

SC 100 Outdoor / SC 100 Indoor

Flexible

- > Extended temperature range
-20 °C to +50 °C
- > Compact dimensions – easier
installation

Economic

- > Innovative transformer technology resulting in improved
peak efficiency up to 97.6 %
and Euro Eta of 97.0 %

Safe

- > System monitoring and analysis
via integrated data logger
- > Simple remote querying using
remote access is possible

Optional

- > String monitoring
- > DC-input voltage range up to
1000 V
- > Operation with grounded PV
generators
- > Also available as HE version



SUNNY CENTRAL 100

Powerful and Efficient

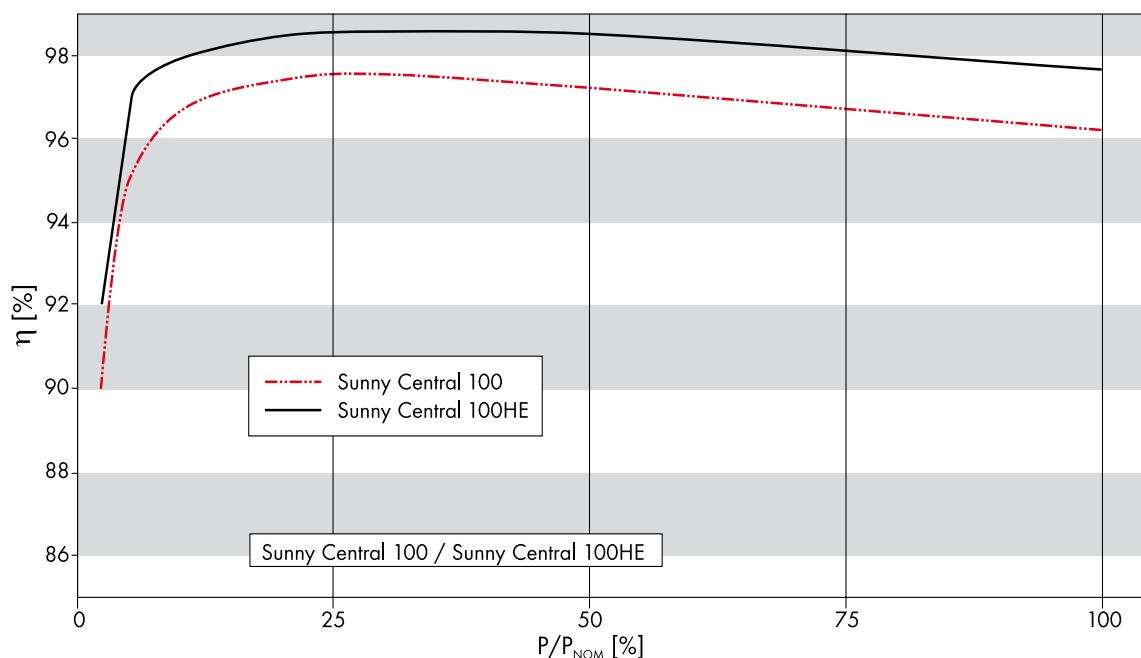
Concentrated power at an attractive price: the Sunny Central 100 outdoor is the perfect solution for PV power plants on the free field. The weatherproof enclosure and the extended temperature range make it the first choice for reliable outdoor operation - even under harsh climatic conditions. Plant operators benefit twice: the compact design of the Sunny Central 100 reduces installation work. And the innovative transformer technology improved the peak efficiency of the central inverter even further, resulting in 97.6 %. This makes it one of the most efficient inverters in its class. The indoor version is basically identical to the Sunny Central 100 Outdoor, though the special ventilation concept makes it the perfect solution for indoor applications.

