Steca Solarix PRS

PRS 1010, PRS 1515, PRS 2020, PRS 3030

The simplicity and high performance of the Steca Solarix PRS solar charge controller make it particularly appealing. At the same time, it offers a modern design and a convenient display, all at an extremely attractive price.

Several LEDs in various colours give information on the battery's state of charge. Here, KATEK Memmingen's latest algorithms are employed, resulting in optimal battery maintenance. The Solarix PRS charge controllers are equipped with an electronic fuse, thus making optimal protection possible. They operate on the serial principle, and separate the solar module from the battery in order to protect it against overcharging.

For larger projects, the charge controllers can also be equipped with special functions: e.g. with night light function and selectable charging plateau and deep-discharge protection voltages.

Product features

- Serial topology with MOSFETs
- Automatic detection of voltage
- Voltage regulation
- PWM control
- Multistage charging technology
- Current compensated load disconnection
- Automatic load reconnection
- Temperature compensation
- Negative earthing of one or positive earthing of several terminals possible
- Monthly equalisation charge

Electronic protection functions

- Overcharge protection
- Deep discharge protection
- Reverse polarity protection of module (≤36 V),load and battery
- Automatic electronic fuse
- Short circuit protection of load and module
- Overvoltage protection at module input
- Open circuit protection without battery
- Reverse current protection at night
- Overtemperature and overload protection
- Load disconnection on battery overvoltage

Displays

- Multifunction LED display
- Multi-coloured LED
- 5 LEDs show operating states
- for operation, state of charge, fault messages

Options

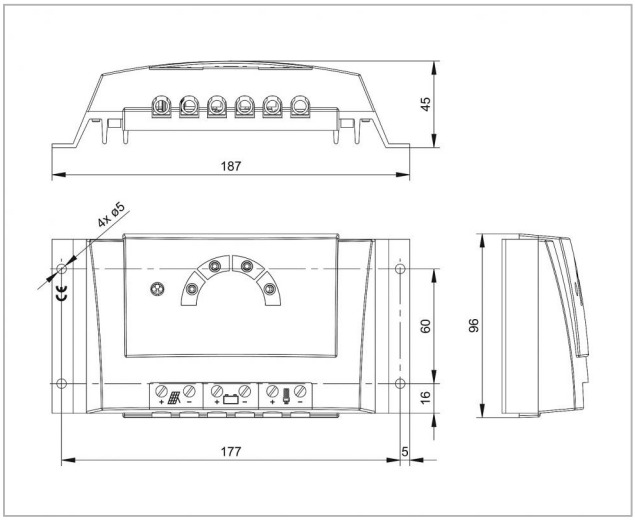
- Evening or night light function pre-set in the factory or adjustable via Steca PA RC 100
- Parameterisation of function values via Steca PA RC 100

Certificates

- Compliant with European Standards (CE)
- RoHS compliant
- Made in EU
- Manufactured according to ISO 9001 and ISO 14001

Accessories

- Steca PA RC100



	PRS 1010	PRS 1515	PRS 2020	PRS 3030
Characterisation of the operating performance				
System voltage	12 V (24 V)			
Own consumption	< 4 mA			
DC input side				
Open circuit voltage solar module (at minimum operating temperature)	< 47 V			
Module current	10 A	15 A	20 A	30 A
DC output side				
Load current	10 A	15 A	20 A	30 A
Reconnection voltage (LVR)	12.4 V … 12.7 V (24.8 V … 25.4 V)			
Deep discharge protection (LVD)	11.2 V … 11.6 V (22.4 V … 23.2 V)			
Battery side				
Battery voltage	9 V … 17 V (17.1 V … 34 V)			
End-of-charge voltage	13.9 V (27.8 V)			
Boost charge voltage	14.4 V (28.8 V)			
Equalisation charge	14.7 V (29.4 V)			
Set battery type	liquid			
Operating conditions				
Ambient temperature	-25 °C … +50 °C			
Fitting and construction				
Terminal (fine / single wire)	16 mm² / 25 mm² - AWG 6 / 4			
Degree of protection	IP 31			
Dimensions (X x Y x Z)	187 x 96 x 45 mm			
Weight	345 g			

- Technical data at 25 °C / 77 °F
- adjustable via Steca PA RC100: reconnection voltage, deep discharge protection, end of charge voltage, boost charge voltage, equalisation charge, battery type
- Inverters must not be connected to the load output.

