

Economic

- > Without low voltage transformer - outstanding efficiency
- > Lower costs compared with systems with low voltage transformer
- > For direct connection to a medium-voltage transformer

Optional

- > String current monitoring
- > Increased yield due to Sunny Team
- > Power factor compensation
- > Extended DC input voltage range up to 1000 V



SUNNY CENTRAL HE

Optimal solution for direct feeding to a medium-voltage grid

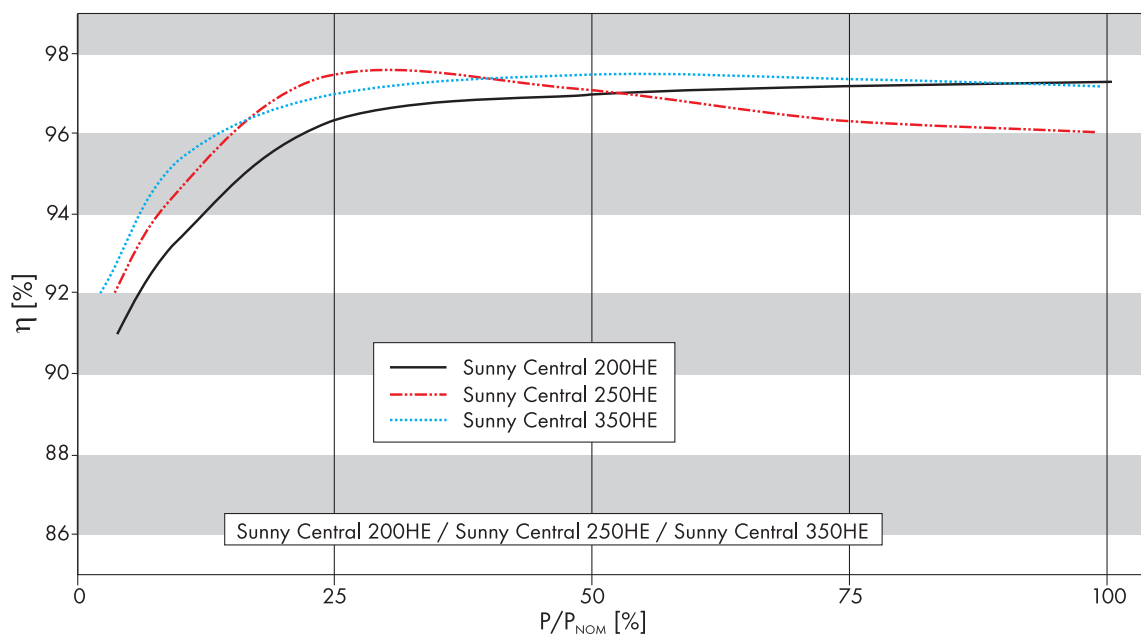
The Sunny Centrals 200HE, 250HE, 350HE, 500HE and 560HE are the perfect choice for anyone looking for first-class central inverters for direct connection to the medium-voltage grid. They operate directly with a medium-voltage transformer and have all advantages of a standard inverter. The High Efficiency (HE) versions are not equipped with a low voltage transformer. This results in the highest efficiency – the 500HE has over 98 % – and this lets you harvest the highest yields. Solar power plants become even more affordable.

