





MAX310 BEESMART SOLAR MICRO INVERTER TYPE 260

Apparent Power Control (APC)

SOLAR PV MODULES UP TO 310 W peak



MAIN ADVANTAGES

- Apparent power control (APC)
- Smart grid ready
- Grid power quality improvement
- Extremely precise MPPT algorithm
- The best overall solar energy conversion
- Compact waterproof design
- Wireless communication
- Very long life-time (25 years)
- Fire safe installations
- Three phase balanced installations with no additional equipment for reactive power compensation
- Integrated interface protection system

APPLICATIONS

Micro, small and medium PV installations (residential, commercial / on-grid, off-grid with storage)

Typical applications



MULTIPLE ORIENTATIONS AND OPTIMAL USE OF ROOF SURFACE

- Modularity
- Each panel MPPT
- Apparent power control



PARTIAL SHADING

- Each panel MPPT
- Extremely precise MPPT



SMALL SPECIFIC SYSTEMS

- Single panel AC grid connection
- Modularity



STRING AND MICRO INVERTER COMBINED FIELD APPLICATIONS

- Each panel MPPT
- Extremely precise MPPT



POLE MOUNTED

- Apparent power control
- Grid power quality improvement
- Smart grid ready



CARPORTS

• AC compact fire safe solutions



COMBINATION WITH E-MOBILITY

- Smart grid ready
- Fire safe installation



OFF-GRID

- Modularity
- AC battery
- Battery storage

THE MOST EFFICIENT CONVERSION OF LIGHT INTO ELECTRICITY

ADVANTAGES OF MI SYSTEMS

- The best PV levelized cost of electricity (LCOE) / Total cost of ownership (TCO) in comparison with power optimizers and string inverters.
- Up to 20 % higher energy yield compared to string inverters due to individual panel level shading optimization.
- No single point of failure. In case of one inverter's malfunction, the others continue generating energy.
- Low service cost, since inverters are simply exchanged in case of failure.
- Modularly built-up system. It can be enlarged gradually in time.
- Wireless monitoring and control. Each panel's performance can be examined and controlled through standard WMBUS communication.
- Simple and cost effective installation. No high DC voltage on roof. Simple 230V AC UL and VDE approved, IP67 rated, UV resistant T connection cables used for inverter interconnections.
- Safety:
 - When operating, only a low DC voltage (up to 50V) is present on the roof.
 - In the event of fire and other hazards inverters will switch off in max 2 seconds.
- Long life-time without maintenance (25 years).
- Micro-grid suitable technology.
- Suitable for off-grid applications with energy storage.

P - Q diagram

Reactive power generation from 0 to 260 VAr (cap., ind.)





SOLAR MICRO INVERTER

FEATURES

- Reactive power control. Dynamic power factor regulation.
- Power factor options:
 - Unity (1),
 - Fixed down to 0.8, capacitive/ inductive,
 - Dynamic according to power or grid voltage.
- Very low power needed to start the inverter (< 2W).
- Foil capacitors are used, allowing very long lifetime (25 years) and high MTBF values (up to 600 years MTBF).
- Electronics is designed with automotive standard components, ensuring easy implementation of automated production with automotive quality and traceability.
- Compact waterproof design.

- Internet access to panel data through the communitation gateway (WiFi, Ethernet gateway with embbeded web server). The desired real power and power factor can also be set through the communitation gateway allowing dynamic control of micro grid performances and adaptation to every grid quality.
- Extremely precise MPPT algorithm.
- Very low panel's DC ripple current (50 mA).

- High efficiency.
- Integrated IPS (Interface Protection System) / Anti-Islanding Protection.
- Optional: parallel connection of two solar panels each with peak power up to 140 W and max DC input voltage up to 60 V (Double DC connector).
- Suitable for 60 and 72-cell panels up to 310 Wp.



TECHNICAL CHARACTERISTICS

PARAMETERS	VALUE
Recommended rated input DC power	200 W - 275 W
Max PV panel power	up to 310 Wp
Max DC input voltage	60 V
MPPT range	21 V-55 V
Min start voltage	21 V
Max DC short circuit current	12 A
Max input current	10.5 A
Operating range	15 V- 60 V
Nominal apparent AC power	290 VA
Nominal real AC power	260 W
Nominal reactive AC power (at power factor 0.9)	125 VAr
Max reactive power	0 – 260 VAR (cap., ind.)
Nominal output current	1.15 A
Frequency range	50 Hz (47.5 Hz-55 Hz) According to standards
Voltage range 240 V systems	180 V – 270 V According to standards
Reactive power regulation	1 (Unity) 0.8 cap 1 0.8 ind. Dynamic regulation
THD odd harmonics	<3%
Efficiency max.	96.1 %
Efficiency CEC/EURO	95.5 % / 95.3 %
MPPT efficiency	99.9 %
Panel's ripple current	50 mA
Ambient temperature	-40 °C +65 °C
Cooling	Natural
Communication	WMBUS 868 Mhz (optional 915 Mhz)
Complies to	EN 50438, VDE 4105, CEI 0-21, G83/2, EN 62109-1, EN 62109-2,EN 61000-6-3, EN 61000-6-1, RoHS
Lifetime expectancy	25 years
Limited warranty	25 years
Housing	Die casted aluminum
IP protection	IP67, completely potted (waterproof)
Dimensions (without mounting brackets)	209 x 221 x 40 mm
Mounting brackets	M8x16, distance 130 mm
Weight	cca 2 kg
AC connection system	Amphenol LTW VTC/Wieland RST
DC connection system	Amphenol LTW H4
Standby consumption	0 W
Integrated Interface Protection System/Anti- islanding protection	as for VDE 4105

UNITED KINGDOM - DISTRIBUTOR:



SMS Metering Ltd 41 London Road, Castle Court, Reigate RH2 9RJ TEL: 0845 604 7244 E-mail: sales@smsmetering.co.uk Web: www.smsmetering.co.uk

Letrika Sol d.o.o. is a joint venture between companies Cosylab d.d. and Letrika d.d. Letrika d.d. is a group company of Mahle Group, Germany.



www.smsmetering.co.uk/SolarCorner

February 2015 / 722.704.841