCmax}$	429 V / 430 V	498 V / 500 V	485 V / 485 V
MPP voltage range (@ 25 °C / @ 50 °C at 50 Hz)	449 V - 850 V / 430 V - 850 V ²	529 V - 850 V / 500 V - 850 V ²	577 V - 850 V / 525 V - 850 V ^{2,3}
MPP voltage range (@ 25 °C / @ 50 °C at 60 Hz)	449 V - 850 V / 436 V - 850 V ²	529 V - 850 V / 505 V - 850 V ²	577 V - 850 V / 525 V - 850 V ^{2,3}
Rated input voltage	480 V	550 V	565 V
Max. input current	1250 A	1350 A	1400 A
Number of independent MPP inputs	1	1	1
Number of DC inputs	9 / 32 (Optiprotect)	9 / 32 (Optiprotect)	9 / 32 (Optiprotect)
Output (AC)			
Rated power (@ 25 °C) / nominal AC power (@ 50 °C)	550 kVA / 500 kVA	700 kVA / 630 kVA	792 kVA / 720 kVA
Nominal AC voltage / nominal AC voltage range	270 V / 243 V - 297 V	315 V / 284 V - 347 V	324 V / 292 V - 356 V ³
AC frequency / range	50 Hz, 60 Hz / 47 Hz ... 63 Hz	50 Hz, 60 Hz / 47 Hz ... 63 Hz	50 Hz, 60 Hz / 47 Hz ... 63 Hz
Rated frequency / rated grid voltage	50 Hz / 270 V	50 Hz / 315 V	50 Hz / 324 V
Max. output current	1176 A	1283 A	1411 A
Max. THD	< 3 %	< 3 %	< 3 %
Power factor at rated power / adjustable shift factor		1 / 0.9 leading ... 0.9 lagging	
Feed-in phases / connection phases	3 / 3	3 / 3	3 / 3
Efficiency⁷			
Max. efficiency / European efficiency / CEC efficiency	98.6 % / 98.4 % / 98.5 %	98.7 % / 98.5 % / 98.5 %	98.6 % / 98.4 % / 98.5 %
Protective devices			
Input-side disconnection device	Motor-driven switch-disconnector / circuit breaker (Optiprotect)		
Output-side disconnection device	AC circuit breaker		
DC overvoltage protection	Type I surge arrester		
Lightning protection	Lightning protection level III	Lightning protection level III	Lightning protection level III
Grid monitoring	●	●	●
Ground fault monitoring / remote-controlled ground fault monitoring	○ / ○	○ / ○	○ / ○
Insulation monitoring	○	○	○
Surge arrester for auxiliary power supply	●	●	●
Protection class / overvoltage category	I / III	I / III	I / III
General data			
Dimensions (W / H / D)	2743 / 2514 / 1092 mm (108 / 99 / 43 inch)		
Weight	1934 kg / 4262 lb	1934 kg / 4262 lb	1934 kg / 4262 lb
Operating temperature range	-25 °C ... +62 °C / -13 °F ... +144 °F	-25 °C ... +62 °C / -13 °F ... +144 °F	-25 °C ... +62 °C / -13 °F ... +144 °F
Noise emission ⁸	60 dB(A)	60 dB(A)	60 dB(A)
Max. self-consumption (operation) / self-consumption (night)	1700 W ⁴ / < 100 W	1700 W ⁴ / < 100 W	1700 W ⁴ / < 100 W
External auxiliary supply voltage	230 / 400 V (3/N/PE)	230 / 400 V (3/N/PE)	230 / 400 V (3/N/PE)
Cooling concept	OptiCool	OptiCool	OptiCool
Electronics degree of protection / connection area	IP54 / IP43	IP54 / IP43	IP54 / IP43
Degree of protection	4C2, 4S2	4C2, 4S2	4C2, 4S2
Application	In unprotected outdoor environments		
Maximum permissible value for relative humidity (non-condensing)	15 % ... 95 %	15 % ... 95 %	15 % ... 95 %
Maximum operating altitude above MSL	2000 m	2000 m	2000 m
Fresh air consumption (inverter)	3000 m ³ /h	3000 m ³ /h	3000 m ³ /h
Features			
DC connection	Ring terminal lug / cage clamp (Optiprotect)		
AC connection	Ring terminal lug	Ring terminal lug	Ring terminal lug
Display	HMI touchscreen	HMI touchscreen	HMI touchscreen
Communication / protocols	Ethernet (OF optional), Modbus RS485 / none (Optiprotect)	Ethernet (OF optional), Modbus RS485 / none (Optiprotect)	Ethernet (OF optional), Modbus RS485 / none (Optiprotect)
Sunny String-Monitor communication			
SC Com	●	●	●
Color enclosure, door, base, roof	RAL 9016 / 9016 / 7005 / 7004		
Warranty: 5 / 10 / 15 / 20 / 25 years	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
Certificates and approvals (more available on request)	EN 61000-6-2, EN 61000-6-4, CE conformity, EEG conformity, BDEW-MSRL / FGW / TR8 ⁶ , Arrêté du 23/04/08, R.D. 1.663 / 2000, R.D. 661 / 2007		
● Standard features ○ Optional features – Not available			
Type designation	SC 500CP-10	SC 630CP-10	SC 720CP-10