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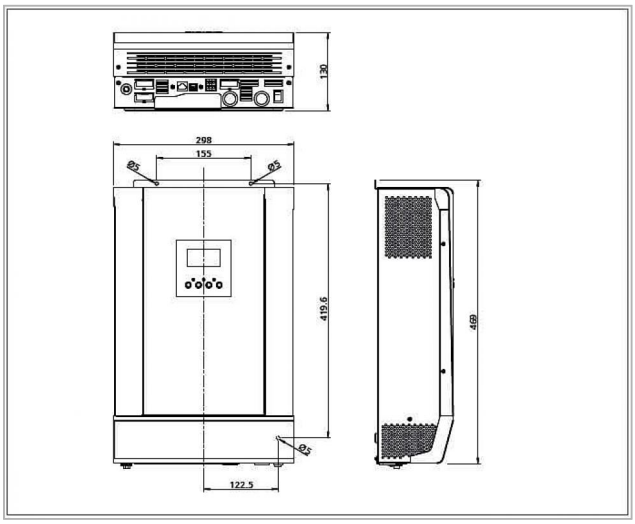
Steca Solarix PLI

5000-48, 2400-24, 1000-12

The Steca Solarix PLI is the first product from KATEK Memmingen to offer an all-in-one package. It allows users to supply consumers with 230 V AC power, charges the battery with an integrated MPPT charge controller, and at the same time permits connection to a generator or an available electricity grid. Everything in a single device. This means that solar energy can be used as the top priority, for example. And if that isn't enough, a generator can be started or the supply can be switched to the public grid. At the same time, the battery can also be recharged by either the generator or the grid. Given its very quick switchover time of up to 10 ms and its flexible energy priority selection, the Solarix PLI also acts as an uninterruptible power supply. Even difficult consumers, such as large AC motors, can be started reliably with dual overload capacity. The maximum power point tracker in the integrated charge controller ensures that, even in unfavourable lighting conditions, the maximum output is obtained from the PV modules in order to optimally charge the battery and supply the consumers with power at the same time.



Product features
- True sine wave voltage
- High overload capacity
- Integrated MPP tracker
- Multistage charging technology
- Monthly equalisation charge
- Auxiliary contact for starting the generator
- Adjustable cut-off voltages
- Battery type: gel / liquid lead battery
- Lightweight construction
- Easy installation

Electronic protection functions
- Overcharge protection
- Reverse polarity protection of modules, for battery via fuse
- Deep discharge protection
- Short circuit protection of load and module
- Reverse polarity protection by internal fuse
- Reverse current protection at night
- Overtemperature and overload protection
- Acoustic alarm
- PE connection

Displays
- Graphical LC display
- 3 multi-coloured LEDs show operating states

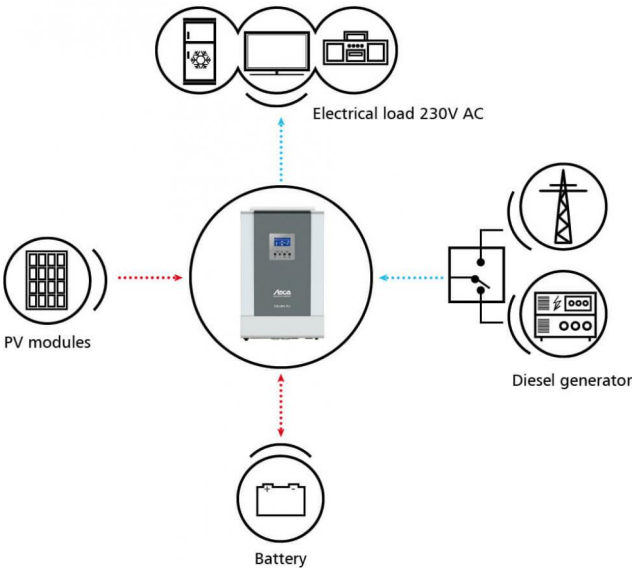
Operation
- Simple menu-driven operation
- Programming by buttons

