coolcept3-x

StecaGrid 3203x, StecaGrid 4003x, StecaGrid 4803x, StecaGrid 5503x

Inverter topology

The coolcept inverter topology was first implemented in the singlephase StecaGrid. It achieved optimum efficiency ratings thanks to the innovative switching concept. The three-phase coolcept³-x inverters also benefit from the advantages of this switching concept. The threephase topology is fully reactive current capable and therefore set up to meet demands that may be made in future as well.

Always symmetrical

The advantage of three-phase feeding is that the produced solar capacity is always symmetrically distributed on all three power conductors to the public power grid. This is the case across the whole output range offered by these inverters. The symmetrical feed-in is very much in the interests of the power supply companies, and is also compatible with domestic three-phase consumption.

Highest efficiency with longer service life

The high efficiency results in a peak efficiency of 98.6 %, which means that less power is lost that must be dissipated into the environment. This improves your yields.

As at least two phases of a three-phase feed-in design feed energy into the grid, it is not necessary to provide for intermediate energy storage in the device, as must be done in the case of single-phase feed-in. For this reason, the coolcept³-x inverters dispense completely with the electrolytic capacitors that are required for intermediate storage. These capacitors may influence the service life of electronic devices as they may dry out. Therefore by using coolcept3-x inverters, plant operators may expect to benefit from their long service lives.

In addition to this, a new and unique cooling concept inside the inverter ensures an even distribution of the dissipated heat and a long service life for the device.

Product design and visualisation

The StecaGrid has a graphical LCD display for visualising the energy yield values, current performance and operating parameters of the system. Its innovative menu allows individual selection of the various measurements. The guided, pre-programmed menu allows easy final commissioning of the device.

Installation

The lightweights with only 12 kg can be easily and safely mounted on a wall. The supplied wall bracket make mounting of the device simple and convenient. The device does not need to be opened for installation. All connections and the DC circuit breaker are externally accessible. For making DC connections, Sunclix mating connectors are included in the scope of supply.

The devices meet all the standards for the IP65 protection class. Its robust stainless steel housing provides reliable protection against dust and water, including jet water. This enables problem-free installation of the inverters outdoors.

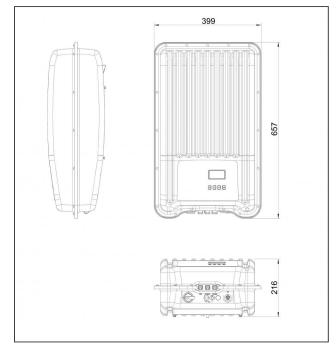
Product features

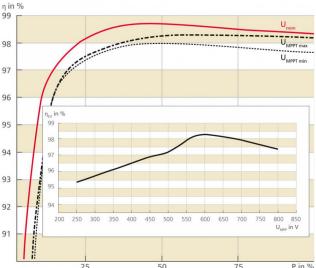
- Highest efficiency
- Three-phase, symmetrical grid feeding
- Simple installation
- Integrated data logger
- Low housing temperature at full loadSolid stainless steel casing
- Suitable for outdoor installation Integrated DC circuit breaker
- Very long service life
- Droop Mode for integration in hybrid systems
- Fixed voltage mode for other energy sources
- Up to 7-year free warranty after registration
- Optimised shadow management using global MPP tracking

- Multifunction graphical LCD display with backlighting
- · Animated representation of yield

- Simple menu-driven operation
- Multilingual menu navigation







Efficiency values and comparison of the MPPT voltage of the StecaGrid 5003x





	StecaGrid 3203x	StecaGrid 4003x	StecaGrid 4803x	StecaGrid 5503x
DC input side (PV generator)				
Maximum input voltage		100	0 V	
Operating input voltage range	250 V 800 V			
Number of MPP tracker		1		
Maximum input current	11.0 A			
Maximum short circuit current	+20 A / -13 A			
Maximum input power at maximum active	3300 W	4100 W	4920 W	5620 W
output power	3300 W	4100 **	4520 **	3020 W
AC output side (Grid connection)				
Grid voltage		320 V 480 V (depend	ing on regional settings)	
Rated grid voltage	400 V			
Maximum output current	7.0 A	7.0 A	10.0 A	10.0 A
Maximum active power (cos phi = 1)	3200 W	4000 W	4800 W	5500 W
Maximum active power (cos phi = 0.95)	3040 W	3800 W	4560 W	5225 W
Maximum active power (cos phi = 0.9)	2880 W	3600 W	4320 W	4950 W
Maximum apparent power (cos phi = 0.9)	3200 VA	4000 VA	4800 VA	5500 VA
0.95)				
Maximum apparent power (cos phi = 0.9)	3200 VA	4000 VA	4800 VA	5500 VA
Rated power	3200 W	4000 W	4800 W	5500 W
Rated frequency	50 Hz and 60 Hz			
requency	45 Hz 65 Hz (depending on regional settings)			
Night-time power loss	< 3 W W			
Feeding phases	three-phase			
otal harmonic distortion (cos phi = 1)	< 1 %			
Power factor cos phi	0.8 capacitive 0.8 inductive			
Characterisation of the operating performa	ance			
Max. efficiency	98.6 %	98.6 %	98.7 %	98.7 %
European efficiency	97.9 %	98.1 %	98.2 %	98.3 %
Californian efficiency	98.3 %	98.4 %	98.5 %	98.5 %
MPP efficiency	> 99.8 % (static), > 99 % (dynamic)			
Own consumption	< 8 W			
Power derating at full power from	50 °C (T _{amb})	50 °C (T _{amb})	50 °C (T _{amb})	45 °C (T _{amb})
Safety	- umb	· unio	umb	unb
solation 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	<i>jes,</i> me	-5 - 1.2 (222.5), or the inverter p		· · · · · · ·
Area of application	indoor rooms with or without air conditioning, outdoors with or without protection			
Climate protection class as per IEC	indoor rooms with or without air conditioning, outdoors with or without protection 4K4H			
50721-3-4		410		
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		29 0		
Degree of protection		IP (65	
	II (AC), II (DC)			
Overvoltage category	III (AC), II (DC) Phoenix Contact SUNCLIX (1 pair), mating connector included			
OC Input side connection				
AC output side connection	Wieland RST25i5 plug, mating connector included			
Dimensions (X x Y x Z)	399 x 657 x 227 mm			
Veight	12.0 kg			
Communication interface	RS-485 (2 x RJ45 sockets; connectable to Meteocontrol WEB'log or Solar-Log™), Ethernet interface (1 x RJ45)			
ntegrated DC circuit breaker	yes, compliant with VDE 0100-712			
Cooling principle	temperature controlled fan, variable speed, internal (dustproof)			
est certificate	see certificate download on the product page			