Technical Data

SUNNY CENTRAL 100 Outdoor / 100 Indoor

	SC 100 Outdoor / HE*	SC 100 Indoor / HE*
Input data		
Max. PV power (recommended), (P_{PV})	110 kWp ¹⁾	110 kWp ¹⁾
DC voltage range, MPPT (U_{DC})	450 V - 820 V	450 V - 820 V
Max. permissible DC voltage ($U_{DC, max}$)	900 V / optional 1000 V	900 V / optional 1000 V
Max. permissible DC current Max. ($I_{DC, max}$)	235 A	235 A
Number of DC inputs (terminal without fuse)	3 x Plus, M12 screws 3 x Minus, M12 screws	3 x Plus, M12 screws 3 x Minus, M12 screws
Output data		
Nominal AC output power (P_{AC})	100 kW	100 kW
Operating grid voltage +/- 10 % (U_{AC})	400 V / 300 V*	400 V / 300 V*
Nominal AC current ($I_{AC, nom}$)	145 A / 193 A*	145 A / 193 A*
Grid structure	TT, TN-S, TN-C-grid / IT-grid*	TT, TN-S, TN-C-grid / IT-grid*
Operating range, grid frequency (f_{AC})	50 Hz - 60 Hz	50 Hz - 60 Hz
Voltage ripple, PV voltage (U_{PP})	< 3 %	< 3 %
Harmonic distortion of grid current (K_{IAC})	< 3 % at nominal power	< 3 % at nominal power
Power factor ($\cos \phi$)	≥ 0.99 at nominal power	≥ 0.99 at nominal power
Efficiency ²⁾		
Max. efficiency $P_{AC, nom}$ (η)	97.6 % / 98.5 %*	97.6 % / 98.5 %*
Euroeta (η)	97.0 % / 98.3 %*	97.0 % / 98.3 %*
Dimensions and weight		
Width / Height / Depth in mm (W / H / D)	1280 / 1835 / 830	1280 / 1835 / 830
Weight approx. (m)	925 kg / 505 kg*	925 kg / 505 kg*
Power consumption		
Own consumption in operation (P_{day})	< 1 % of $P_{AC, nom}$	< 1 % of $P_{AC, nom}$
Standby operating consumption (P_{night})	< approx. 50 W	< approx. 50 W
External auxiliary voltage / grid structure	230 V, 50 / 60 Hz TN-S-grid (Optional / Yes*)	230 V, 50 / 60 Hz TN-S-grid (Optional / Yes*)
External back-up fuse for auxiliary supply	B 16 A, 1-pole	B 16 A, 1-pole
SCC (Sunny Central Control) interfaces		
Communication (NET Piggy Back, optional)	Analog, ISDN, Ethernet, GSM	Analog, ISDN, Ethernet, GSM
Analog inputs	Optional 1 x PT 100, 2 x A_{in} ³⁾	Optional 1 x PT 100, 2 x A_{in} ³⁾
Overvoltage protection for analog inputs	Optional	Optional
Sunny String Monitor interface (COM1)	RS485	RS485
PC interface (COM3)	RS232	RS232
Electrically separated relay (ext. signal)	1	1

Efficiency curve



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Features		
Display (SCC)	Yes	Yes
Ground fault monitoring	Yes (optionally configurable)	Yes (optionally configurable)
Heating	Yes	Yes
Emergency stop	no	Yes
Power switch AC side	Optional / Fuse load disconnect* *	Optional / Fuse load disconnect* *
Power switch DC side	motor-driven	motor-driven
Monitored overvoltage protectors AC	Optional	Optional
Monitored overvoltage protectors DC	Yes	Yes
Monitored overvoltage protectors for auxiliary supply	Optional	Optional
Standards		
EMC	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Grid monitoring	as per VDEW regulations	as per VDEW regulations
CE conformity	Yes	Yes
Protection rating and ambient conditions		
Protection rating as per EN 60529	IP44 / IP54	IP21
1. Enclosure type according to 60721-3-4 ambient conditions: fixed location, without protection against wind and weather.	1. Classification of • chemically active substances: 4C1 • mechanically active substances: 4S2	2. Classification of • chemically active substances: 3C1L • mechanically active substances: 3S2
2. Enclosure type according to 60721-3-3 fixed location, with protection against wind and weather.		
Permissible ambient temperature (T)	-20 °C ... +50 °C 4)	-20 °C ... +50 °C 4)
Relative humidity, not condensing (U _{AIR})	15 % ... 95 %	15 % ... 95 %
Max. altitude (above sea level)	1000 m	1000 m
Fresh air consumption (V _{AIR})	2300 m ³ /h	2300 m ³ /h
Air flow (Outdoor installation of SC 100 outdoor)	Intake over top blown out through base	Intake and discharge over top