Technical Data

SUNNY CENTRAL 200HE / 250HE / 350HE

	SC 200HE	SC 250HE	SC 350HE
Input data			
Max. PV power (recommended), (P_{PV})	235 kW _p ¹⁾	295 kW _p ¹⁾	410 kW _p ¹⁾
DC voltage range, MPPT (U_{DC})	450 V – 820 V	450 V – 820 V	450 V – 820 V
Max. permissible DC voltage ($U_{DC, max}$)	880 V	880 V	880 V
Max. permissible DC voltage ($U_{DC, EVR}$)	1000 V (optional)	1000 V (optional)	1000 V (optional)
Max. permissible DC current Max. ($I_{DC, max}$)	472 A	591 A	800 A
Number of DC inputs / terminal	5 / DC fuse	8 / DC fuse	12 / DC fuse
Output data			
Nominal AC output power (P_{AC})	200 kW	250 kW	350 kW
Operating grid voltage +/- 10 % (U_{AC})	270 V	270 V	270 V
Nominal AC current ($I_{AC, nom}$)	428 A	535 A	748 A
Operating range, grid frequency (f_{AC})	50 Hz – 60 Hz	50 Hz – 60 Hz	50 Hz – 60 Hz
Voltage ripple, PV voltage (U_{pp})	< 3 %	< 3 %	< 3 %
Harmonic distortion of grid current (K_{IAC})	< 3 % at nominal power	< 3 % at nominal power	< 3 % at nominal power
Power factor ($\cos \phi$)	≥ 0.99 at nominal power	≥ 0.99 at nominal power	≥ 0.99 at nominal power
Efficiency²⁾			
Max. efficiency $P_{AC, max}$ (η)	97.3 %	97.5 %	97.5 %
Euroeta (η)	96.4 %	96.7 %	96.4 %
Dimensions and weight			
Width / Height / Depth in mm (W / H / D) ⁴⁾	800 + 1200 / 2120 / 850	1200 + 1200 / 2120 / 850	1600 + 1200 / 2120 / 850
Weight approx. (m)	850 kg	1070 kg	1460 kg
Power consumption			
Own consumption in operation (P_{day})	< 1500W	< 2000W	< 2500W
Standby operating consumption (P_{night})	< approx. 50 W	< approx. 50 W	< approx. 70 W
External auxiliary voltage / grid structure	230 V, 50 / 60 Hz / TN-S-grid	3 x 400 V, 50 / 60 Hz / TN-S-grid	3 x 400 V, 50 / 60 Hz / TN-S-grid
External back-up fuse for auxiliary supply	B 20 A, 1-pole	B 20 A, 3-pole	B 20 A, 3-pole
SCC (Sunny Central Control) interfaces			
Communication (NET Piggy Back, optional)	Analog, ISDN, Ethernet, GSM	Analog, ISDN, Ethernet, GSM	Analog, ISDN, Ethernet, GSM
Analog inputs	1 x PT 100, 2 x A_{in} ³⁾	1 x PT 100, 2 x A_{in} ³⁾	1 x PT 100, 2 x A_{in} ³⁾
Overvoltage protection for analog inputs	Optional	Optional	Optional
Sunny String Monitor interface (COM1)	RS485	RS485	RS485
PC interface (COM3)	RS232	RS232	RS232
Electrically separated relay (ext. signal)	1	1	1

