/teca

coolcept3

StecaGrid 3203, StecaGrid 4003, StecaGrid 4803, StecaGrid 5003, StecaGrid 5503, StecaGrid 6003

Inverter topology

The coolcept inverter topology was first implemented in the single-phase StecaGrid. It achieved optimum efficiency ratings thanks to the innovative switching concept. The three-phase coolcept³ inverters also benefit from the advantages of this switching concept. The three-phase 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 feedin 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 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 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 10 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.

Product features

- Highest efficiency
- Three-phase, symmetrical grid feeding
- Simple installation
- Integrated data logger
- Low housing temperature at full load
- Lowest possible own consumption
- Integrated DC circuit breaker
- Protective insulation according to protection class II
- 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

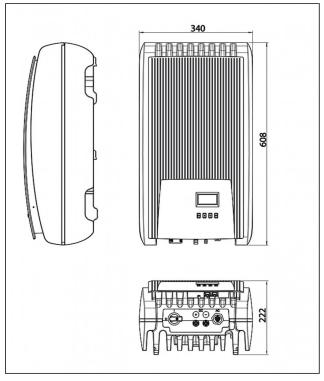
<u>Displays</u>

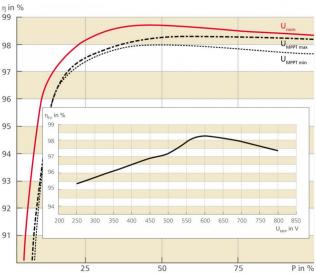
- Multifunction graphical LCD display with backlighting
- Animated representation of yield