Interfaces
- RS-232 serial interface to PC

Options
- Interconnectable in parallel or in three phases (parallel kit required)

Certificates
- Compliant with European Standards (CE)
- RoHS compliant
- Manufactured according to ISO 9001 and ISO 14001

Solar priority with grid connection and/or generator:



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	PLI 5000-48	PLI 2400-24	PLI 1000-12
Characterisation of the operating performance			
System voltage	48 V	24 V	12 V
Continuous power	5000 VA	3000 VA	1000 VA
Power 5 sec.	10000 VA	6000 VA	2000 VA
Max. efficiency sine wave	> 93 %	> 91 %	> 90 %
Max. efficiency charge controller	> 98 %	> 98 %	> 95 %
Own consumption standby	15.0 W	14.0 W	4.0 W
Own consumption ON	50.0 W	45.0 W	17.0 W
Input side			
Input voltage	90 V AC … 280 V AC		
Max. current on transfer system	40 A	30 A	10 A
Input frequency	40 … 65 Hz 50 / 60 Hz (automatic detection)		
Transfer time	10 ms typical (UPS mode)		
AC output side			
Output voltage	230 V AC +/-5 %	220 V AC … 240 V AC +/-5 %	230 V AC +/-5 %
Output frequency	50 / 60 Hz		
Battery side			
Battery voltage	38.4 V ... 66 V	20 V … 30 V	10 V … 15 V
Max. charge current of PV	80 A	40 A	40 A
Max. charge current of AC	60 A (programmable)	60 A (programmable)	20 A (programmable)
End of charge voltage	54.0 V (programmable)	27.0 V (programmable)	13.5 V (programmable)
Boost charge voltage	56.4 V (programmable)	28.2 V (programmable)	14.1 V (programmable)
Equalisation charge	60.0 V (programmable)	29.2 V (programmable)	14.6 V (programmable)
Set battery type	liquid (programmable)		
DC input side charge controller			
Min. MPP voltage	60 V	30 V	15 V
Max. MPP voltage	115 V	80 V	80 V
Min. open circuit voltage solar module / input (at minimum operating temperature)	72 V	36 V	18 V
Max. open circuit voltage solar module / input (at minimum operating temperature)	145 V	100 V	100 V
Max. module current	80 A	40 A	40 A
Nominal charge power	4800 W	1168 W	550 W
Own consumption	< 2 W		
Operating conditions			
Operating temperature	0 °C … + 55 °C		
Storage temperature	- 15 °C … + 60 °C		
Rel. humidity	< 95 %, non-condensing		
Maximum altitude	2000 a.s.l		
Fitting and construction			
Terminal (AC - fine / single wire)	8 mm² - AWG 8		
Terminal (PV - fine / single wire)	12 mm² - AWG 6	8 mm² - AWG 8	8 mm² - AWG 8
Battery connection (M6 ring terminal included)	35 mm² ... 50 mm² AWG 2 ... AWG 0	35 mm² ... 50 mm² AWG 2 ... AWG 0	25 mm² / AWG3
Double throw signal contact	3 A / 250 V AC (max. 150 W) 3 A / 30 V DC		
Degree of protection	IP 21		
Dimensions (X x Y x Z)	298 x 469 x 130 mm	275 x 385 x 114 mm	243 x 331 x 115 mm
Weight	11,5 kg	7,6 kg	6,9 kg
Cooling principle	fan		

- Technical data at 25 °C / 77 °F

coolcept fleX | 1 MPP-Tracker

StecaGrid 1511, StecaGrid 2011, StecaGrid2511, StecaGrid 3011, StecaGrid 3611

1 ph

Reliable technology – even more versatile

With coolcept fleX KATEK Memmingen introduces the successor generation to the established coolcept-topology. Coolcept fleX offers a creative energy concept for any modern home.