Efficiency curve

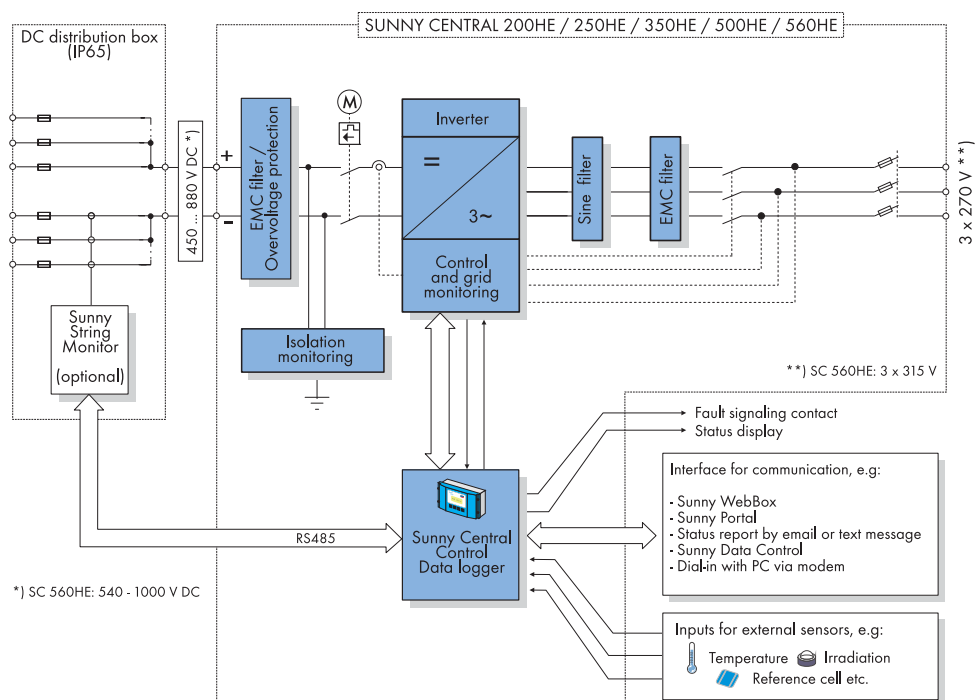


	SC 200HE	SC 250HE	SC 350HE
Features			
Display (SCC)	Yes	Yes	Yes
Ground fault monitoring	Yes	Yes	Yes
Heating	Yes	Yes	Yes
Emergency stop	Yes	Yes	Yes
Power switch AC side	Protection load disconnect	Protection load disconnect	Protection load disconnect
Power switch DC side	motor-driven	motor-driven	motor-driven
Monitored overvoltage protectors AC	Yes	Yes	Yes
Monitored overvoltage protectors DC	Yes	Yes	Yes
Monitored overvoltage protectors	Yes	Yes	Yes
Auxiliary supply			
Standards			
EMC	EN 61000-6-2, EN 61000-6-4	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	as per VDEW regulations
CE conformity	Yes	Yes	Yes
Protection rating and ambient conditions			
Protection rating as per EN 60529	IP20	IP20	IP20
Enclosure type according to 60721-3-3 ambient conditions: Fixed location, with weather protection	Classification of • chemically active substances: 3C1L • mechanically active substances: 3S2	Classification of • chemically active substances: 3C1L • mechanically active substances: 3S2	Classification of • chemically active substances: 3C1L • mechanically active substances: 3S2
Permissible ambient temperature (T)	-20 °C ... +40 °C	-20 °C ... +40 °C	-20 °C ... +40 °C
Relative humidity, not condensing (U _{AIR})	15 % ... 95 %	15 % ... 95 %	15 % ... 95 %
Max. altitude (above sea level)	1000 m	1000 m	1000 m
Fresh air consumption (V _{AIR})	2600 m ³ /h	3500 m ³ /h	5200 m ³ /h