Operation

- Simple menu-driven operation
- Multilingual menu navigation







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





| Mediminar impair voltage Sept | | StecaGrid 3203 | StecaGrid 4003 | StecaGrid 4803 | StecaGrid 5003 | StecaGrid 5503 | StecaGrid 6003 |
|--|---|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| December of part Authors Fig. 259 V DOUGN | DC input side (PV generator) | | | | | | · |
| Number of MPT tacker | Maximum input voltage | 1000 V | | | | | |
| Number of MP1 tacker | Operating input voltage range | *** | | | | | |
| Maintain subclif Grant Current +70 A / 13 A Mol W 420 W 5110 W 5620 W 6130 W 6130 W Molimization specified connection) | Number of MPP tracker | | | | | | |
| Maintain subclif Grant Current +70 A / 13 A Mol W 420 W 5110 W 5620 W 6130 W 6130 W Molimization specified connection) | Maximum input current | | | | | | |
| Maintain injust power at maximum active power for spin 0.9 | | | | | | | |
| AC output idea (Find connection) | Maximum input power at maximum active | 3300 W | 4100 W | | | 5620 W | 6130 W |
| 310 V 480 V (depending on regional settings | • • | | | | | | |
| Aland grid voltage | Grid voltage | 320 V 480 V (depending on regional settings) | | | | | |
| Maximum active power (cos phi = 1) | Rated grid voltage | | | | | | |
| Maximum active power (cos phi = 1) 3200 W 4000 W 4800 W 5000 W 5000 W 5000 W | | 7.0 A | 7.0 A | 10.0 A | 10.0 A | 10.0 A | 10.0 A |
| Maximum active power (cos phi = 0.95) 3040 W 3800 W 4550 W 4750 W 5225 W 5700 W | ' | | | | | | |
| Maximum paperer (csp phi = 0.9) 2880 W 3800 W 4320 W 4500 W 4550 W 4550 W 5500 VA 6000 VA 2550 VA 6000 V | | | | | | | |
| Maximum apparent power (cos phi = 0.9) 3200 VA 4000 VA 4800 VA 5000 VA 5500 VA 6000 VA | , | | | | | | |
| Maximum apprent power (css phi = 0.9) 3200 VA | | | | | | | |
| Name | 0.95) | | | | | | |
| Solid Fequency Solid Fermion Fermion Solid Fermion Fermion Solid Fermion Fermion | | | | | | | |
| Night-time power loss Sample Sampl | · · | 3200 W | 4000 W | | | 5500 W | 6000 W |
| | . , | | | | | | |
| Total harmonic distortion (cos phi = 1) | | | | | | | |
| Column Format Column C | Night-time power loss | | | | | | |
| O.8 capacitive 0.8 inductive | Feeding phases | three-phase | | | | | |
| Characterisation of the operating performance Max. efficiency 98.6 % 98.7 % 98.7 % 98.7 % 98.7 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.5 % | Total harmonic distortion (cos phi = 1) | < 1 % | | | | | |
| Max. efficiency 98.6 % 98.6 % 98.7 % 98.7 % 98.7 % 98.7 % 98.7 % 98.7 % 98.7 % 99.8 % Sururopean efficiency 97.9 % 98.1 % 98.2 % 98.2 % 98.3 % 98.3 % 98.3 % 98.4 % 98.5 % 99.5 % 98.5 % 99.5 | Power factor cos phi | 0.8 capacitive 0.8 inductive | | | | | |
| European efficiency 97.9 % 98.1 % 98.2 % 98.2 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.3 % 98.4 % 98.5 % 98. | Characterisation of the operating perform | ance | | | | | |
| Californian efficiency 98.3 % 98.4 % 98.5 % 98.5 % 98.5 % 98.5 % 98.5 % WPP efficiency SP9.8 % (static), > 99.8 % (static), > 99.8 % (dynamic) Down consumption SP9.8 % (static), > 99.8 % (static), > 99.8 % (dynamic) Cover derating at full power from SD °C (T _{amb}) So °C (| Max. efficiency | 98.6 % | 98.6 % | 98.7 % | 98.7 % | 98.7 % | 98.7 % |
| MPP efficiency Deno consumption So °C (T _{amb}) So °C (T _{amb} | European efficiency | 97.9 % | 98.1 % | 98.2 % | 98.2 % | 98.3 % | 98.3 % |
| Own consumption So "C (T _{amb}) 50 "C (T _{amb}) 45 "C (T _{amb}) | Californian efficiency | 98.3 % | 98.4 % | 98.5 % | 98.5 % | 98.5 % | 98.5 % |
| Fower derating at full power from 50 °C (T _{amb}) 45 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 °C (T _{amb}) 45 °C (T _{amb}) 50 | MPP efficiency | | | | | | |
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| Safety solation principle solation principle solation principle sorid monitoring yes, integrated Nesidual current monitoring yes, integrated (The design of the inverter prevents it from causing DC leakage current) Departing conditions Area of application lindoor rooms with or without air conditioning 3K3 Storage temperature -15 °C +60 °C Storage temperature -15 °C +70 °C Relative humidity 0 % 95 %, non-condensating Noise emission (typical) 29 dBA Stitting and construction Degree of protection Degree of protection P 21 (casing: IP 51; display: IP 21) Decreolage category III (AC), III (DC) DC Input side connection Phoenix Contact SUNCLIX (2 pairs: 1x PV, 1x battery); mating connector (1 pair) included AC output side connection Wieland RST25i5 plug, mating connector included Dimensions (X x Y x Z) Weight 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) temperature controlled fan, variable speed, internal (dustproof) | Power derating at full power from | 50 °C (T _{amb}) | 50 °C (T _{amb}) | 50 °C (T _{amb}) | 50 °C (T _{amb}) | 50 °C (T _{amb}) | 45 °C (T _{amb}) |
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| Serid monitoring yes, integrated Residual current monitoring yes, integrated (The design of the inverter prevents it from causing DC leakage current) Departing conditions Area of application indoor rooms with or without air conditioning Climate protection class as per IEC 50721-3-3 Ambient temperature 38 5° C +60 ° C Storage temperature 39 6° M +70 ° C Relative humidity 09 +95 %, non-condensating Noise emission (typical) 29 gBA Fitting and construction Degree of protection P21 (casing: IP 51; display: IP 21) Deveroltage category III (AC), II (DC) Doveroltage category Wieland RST25i5 plug, mating connector (1 pair) included AC output side connection Wieland RST25i5 plug, mating connector included Dimensions (X x Y x Z) 340 x 608 x 222 mm Weight 10.0 kg Communication interface RS-485 (2 x RJ45 sockets; connectable to Meteocontrol WEB1og or Solar-Log W, Ethernet interface (1 x RJ45), Modbus RTU (1 x RJ10 socket: connectable to energy counter) temperature controlled fan, variable speed, internal (dustproof) | Isolation principle | no galvanic isolation, transformerless | | | | | |
| Residual current monitoring Poperating conditions Area of application Indoor rooms with or without air conditioning Strate protection class as per IEC Storage temperature -15 °C +60 °C Storage temperature -30 °C +70 °C Relative humidity Degree of protection P21 (casing: IP 51; display: IP 21) Decreolitage category Coll Input side connection Phoenix Contact SUNCLIX (2 pairs: 1x PV, 1x battery); mating connector (1 pair) included AC output side connection Wieland RST2515 plug, mating connector included Dimensions (X x Y x Z) Weight Communication interface RS-485 (2 x RJ45 sockets; connectable to Meteocontroll WEB'log or Solar-Log ™, Ethernet interface (1 x RJ45), Modbus RTU (1 x RJ10 socket: connectable to energy counter) temperature controlled fan, variable speed, internal (dustproof) | | yes, integrated | | | | | |
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| Area of application indoor rooms with or without air conditioning 3K3 3C21-3-3 Ambient temperature -15 °C +60 °C Storage temperature -30 °C +70 °C Relative humidity 0 % 95 %, non-condensating Noise emission (typical) 29 dBA Fitting and construction Degree of protection Peere of protection Collinput side connection Phoenix Contact SUNCLIX (2 pairs: 1x PV, 1x battery); mating connector (1 pair) included AC output side connection Wieland RST25i5 plug, mating connector included Dimensions (X x Y x Z) Weight 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 Cooling principle temperature controlled fan, variable speed, internal (dustproof) | | | | | | | |
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| Cooling principle temperature controlled fan, variable speed, internal (dustproof) | | connectable to energy counter) | | | | | |
| | Integrated DC circuit breaker | | | | | | |
| Test certificate see certificate download on the product page | Cooling principle | | | | | | |
| | Test certificate | see certificate download on the product page | | | | | |