What is coolcept fleX? The brand-new electronic platform is being used as the technological heart of the next generation of solar electronics and connects photovoltaics-based power generation, load management, and even e-mobility for the first time ever. The coolcept fleX platform is open with regard to its future use, it is still implemented on a single board. This extremely small and compact format permits the use of affordable standard components on the circuit board. Thus making it possible to use the same device for various differing applications.

coolcept fleX inverter Coolcept fleX is the centerpiece of the new inverter generation. As usual, with nominal powers of 1.5 – 4.6 kW, they attain particularly high peak efficiencies.

The advantages of coolcept flex inverters coolcept fleX is flexible. Multiple MPP trackers allow handling simple or even complicated module fields.

coolcept fleX is tough und uncomplicated. Indoor and outdoor installation is enabled by a robust IP65- Casing. However, the product line is not only one of the lightest in its class, but is also very easy to install too.

coolcept fleX is future-proof. KATEK Memmingen is offering an integrated, future-proof concept for energy generation, consumption, storage and feeding for the modern home of tomorrow.

WORLD FIRST

One for all This incomparably affordable all-in one solution offers functions for very different applications and is even scalable in relation to the power requirement. Whether you need one or more MPP trackers, high-voltage or low-voltage storage, or a solution with or without an emergency power supply – everything is possible. KATEK Memmingen has already thought of and prepared for charging an electric vehicle straight from a PV generator. The new components and setting options enable use in many countries.

Maximum efficiencies at all input voltages and reliable cooling concept

The maximum efficiencies of the state-of-the-art power electronics topology ensure minimal losses, thus guaranteeing a very long service life thanks to extremely low levels of self-heating.

	StecaGrid 1511	StecaGrid 2011	StecaGrid 2511	StecaGrid 3011	StecaGrid 3611
DC input side (PV generator)					
Maximum input voltage	450 V	450 V	450 V	750 V	750 V
Operating input voltage range	75 V … 360 V	75 V … 360 V	75 V … 360 V	125 V … 600 V	150 V … 600 V
Operating input voltage range at nominal power	120 V … 360 V	160 V … 360 V	200 V … 360 V	230 V … 600 V	280 V … 600 V
Number of MPP tracker	1				
Maximum input current	13.0 A				
Maximum input power at maximum active output power	1540 W	2050 W	2560 W	3070 W	3770 W
AC output side (Grid connection)					
Grid voltage	185 V … 276 V (depending on regional settings)				
Rated grid voltage	230 V				
Maximum output current	12.0 A	12.0 A	14.0 A	14.0 A	16.0 A
Maximum active power (cos phi = 1)	1500 W	2000 W	2500 W	3000 W	3680 W
Maximum apparent power	1500 VA	2000 VA	2500 VA	3000 VA	3680 VA
Rated power	1500 W	2000 W	2500 W	3000 W	3680 W
Rated frequency	50 Hz and 60 Hz				
Frequency	45 Hz … 65 Hz (depending on regional settings)				
Night-time power loss	< 3 W				
Feeding phases	single-phase				
Total harmonic distortion (cos phi = 1)	< 3 %				
Power factor cos phi	0.8 capacitive … 0.8 inductive				
Characterisation of the operating performance					
Max. efficiency	97.4 %	97.4 %	97.4 %	97.0 %	97.0 %
European efficiency	96.1 %	96.5 %	96.6 %	96.3 %	96.3 %
MPP efficiency	> 99.7 % (static), > 99 % (dynamic)				
Own consumption	< 20 W				
Power derating at full power from	50 °C (T_{amb})	50 °C (T_{amb})	50 °C (T_{amb})	50 °C (T_{amb})	45 °C (T_{amb})
Safety					
Isolation principle	no galvanic isolation, transformerless				
Grid monitoring	yes, integrated				
Residual current monitoring	yes, integrated (The design of the inverter prevents it from causing DC leakage current)				
Protection class	protection class 2 (RCD typ A sufficient)				
Operating conditions					
Area of application	outdoors & indoors				
Climate protection class as per IEC 60721-3-4	4K4H				
Ambient temperature	-25 °C … +60 °C				
Storage temperature	-30 °C … +80 °C				
Relative humidity	0 % … 100 %, non-condensating				
Noise emission (typical)	31 dBA				
Fitting and construction					
Degree of protection	IP 65				
Overvoltage category	III (AC), II (DC)				
DC Input side connection	Phoenix Contact SUNCLIX (1 pair), mating connector included				
AC output side connection	Wieland RST25i3 plug, mating connector included				
Dimensions (X x Y x Z)	399 x 657 x 222 mm				
Weight	11.7 kg	11.7 kg	11.7 kg	12.4 kg	12.4 kg
Communication interface	RS-485 (1 x RJ45 sockets; connectable to Meteocontrol WEB'log or Solar-Log™, Ethernet interface (1 x RJ45), Modbus RTU (1 x RJ45 socket: connectable to energy counter)				
Integrated DC circuit breaker	yes, compliant with VDE 0100-712				
Cooling principle	temperature controlled fan, variable speed, internal (dustproof)				
Test certificate	see certificate download on the product page				