* HE: High Efficiency, inverter without electric separation for the connection to a medium voltage transformer (preliminary data dated March 2008)

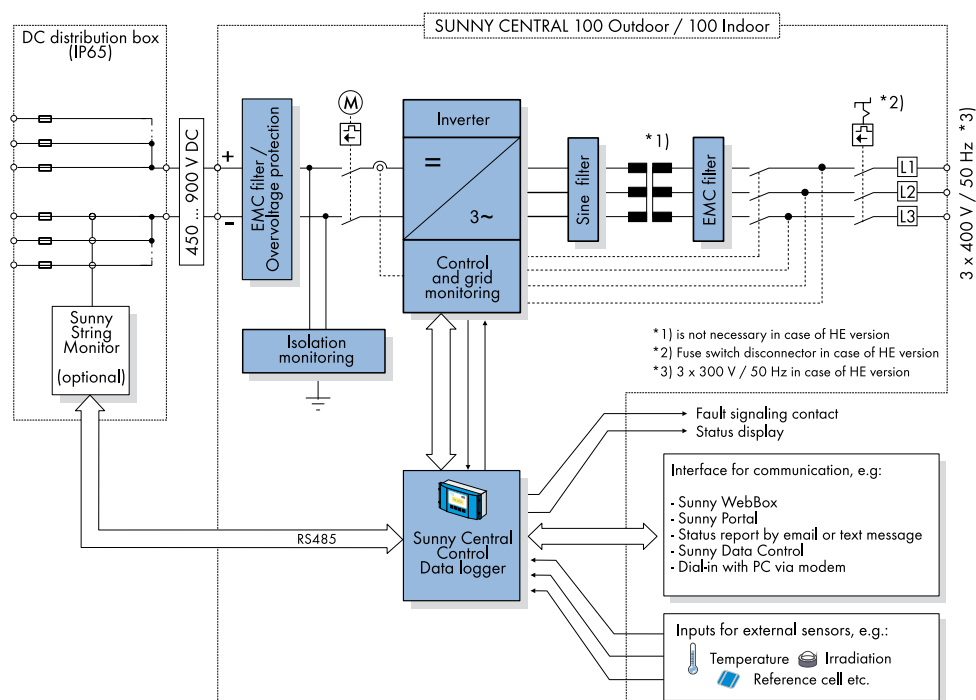
1) Specifications apply to irradiation values = 1,000 (kWh/(kWp x year))

