



High Efficiency 3.0 and High Efficiency 3.6

Inverter topology

The inverter topology, with an innovative circuit design that achieves highest efficiency, has now been integrated into the High Efficiency 3.0 and High Efficiency 3.6.

The inverter topology is based on a single-stage transformerless switching concept that uses proven standard components to implement symmetric step-down converters with downstream pole-reversing circuits.

Highest efficiency with longer service life

The high efficiency results in a peak efficiency of 98.6 % and a European efficiency of 98.2 % resp. 98.1 %, which results in less lost power that must be dissipated into the environment. This improves your yields.

The efficiencies of the High Efficiency 3.0 and High Efficiency 3.6 are only very slightly dependent on the module input voltage. This allows the number and type of modules to be freely selected without resulting in a yield loss.

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

For the first time, the very high efficiency allows the use of a design housing made of plastic. This offers many advantages, for example in the installation. The overall surface temperature of the High Efficiency 3.0 and 3.6 remains very low. The inverters have protection class II.

The High Efficiency 3.0 and High Efficiency 3.6 have 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.

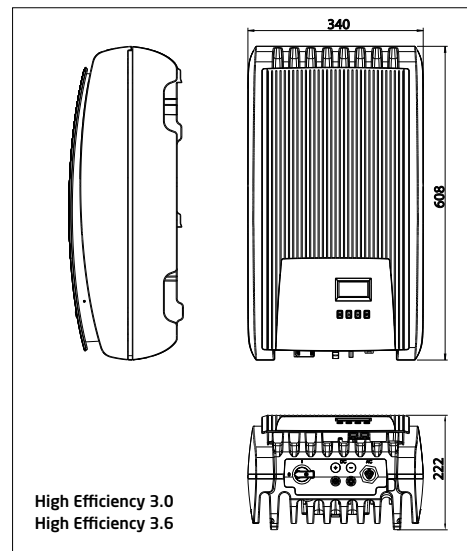
The guided, pre-programmed menu allows easy final commissioning of the device.

Installation

The lightweight High Efficiency 3.0 and 3.6 weigh only 9 kg and can be easily and safely mounted on a wall. The supplied wall bracket and practical recessed grips for right and left handed installers 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.

International

Nineteen different country parameters are integrated in the High Efficiency 3.0 and 3.6. This simplifies storage logistics. The appropriate parameter set can simply be chosen at the start of operations.



Product features

- Highest efficiency
- Simple installation
- Integrated data logger
- Firmware update possible
- Low housing temperature at full load
- Functionally perfect, environmentally-friendly plastic housing
- 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
- Service menu for parameter adjustment
- 7-year warranty after registration

Displays

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

Operation

- Simple menu-driven operation
- Multilingual menu navigation

Options

- System monitoring with Solar-Log™ and WEB'log



	High Efficiency 3.0	High Efficiency 3.6
DC input side (PV-generator)		
Maximum start voltage		845 V
Maximum input voltage		845 V
Minimum input voltage		350 V
Minimum input voltage for rated output	350 V	365 V
MPP voltage		350 V ... 700 V
Maximum input current		10 A
Maximum input power	3.060 W	3.690 W
Maximum recommended PV power	3.800 Wp	4.500 Wp
Derating / limiting	automatic when: <ul style="list-style-type: none"> - input power is higher - the device is not cooled sufficiently - input currents > 10 A - mains current > 16 A (higher currents are limited by the equipment and therefore will not damage the inverter) 	
AC output side (Grid connection)		
Grid voltage	185 V ... 276 V [depending on regional settings]	
Rated grid voltage	230 V	
Maximum output current	16 A	
Maximum output power	3,000 W	3,600 W
Maximum active power (cos phi = 1)	3.000 W	3.600 W (3,330 W if Belgium is selected)
Maximum active power (cos phi = 0.95)	3.000 W	3.530 W
Maximum apparent power (cos phi = 0.95)	3.310 VA	3.680 VA
Rated power	3,000 W	3,600 W
Rated frequency	50 Hz and 60 Hz	
Frequency	45 Hz ... 65 Hz [depending on regional settings]	
Night-time power loss	< 0.9 W	
Feeding phases	single-phase	
Power factor	> 0.99	
Distortion factor (cos phi = 1)	< 2 %	
Power factor cos phi	0.95 capacitive ... 0.95 inductive	
Characterisation of the operating performance		
Maximum efficiency	98.6 %	
European efficiency	98.2 %	98.1 %
Californian efficiency	98.3 %	98.2 %
MPP efficiency	> 99.7 % (static), > 99 % (dynamic)	
Own consumption	< 8 W	
Power derating at full power	from 50 °C (T _{amb})	from 45 °C (T _{amb})
Switch-on power	10 W	
Standby power	6 W	
Safety		
Isolation principle	no galvanic isolation, transformerless	
Grid monitoring	yes, integrated	
Operating conditions		
Area of application	indoor rooms with or without air conditioning	
Ambient temperature	-15 °C ... +60 °C	
Storage temperature	-30 °C ... +80 °C	
Relative humidity	0 % ... 95 %, non-condensating	
Altitude of site	≤ 2000 m above sea level	
Pollution degree	PD3	
Noise emission	39 dBA	
Improper ambient gases	Ammonia, solvents	
Fitting and construction		
Degree of protection	IP51 (power unit), IP21 (overall device)	
Overvoltage category	III (AC), II (DC)	
DC Input side connection	MultiContact MC 4 (1 pair)	
AC output side connection	Wieland RST25i3 plug, mating connector included	
Dimensions (X x Y x Z)	340 x 608 x 222 mm	
Weight	9 kg	
Communication interface	RS485, 2 x RJ45 sockets, Meteocontrol WEB'log, Solar-Log™	
Integrated DC circuit breaker	yes, compliant with VDE 0100-712	
Cooling principle	temperature-controlled internal fan (variable speed)	
Test certificate	certificate of compliance as per VDE AR N 4105, CE mark, DK 5940, G83, UTE C 15-712-1; under preparation: AS4777	

System monitoring and accessories



Meteocontrol WEB'log and
Meteocontrol WEB'log Comfort
Data logger



Solar-Log 500/1000™
Data logger