SUNNY CENTRAL 630CP-JP





Outdoor

- Compact and weatherproof enclosure for outdoor installation
- OptiCoolTM cooling system for ambient temperatures of up to 62 °C

Efficient

- Peak efficiency of 98.7 %
- Higher profit thanks to low self-consumption

Durable

- Resistant to salt corrosion
- Resists sand and dust
- Suitable for all climate zones

Reliable

- High operational safety and easy to maintain
- Powerful grid management functions (including FRT)

SUNNY CENTRAL 630CP-JP

The perfect solution for PV power plants in Japan

The durable and high-performance Sunny Central 630CP-JP guarantees maximum yields in all climate zones. This has been clearly demonstrated in numerous stress tests. With the integrated OptiCoolTM cooling system, the Sunny Central 630CP-JP can continue to feed solar power into the power distribution grid even at ambient temperatures up to 62 °C. The compact and durable enclosure for the equipment allows easy and uncomplicated outdoor installation – without complex enclosures and external cooling systems. This significantly reduces costs and self-consumption. With its comprehensive grid management functions, the Sunny Central 630 CP-JP already fulfills future requirements for grid operators. The Sunny Central 630 CP-JP is also available with the option noise reduction.

SUNNY CENTRAL 630CP-JP

WITH OPTION NOISE REDUCTION

echnical data	Sunny Central 630CP-JP
nput (DC)	
Max. DC power (at $\cos \varphi = 1$)	713 kW
Max. input voltage	1000 V
MPP voltage range (50 Hz) / MPP voltage range (60 Hz)	500 V to $850 \text{ V}^{1)} / 505 \text{ V}$ to $850 \text{ V}^{1)}$
DC voltage range (50 Hz) / DC voltage range (60 Hz)	500 V to 850 V / 500 V to 850 V
Rated input voltage	529 V
Max. input current	1350 A
Max. short-circuit current	2500 A
/ _{MPPmin} at I _{MPP} < I _{DCmax}	500 V (50 Hz) / 500 V (60 Hz)
Number of independent MPP inputs	1
Number of DC inputs	9
Output (AC)	,
• • •	700 1.1/4 / 472 1.1/4
Rated power (at 25°C) / Nominal AC power (at 50°C)	700 kVA / 473 kVA
AC nominal voltage / range	315 V / 284 V to 362 V
AC frequency / range	50 Hz, 60 Hz / 47 Hz to 63 Hz
Rated frequency / rated grid voltage	50 Hz / 315 V
Max. output current	1283 A / 1350 A ⁶⁾
Max. THD	< 3 %
Power factor at rated power/adjustable shift factor	1 / 0.9 leading to 0.9 lagging
eed-in phases / connection phases	3/3
fficiency ²⁾	
Max. efficiency / European weighted efficiency / CEC efficiency	98.1 % / 97.8 % / 98.0 %
Protective devices	
nput-side disconnection device	Motor-driven DC switch disconnector
Dutput-side disconnection device	AC circuit breaker
DC overvoltage protection	Type I surge arrester
ightning protection (according to IEC 62305-1)	Lightning protection level III
Grid monitoring	•
Stand-alone grid detection	active, passive
Ground-fault monitoring/remote-controlled ground-fault monitoring	0/0
nsulation Monitoring	0
Surge arrester for communication interface/string current monitoring	0/0
Surge arrester for auxiliary supply	Type I and type II surge arrester
Protection class (according to IEC 62109-1) / overvoltage category (according to IEC 60664-1)	
General data	1 / 111
	2542 / 2272 / 1210
Dimensions (W / H / D)	2562 / 2272 / 1210 mm
Veight	1822 kg
Operating temperature range	-25°C to +62°C
Noise emission ³⁾	53 db(A)
Max. self-consumption (operation) ⁴⁾ / consumption (night)	1900 W / < 100 W
external auxiliary supply voltage	230 / 400 V (3/N/PE)
Cooling concept	Opticool
Degree of protection: electronics / connection area (according to IEC 60529 / to IEC 60721-3-4)	IP54 / IP43 / 4C2, 4S2
Application	In unprotected outdoor environments
Max. permissible value for relative humidity (non-condensing)	15 % to 95 %
Max. operating altitude above MSL	2000 m
resh-air consumption	3000 m³/h
eatures	
OC connection / AC connection	Ring terminal lug / Ring terminal lug
Display	HMI touchscreen
Communication protocols	Ethernet (optical fiber optional), Modbus
OC current monitoring (Zone monitoring / String monitoring)	○ / ○
Color enclosure, door, base, roof, silencer	RAL 9016 / 9016 / 7004 / 7004 / 7035
Configurable grid management functions	Power reduction, reactive power setpoint, dynamic grid support (e.g. Fl
Certificates and approvals (additional on request)	EN 61000-6-2, EN 61000-6-4, CE-conformity, Renewable Energy Sou Act-compliant, BDEW-MSRL / JETGR0002-1-2.0 (2011) / JETGR0003-1 (2011) 51, Arrêté du 23/04/08, R.D. 1663 / 2000, R.D. 661 / 2007
	,
■ Standard feature ○ Optional feature — Not available	