coolcept fleX | 2 MPP-Tracker

StecaGrid 3011_2, StecaGrid 3611_2, StecaGrid 4611_2, StecaGrid 5011_2

1 ph

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	StecaGrid 3011_2	StecaGrid 3611_2	StecaGrid 4611_2	StecaGrid StecaGrid 5011_2
DC input side (PV generator)				
Maximum input voltage	750 V			
Operating input voltage range	125 V … 600 V	150 V … 600 V	150 V … 600 V	150 V … 600 V
Operating input voltage range at nominal power	230 V … 600 V	280 V … 600 V	360 V … 600 V	360 V … 600 V
Number of MPP tracker	2			
Maximum input current	2 x 13.0 A			
Maximum short circuit current	15 A			
Maximum input power at maximum active output power	3070 W	3770 W	4740 W	5200 W
AC output side (Grid connection)				
Grid voltage	185 V … 276 V (depending on regional settings)			
Rated grid voltage	230 V			
Maximum output current	14.0 A	16.0 A	20.0 A	22.0 A
Maximum active power (cos phi = 1)	3000 W	3680 W	4600 W	5000 W
Maximum apparent power	3000 VA	3680 VA	4600 VA	5000 VA
Rated power	3000 W	3680 W	4600 W	5000 W
Rated frequency	50 Hz and 60 Hz			
Frequency	45 Hz … 65 Hz (depending on regional settings)			
Night-time power loss	< 3 W			
Feeding phases	single-phase			
Total harmonic distortion (cos phi = 1)	< 3 %			
Power factor cos phi	0.8 capacitive … 0.8 inductive			
Characterisation of the operating performance				
Max. efficiency	97.0 %	97.0 %	97.4 %	97.4 %
European efficiency	96.3 %	96.3 %	96.9 %	96.8 %
MPP efficiency	> 99.7 % (static), > 99 % (dynamic)			
Own consumption	< 20 W			
Power derating at full power from	45 °C (T_{amb})	45 °C (T_{amb})	40 °C (T_{amb})	40 °C (T_{amb})
Safety				
Isolation principle	no galvanic isolation, transformerless			
Grid monitoring	yes, integrated			
Residual current monitoring	yes, integrated (The design of the inverter prevents it from causing DC leakage current)			
Protection class	protection class 2 (RCD typ A sufficient)			
Operating conditions				
Area of application	outdoors & indoors			
Climate protection class as per IEC 60721-3-4	4K4H			
Ambient temperature	-25 °C … +60 °C			
Storage temperature	-30 °C … +80 °C			
Relative humidity	0 % … 100 %, non-condensating			
Noise emission (typical)	31 dBA			
Fitting and construction				
Degree of protection	IP 65			
Overvoltage category	III (AC), II (DC)			
DC Input side connection	Phoenix Contact SUNCLIX (2 pairs)			
AC output side connection	Wieland RST25i3 plug, mating connector included			
Dimensions (X x Y x Z)	399 x 657 x 222 mm			
Weight	14.0 kg	14.0 kg	12.0 kg	14.0 kg
Communication interface	RS-485 (1 x RJ45 sockets; connectable to Meteocontrol WEB'log or Solar-Log™, Ethernet interface (1 x RJ45), Modbus RTU (1 x RJ45 socket: connectable to energy counter)			
Integrated DC circuit breaker	yes, compliant with VDE 0100-712			
Cooling principle	temperature controlled fan, variable speed, internal (dustproof)			
Test certificate	see certificate download on the product page			