2) Efficiency measured without an internal power supply at U_{DC} = 500 V

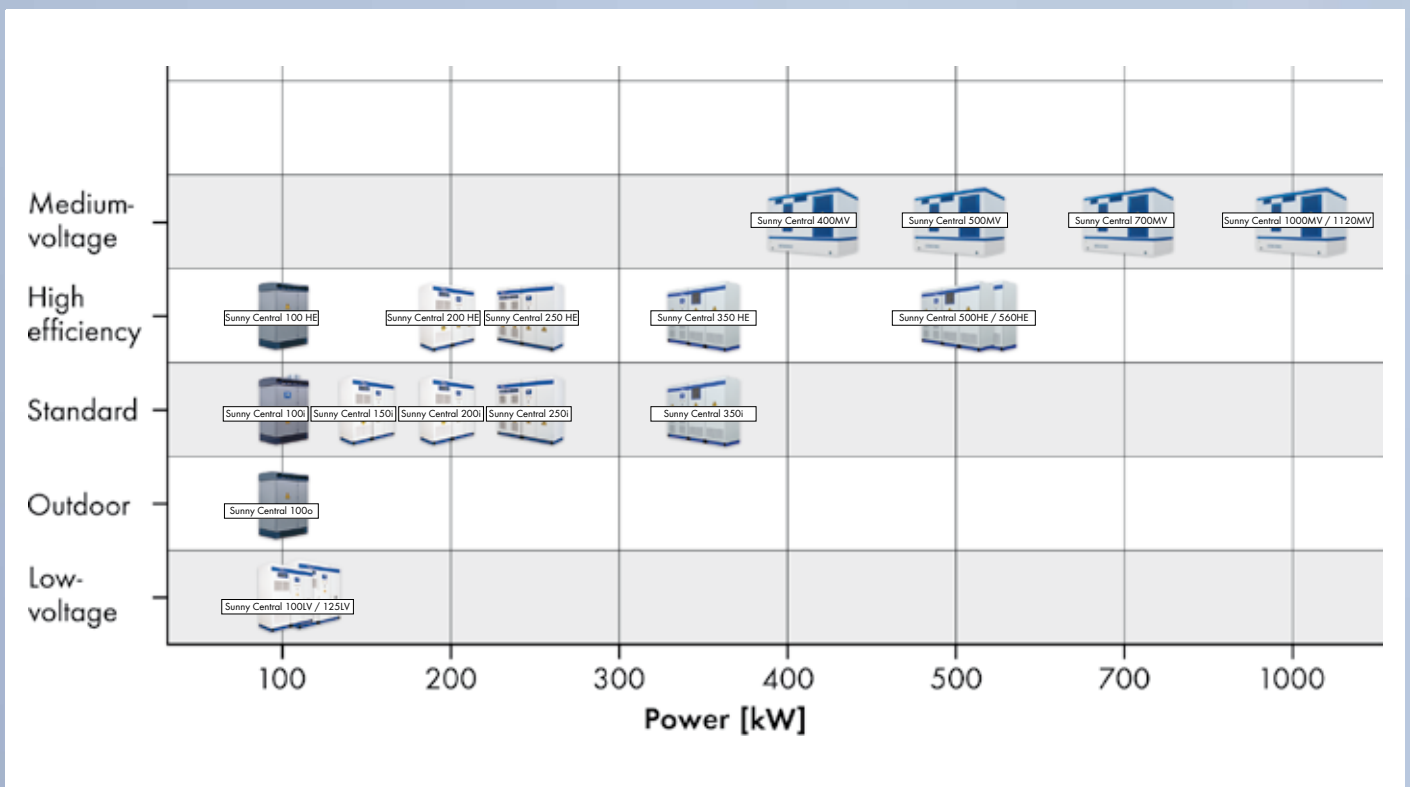
3) Terminal for an analog sensor provided by the customer in two-wire and four-wire version

4) Complies with nominal values up to an ambient temperature of +40 °C, at an ambient temperature of +50 °C the nominal values are held for two hours.

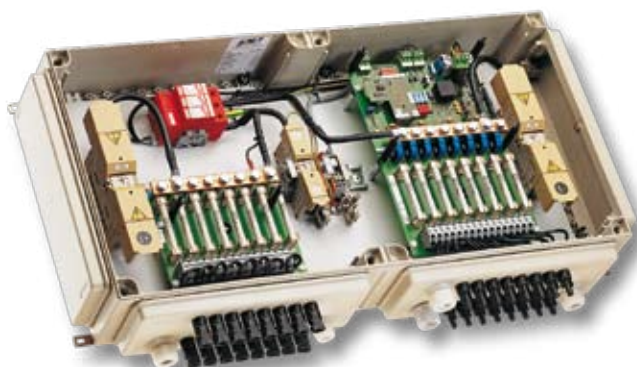
Note: Sunny Central transport documentation, Sunny Central Installation guide and when installing the SC 100 Outdoor, a suitable foundation, sufficient ventilation and appropriate sun shading systems are necessary



SUNNY CENTRAL Product Overview



Accessories



Sunny String Monitor