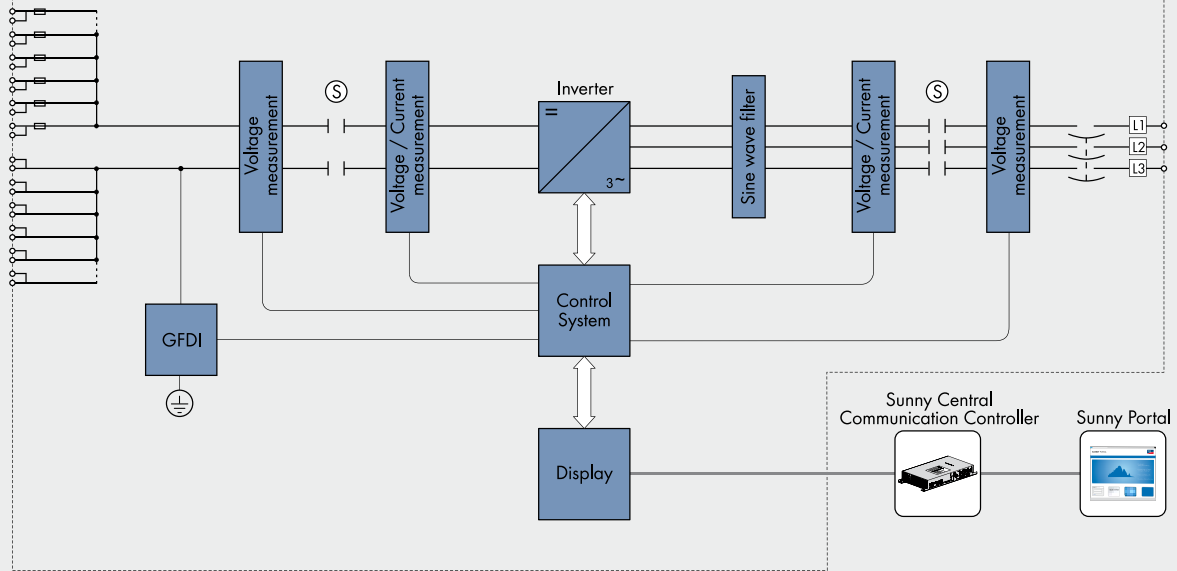
Sunny Central 760CP XT	Sunny Central 800CP XT	Sunny Central 850CP XT	Sunny Central 900CP XT
853 kW	898 kW	954 kW	1010 kW
1000 V / 1100 V optional	1000 V / 1100 V optional	1000 V / 1100 V optional	1000 V / 1100 V optional
510 V / 510 V	535 V / 535 V	570 V / 570 V	600 V / 600 V
609 V - 850 V / 554 V - 850 V ²⁻³	641 V - 850 V / 583 V - 850 V ²⁻³	681 V - 850 V / 620 V - 850 V ²	722 V - 850 V / 656 V - 850 V ²
609 V - 850 V / 554 V - 850 V ²⁻³	641 V - 850 V / 583 V - 850 V ²⁻³	681 V - 850 V / 620 V - 850 V ²	722 V - 850 V / 656 V - 850 V ²
595 V	620 V	620 V	620 V
1400 A	1400 A	1400 A	1400 A
1	1	1	1
9 / 32 (Optiprotect)	9 / 32 (Optiprotect)	9 / 32 (Optiprotect)	9 / 32 (Optiprotect)
836 kVA / 760 kVA	880 kVA / 800 kVA	935 kVA / 850 kVA	990 kVA / 900 kVA
342 V / 308 V - 376 V ³	360 V / 324 V - 396 V ³	386 V / 348 V - 425 V	405 V / 364 V - 446 V
50 Hz, 60 Hz / 47 Hz ... 63 Hz	50 Hz, 60 Hz / 47 Hz ... 63 Hz	50 Hz, 60 Hz / 47 Hz ... 63 Hz	50 Hz, 60 Hz / 47 Hz ... 63 Hz
50 Hz / 342 V	50 Hz / 360 V	50 Hz / 386 V	50 Hz / 405 V
1411 A	1411 A	1411 A	1411 A
< 3 %	< 3 %	< 3 %	< 3 %
	1 / 0.9 leading ... 0.9 lagging		
3 / 3	3 / 3	3 / 3	3 / 3
98.6 % / 98.4 % / 98.5 %	98.6 % / 98.4 % / 98.5 %	98.6 % / 98.4 % / 98.5 %	98.6 % / 98.4 % / 98.5 %
	Motor-driven DC switch-disconnector / circuit breaker (Optiprotect)		
	AC circuit breaker		
	Type I surge arrester		
Lightning protection level III	Lightning protection level III	Lightning protection level III	Lightning protection level III
●	●	●	●
○ / ○	○ / ○	○ / ○	○ / ○
○	○	○	○
●	●	●	●
I / III	I / III	I / III	I / III
	2743 / 2514 / 1092 mm (108 / 99 / 43 inch)		
1934 kg / 4262 lb	1934 kg / 4262 lb	1934 kg / 4262 lb	1934 kg / 4262 lb
-25 °C ... +62 °C / -13 °F ... +144 °F	-25 °C ... +62 °C / -13 °F ... +144 °F	-25 °C ... +62 °C / -13 °F ... +144 °F	-25 °C ... +62 °C / -13 °F ... +144 °F