coolcept³ fleX

StecaGrid 3213, StecaGrid 4013, StecaGrid 5013, StecaGrid 6013

inverter topology

The coolcept inverter topology was implemented in the single-phase StecaGrid inverters for the first time and achieved maximum efficiency thanks to the innovative circuit. The three-phase coolcept³-fleX inverters also enjoy the advantages of this circuit. The three-phase topology is fully reactive-current capable and thus also prepared for future requirements.

Always symmetrical

The advantage of three-phase feed-in is that the solar power produced is always distributed symmetrically over all three grid conductors and fed into the public grid. This is the case with these inverters over the entire power range. The symmetrical feed-in is entirely in the interest of the energy supply companies and also corresponds to the three-phase consumption in the household.

Highest efficiency with long service life

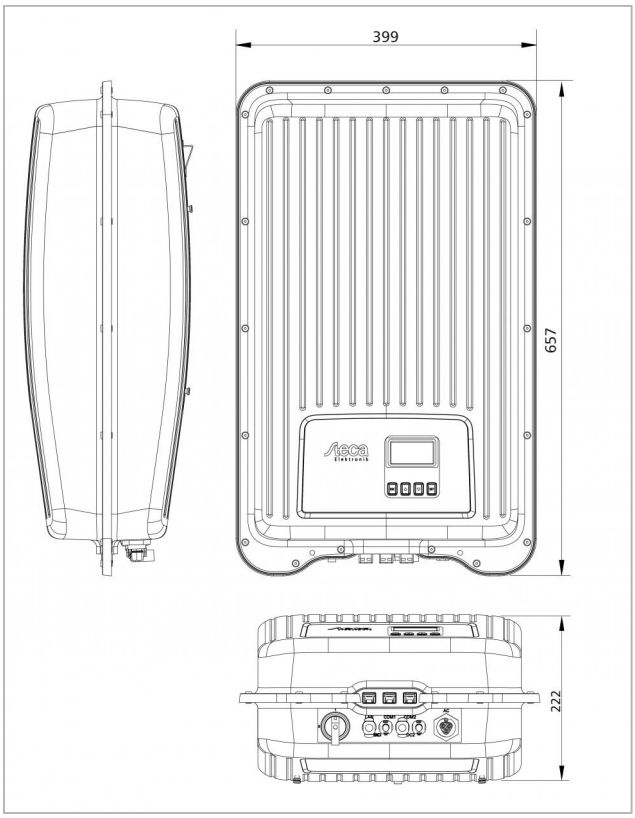
The very high efficiency results in a peak efficiency of 98.6%, which means that less power loss has to be generated and dissipated to the environment. These are your yield advantages. Since a three-phase feed-in feeds energy into the grid on at least two phases at any time, intermediate energy storage in the device - as is the case with single-phase feed-in - is not necessary. Thus the coolcept³-fleX inverters completely dispense with the electrolytic capacitors required for intermediate storage, which can influence the service life of an electronic device through possible drying out. When using coolcept³-fleX inverters, the plant operator therefore has the prospect of a long service life. In addition, a new, unique cooling concept inside the inverters guarantees an even distribution of heat and thus a long service life of the devices.

