SOLARWATT M250-60 AC

Monocrystalline solar cells, 230 Wp - 250 Wp, Aluminium frame

ENGLISH

SOLARWATT PROMISE

Quality
Tested materials and thorough workmanship guarantee high yields and system longevity.

Made in Germany
SOLARWATT solar modules are exclusively produced in Germany.

Positive classification range (+0 Wp to +5 Wp)
The actual module output is guaranteed to be up to 5 Wp above the nominal value.

Optimum mechanical stability
4mm structured solar glass and 50mm frame ensure stability and torsional strength.

SOLARWATT WARRANTY

Standard warranty
10 year product warranty
staggered performance warranty covering 25 years

Extended warranty by purchasing SOLARWATT Full Coverage insurance
12 year product warranty
linear performance warranty covering 25 years

According to the „Special warranty conditions for SOLARWATT solar modules“

SOLARWATT ADVANTAGES

- Clear identification provided by serial number engraved on front of frame
- Waste is prevented thanks to the patented, resource-saving QUICKSTAXX® packaging system
- Independent tests confirm resistance to hail, ammonia, flame, and more*
- Take-back service and module recycling

* For further information visit us on www.solarwatt.de

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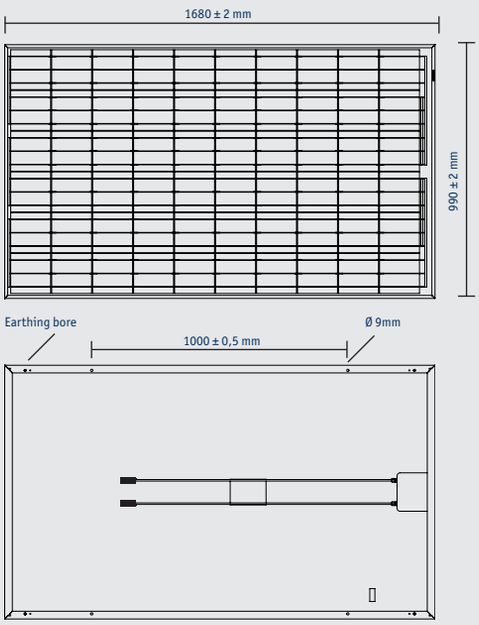
Certified acc. to:
DIN EN ISO 9001 und 14001

SOLARWATT®

SOLARWATT M250-60 AC

Technical Data

DIMENSIONS



GENERAL DATA

Module technology	Glas-foil-laminate; aluminium frame
Cover material **Encapsulation** **Back material**	High transparent solar glass (tempered), 4 mm EVA-solar cells-EVA Multi-layer polymer sheet, white
No. and type of cells	60 monocrystalline solar cells
Dimensions of cells	156 x 156 mm
Cables and connectors	Cables 2x1,00 m/4 mm², Lumberg LC4 connectors
Bypass-diodes	3
Application class	Application class A (nach IEC 61730)
Dimensions (LxWxH)	1680 x 990 x 50 mm
Weight	24 kg
Max. system voltage	1000 V (US 600 VDC)
Mechanical Ratings	Suction pressure of 2400 Pa approved (Wind speed 130 km/h with safety factor 3) Load of 5400 Pa approved
Qualifications	IEC 61215 Ed.2, IEC 61730 (incl. Safety class II)

ELECTRICAL DATA (STC)

STC: Standard Test Conditions: measurement conditions: Radiation strength 1000 W/m2, spectral distribution AM 1.5, temperature 25 2 °C, in accordance with EN 60904-3

Nominal power P_N	230 Wp	235 Wp	240 Wp	245 Wp	250 Wp
Nominal voltage U_{mpp}	28,4 V	28,5 V	28,7 V	29,0 V	29,2 V
Nominal current I_{mpp}	8,10 A	8,25 A	8,37 A	8,45 A	8,57 A
Open circuit voltage U_{OC}	36,2 V	36,4 V	36,5 V	36,7 V	36,8 V
Short circuit current I_{SC}	8,89 A	8,91 A	8,93 A	8,98 A	9,00 A
IR*			20 A		

Measuring tolerances P_{max} ±5 %;
*Reverse current power rating: Operation of the modules with an external power source is only permitted with a string fuse with a release current of < 20 A.

Reduction in the module efficiency with reduction in radiation strength of 1000 W/m² to 200 W/m² (25°C): $4^{\pm 2}$ % (relative) / $-0{,}6^{\pm 0{,}3}$ % (absolute).

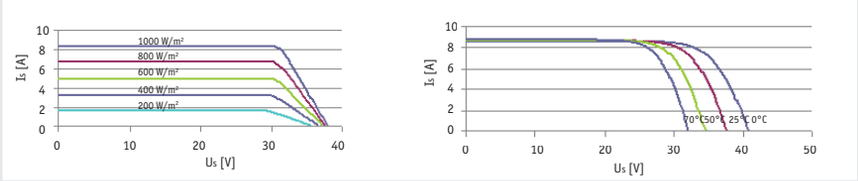
ELECTRICAL DATA (NOCT)

NOCT: Normal Operation Cell Temperature, measurement conditions: Radiation strength 800 W/m2, AM 1.5, temperature 20 °C, wind speed 1m/s, electrical open-circuit operation

Nominal Power P_N	167 W	171 W	175 W	178 W	182 W
Nominal voltage U_{mpp}	25,7 V	25,8 V	26,0 V	26,3 V	26,5 V
Open circuit voltage U_{OC}	33,5 V	33,7 V	33,8 V	34,0 V	34,1 V
Short circuit current I_{SC}	7,17 A	7,19 A	7,20 A	7,24 A	7,26 A

CHARACTERISTIC LINES

Voltage charact. lines at different irradiations and temperatures



performance class 250 Wp

THERMAL FEATURES

Operating Temperature Range	-40 ... +80 °C
Ambiente Temperature Range	-40 ... +45 °C
Temperature Coefficient of P_N	-0,45%/K
Temperature Coefficient of U_{OC}	-0,36%/K
Temperature Coefficient of I_{SC}	0,03%/K
NOCT	45°C

[This data sheet conforms to DIN EN 50380:2003; 2011/10]