60 dB(A)	61 dB(A)	61 dB(A)	61 dB(A)
1700 W ⁴ / < 100 W	1700 W ⁴ / < 100 W	1700 W ⁴ / < 100 W	1700 W ⁴ / < 100 W
230 / 400 V (3/N/PE)	230 / 400 V (3/N/PE)	230 / 400 V (3/N/PE)	230 / 400 V (3/N/PE)
OptiCool	OptiCool	OptiCool	OptiCool
IP54 / IP43	IP54 / IP43	IP54 / IP43	IP54 / IP43
4C2, 4S2	4C2, 4S2	4C2, 4S2	4C2, 4S2
In unprotected outdoor environments	In unprotected outdoor environments	In unprotected outdoor environments	In unprotected outdoor environments
15 % ... 95 %	15 % ... 95 %	15 % ... 95 %	15 % ... 95 %
2000 m	2000 m	2000 m	2000 m
3000 m ³ /h	3000 m ³ /h	3000 m ³ /h	3000 m ³ /h
	Ring terminal lug / cage clamp (Optiprotect)		
Ring terminal lug	Ring terminal lug	Ring terminal lug	Ring terminal lug
HMI touchscreen	HMI touchscreen	HMI touchscreen	HMI touchscreen
Ethernet (OF optional), Modbus	Ethernet (OF optional), Modbus	Ethernet (OF optional), Modbus	Ethernet (OF optional), Modbus
RS485 / none (Optiprotect)	RS485 / none (Optiprotect)	RS485 / none (Optiprotect)	RS485 / none (Optiprotect)
●	●	●	●
	RAL 9016 / 9016 / 7005 / 7004		
● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○	● / ○ / ○ / ○ / ○
	EN 61000-6-2, EN 61000-6-4, CE conformity, IEC conformity, BDEW-MSRL / FGW / TR8 ⁶ , Arrêté du 23/04/08, R.D. 1663 / 2000, R.D. 661 / 2007		
SC 760CP-10	SC 800CP-10	SC 850CP-10	SC 900CP-10

- 1) Start-up at DC voltage < 1000 V
- 2) At 1.05 U_{AC, nom} and cos φ = 1
- 3) Further AC voltages, DC voltages and power classes can be configured
- 4) Self-consumption at rated operation
- 5) Sound pressure level at a distance of 10 m
- 6) With complete dynamic grid support
- 7) Efficiency measured without internal power supply

Efficiency curve SUNNY CENTRAL 900CP XT



SUNNY CENTRAL 900CP XT



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