SUNNY CENTRAL 630CP-JP

Input (DC) Max. DC power (at cos φ = 1) Max. input voltage Max. input voltage MPP voltage range [50 Hz] / MPP voltage range (60 Hz) DC voltage range [50 Hz] / DC voltage range (60 Hz) Rated input voltage Max. input current Max. short-circuit current V _{NPPmin} at 1 _{MPP} < 1 _{DC,max} Number of independent MPP inputs Number of DC inputs Output (AC) Rated power (at 25 °C) / Nominal AC power (at 50 °C) AC nominal voltage / range AC frequency / rated grid voltage Max. output current Max. THD Power factor at rated power/adjustable shift factor Feed-in phases / connection phases Efficiency² Max. efficiency / European weighted efficiency / CEC efficiency Protective devices Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Strand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Surge arrester for communication interface/string current monitoring Surge arrester for communication interface/st	713 kW 1000 V 500 V to 850 V ¹ / 505 V to 850 V ¹ 500 V to 850 V / 500 V to 850 V 529 V 1350 A 2500 A 500 V (50 Hz) / 500 V (60 Hz) 1 9 700 kVA / 630 kVA 315 V / 284 V to 362 V 50 Hz, 60 Hz / 47 Hz to 63 Hz 50 Hz / 315 V 1283 A / 1350 A ⁶ < 3 % 1 / 0.9 leading to 0.9 lagging 3 / 3 98.7 % / 98.5 % / 98.5 % Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III • active, passive ○ / ○
Max. input voltage MPP voltage range [50 Hz] / MPP voltage range [60 Hz] DC voltage range [50 Hz] / DC voltage range [60 Hz] Rated input voltage Max. input current Max. short-circuit current V_NPPRINT of I INPP < IDENTIFY Number of Independent MPP inputs Number of DC inputs Output (AC) Rated power (at 25 °C) / Nominal AC power (at 50 °C) AC nominal voltage / range Rated frequency / rated grid voltage Max. output current Max. THD Power factor at rated power/adjustable shift factor Feed-in phases / connection phases Efficiency? Max. efficiency / European weighted efficiency / CEC efficiency Protective devices Inputside disconnection device Outputside disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Surge arrester for communication interface/string current monitoring Surge arrester for communication interface/string current monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliarry supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³¹ Max. self-consumption (operation) ⁴¹ / consumption (night) External auxiliarry supply voltage	1000 V 500 V to 850 V ¹¹ / 505 V to 850 V ¹¹ 500 V to 850 V / 500 V to 850 V 529 V 1350 A 2500 A 500 V (50 Hz) / 500 V (60 Hz) 1 9 700 kVA / 630 kVA 315 V / 284 V to 362 V 50 Hz, 60 Hz / 47 Hz to 63 Hz 50 Hz / 315 V 1283 A / 1350 A ⁶¹ < 3 % 1 / 0.9 leading to 0.9 lagging 3 / 3 98.7 % / 98.5 % / 98.5 % Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III • active, passive
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Efficiency ²⁾ Max. efficiency / European weighted efficiency / CEC efficiency Protective devices Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	98.7 % / 98.5 % / 98.5 % Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III active, passive
Efficiency ²⁾ Max. efficiency / European weighted efficiency / CEC efficiency Protective devices Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III active, passive
Max. efficiency / European weighted efficiency / CEC efficiency Protective devices Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III active, passive
Protective devices Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Motor-driven DC switch disconnector AC circuit breaker Type I surge arrester Lightning protection level III active, passive
Input-side disconnection device Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	AC circuit breaker Type I surge arrester Lightning protection level III active, passive