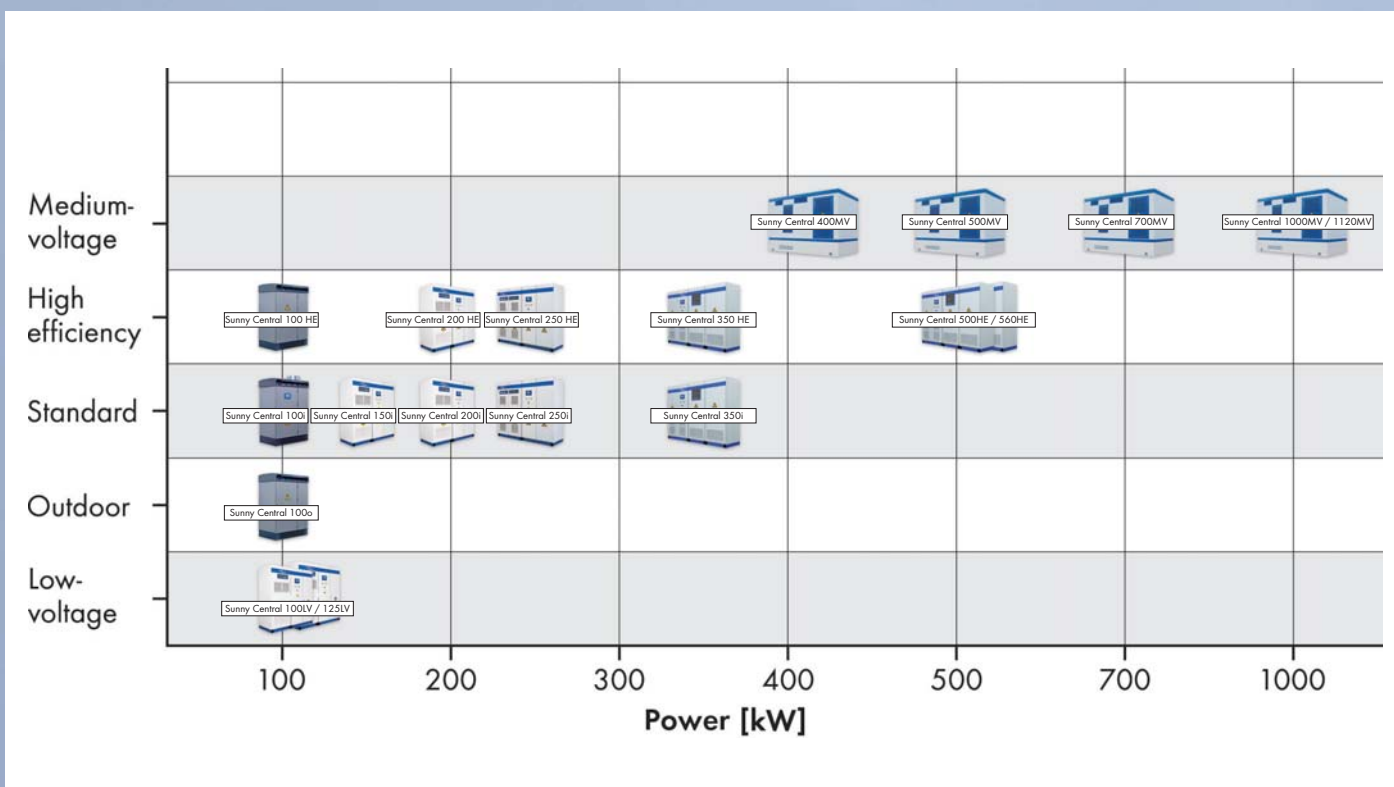
HE: High Efficiency, inverter without electric separation for connection to a medium-voltage transformer (taking into account the SMA specification for the transformer)

- 1) Specifications apply to irradiation values = 1,000 (kWh/(kWp x year))
- 2) Efficiency measured without an internal power supply at U_{DC} = 600 V
- 3) Terminal for an analog sensor provided by the customer in two-wire and four-wire version
- 4) The EVR option increases the cabinet size by 210 mm

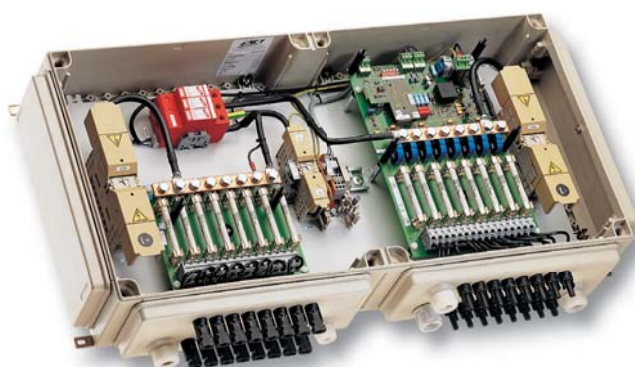
Please also read: Transport instructions for Sunny Central and the Sunny Central installation guide



SUNNY CENTRAL Product Overview



Accessories



Sunny String Monitor