Product design and visualization

The StecaGrid has a graphic LCD display with which energy yield values, current performance and operating parameters of the system can be visualised. The innovative menu offers the possibility of an individual selection of the different measured values. A guided, pre-programmed menu ensures smooth, final commissioning of the device.

assembly

The lightweights with only 12 kg can be easily and safely mounted on the wall. The supplied wall bracket enables simple and very convenient installation. It is also not necessary to open the device for installation. All connections and the DC circuit breaker are accessible from the outside. For the DC connection, the Sunclix mating connectors are included in the scope of delivery.



Product features

- Highest efficiency
- Three-phase, symmetrical grid feeding
- Simple installation
- Integrated data logger
- Low housing temperature at full load
- Robust metal casing
- Suitable for outdoor installation
- Integrated DC circuit breaker
- Very long service life
- Droop Mode for integration in hybrid systems
- Fixed voltage mode for other energy sources
- Optimised shadow management using global MPP tracking

Displays

- Multifunction graphical LC display with backlighting
- Animated representation of yield

Operation

- Simple menu-driven operation
- Multilingual menu navigation

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	StecaGrid 3213	StecaGrid 4013	StecaGrid 5013	StecaGrid 6013
DC input side (PV generator)				
Maximum input voltage	1000 V			
MPP voltage range	250 V … 800 V			
Number of MPP tracker	1			
Maximum input current	11.0 A			
Maximum input power at maximum active output power	3300 W	4100 W	5110 W	6130 W
AC output side (Grid connection)				
Grid voltage	320 V … 480 V (depending on regional settings)			
Rated grid voltage	400 V			
Maximum output current	7.0 A			
Maximum active power (cos phi = 1)	3200 W	4000 W	5000 W	6000 W
Maximum apparent power	3200 VA	4000 VA	5000 VA	6000 VA
Rated power	3200 W	4000 W	5000 W	6000 W
Rated frequency	50 Hz and 60 Hz			
Frequency	45 Hz … 65 Hz (depending on regional settings)			
Night-time power loss	< 3 W			
Feeding phases	three-phase			
Total harmonic distortion (cos phi = 1)	< 1 %			
Power factor cos phi	0.8 capacitive … 0.8 inductive			
Characterisation of the operating performance				
Max. efficiency	98.0 %			
European efficiency	97.0 %	98.0 %	98.0 %	98.0 %
MPP efficiency	> 99.7 % (static), > 99 % (dynamic)			
Own consumption	< 8 W			
Power derating at full power from	50 °C (T_{amb})			
Safety				
Isolation principle	no galvanic isolation, transformerless			
Grid monitoring	yes, integrated			
Residual current monitoring	yes, integrated (The design of the inverter prevents it from causing DC leakage current)			
Operating conditions				
Area of application	outdoors & indoors			
Climate protection class as per IEC 60721-3-4	3K3			
Ambient temperature	-15 °C … +60 °C			
Storage temperature	-30 °C … +70 °C			
Relative humidity	0 % … 100 %, non-condensating			
Noise emission (typical)	29 dBA			
Fitting and construction				
Degree of protection	IP 65			
Overvoltage category	III (AC), II (DC)			
DC Input side connection	Phoenix Contact SUNCLIX (1 pair), mating connector included			
AC output side connection	Wieland RST25i3 plug, mating connector included			
Dimensions (X x Y x Z)	399 x 657 x 222 mm			
Weight	12.0 kg			
Communication interface	RS-485 (2 x RJ45 sockets; connectable to Meteocontrol WEB'log or Solar-Log™, Ethernet interface (1 x RJ45), Modbus RTU (1 x RJ10 socket: connectable to energy counter)			
Integrated DC circuit breaker	yes, compliant with VDE 0100-712			
Cooling principle	temperature controlled fan, variable speed, internal (dustproof)			
Test certificate	see certificate download on the product page			