Output-side disconnection device DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	AC circuit breaker Type I surge arrester Lightning protection level III active, passive
DC overvoltage protection Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Type I surge arrester Lightning protection level III active, passive
Lightning protection (according to IEC 62305-1) Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Lightning protection level III active, passive
Grid monitoring Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	active, passive
Stand-alone grid detection Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	•
Ground-fault monitoring/remote-controlled ground-fault monitoring Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	•
Insulation Monitoring Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	0/0
Surge arrester for communication interface/string current monitoring Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	- / -
Surge arrester for auxiliary supply Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	0
Protection class (according to IEC 62103) / overvoltage category (according to IEC 60664-1) General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	0/0
General data Dimensions (W / H / D) Weight Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	Type I and type II surge arrester
Dimensions (W / H / D) Weight Operating temperature range Noise emission ³ Max. self-consumption (operation) ⁴ / consumption (night) External auxiliary supply voltage	1/111
Weight Operating temperature range Noise emission ³ Max. self-consumption (operation) ⁴ / consumption (night) External auxiliary supply voltage	
Weight Operating temperature range Noise emission ³ Max. self-consumption (operation) ⁴ / consumption (night) External auxiliary supply voltage	2562 / 2272 / 956 mm
Operating temperature range Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	арргох. 1800 kg
Noise emission ³⁾ Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	-25°C to +62°C
Max. self-consumption (operation) ⁴⁾ / consumption (night) External auxiliary supply voltage	64 db(A)
External auxiliary supply voltage	1900 W / < 100 W
	·
	230 / 400 V (3/N/PE)
Cooling concept	Opticool
Degree of protection: electronics / connection area (according to IEC 60529 / to IEC 60721-3-4)	IP54 / IP43 / 4C2, 4S2
Application	In unprotected outdoor environments
Max. permissible value for relative humidity (non-condensing)	15 % to 95 %
Max. operating altitude above MSL	2000 m
Fresh-air consumption	3000 m³/h
Features	
DC connection / AC connection	Ring terminal lug / Ring terminal lug
Display	HMI touchscreen
Communication protocols	Ethernet (optical fiber optional), Modbus
DC current monitoring (Zone monitoring / String monitoring)	
Color enclosure, door, base, roof	RAL 9016 / 9016 / 7004 / 7004
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	ower reduction, reactive power setpoint, dynamic grid support (e.g. Fl
	N 61000-6-2, EN 61000-6-4, CE-conformity, Renewable Energy Sou
● Standard feature ○ Optional feature — Not available	-compliant, BDEW-MSRL / JETGR0002-1-2.0 (2011) / JETGR0003-1 (2011) ^{5),} Arrêté du 23/04/08, R.D. 1663 / 2000, R.D. 661 / 2007

- 1) At 1.05 $V_{AC,\ nom}$ and $\cos\phi$ = 1 and Nominal power P_{nom} 2) Efficiency measured without internal power supply
- 3) Sound pressure level at a distance of 10 m
- 4) Self-consumption at rated operation
- 5) Type-tested by the manufacturer in accordance with JET (Japan Electrical Safety & Environment Technology Laboratories Foundation)
- 6) Up to +5 % max. output current possible if $V_{\rm AC}$ < $V_{\rm AC,\,nom}$



