

SOLARWATT ORANGE 48M alpine

Monocrystalline solar cells, 200 Wp - 210 Wp

Aluminium frame



ENGLISH



SOLARWATT PROMISE

Quality

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

Positive classification range (+0 Wp to +5 Wp)

The actual module output is guaranteed to be up to 5 Wp above the nominal value.

Decentralized junction system

Shorter cable runs and simple cable routing through decentralized junction system.

Optimum mechanical stability

Coherent module geometry, 4mm structured solar glass and 50 mm frame ensure stability and torsional strength up to 6000 Pa.

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*, PID-free
- ▶ Take-back service and module recycling



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



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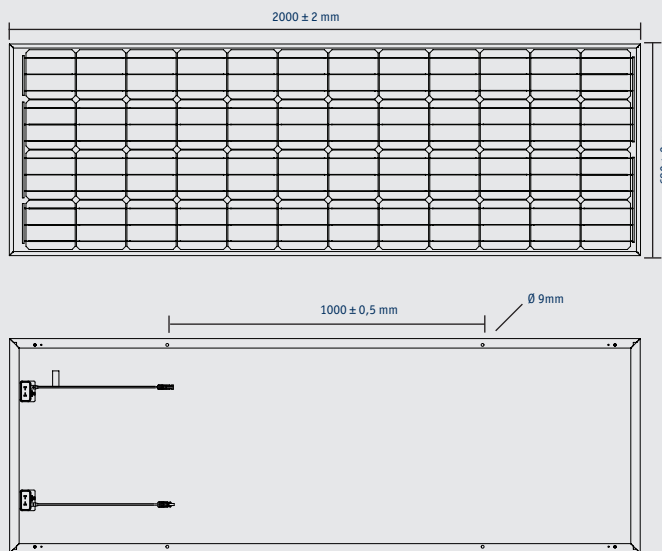
Certified acc. to:
DIN EN ISO 9001 und 14001
BS OHSAS 18001:2007

 **SOLARWATT®**

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Technical Data

DIMENSIONS



GENERAL DATA

Module technology	Glas-foil-laminate; aluminium frame
Cover material	High transparent solar glass (tempered), 4 mm
Encapsulation	EVA-solar cells-EVA
Back material	Multi-layer polymer sheet
No. and type of cells	48 monocrystalline solar cells
Dimensions of cells	156 x 156 mm
Cables and connectors	Cables 2 x 0,40 m/4 mm ² , MultiContact MC4 connectors
Bypass-diodes	2
Application class	Application class A (nach IEC 61730)
Dimensions (LxWxH)	2000 x 680 x 50 mm
Weight	21 kg
Max. system voltage	1000V (US 600 VDC)
Mechanical Ratings	Suction pressure of 2400 Pa approved (Wind speed 130 km/h with safety factor 3) Approved for applied loads up to 7600 Pa Assessed under test conditions specified in IEC 61215, Ed. 2.
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 °C, in accordance with EN 60904-3

Nominal power P_N	200 Wp	205 Wp	210 Wp
Nominal voltage U_{mpp}	24,9 V	25,2 V	25,5 V
Nominal current I_{mpp}	8,04 A	8,14 A	8,24 A
Open circuit voltage U_{oc}	30,2 V	30,4 V	30,7 V
Short circuit current I_{sc}	8,45 A	8,59 A	8,70 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^{±2}% (relative) / -0,6^{±0,3}% (absolute).

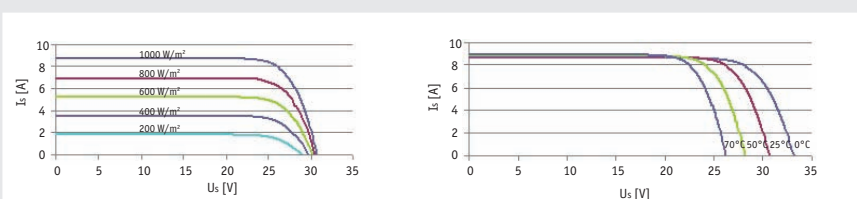
ELECTRICAL DATA (NOCT)

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	147 W	150 W	154 W
Nominal voltage U_{mpp}	22,9 V	23,2 V	23,5 V
Open circuit voltage U_{oc}	28,2 V	28,4 V	28,7 V
Short circuit current I_{sc}	6,83 A	6,94 A	7,03 A

CHARACTERISTIC LINES

Voltage charact. line at different irradiances and temperatures



performance class 210 Wp

THERMAL FEATURES

Operating Temperature Range	-40 ... +80 °C
Ambiente Temperature Range	-40 ... +45 °C
Temperature Coefficient of P_N	-0,41%/K
Temperature Coefficient of U_{oc}	-0,33%/K
Temperature Coefficient of I_{sc}	0,05%/K
NOCT	45°C