



MODULE SERIES MW 290 - 310 S - 72C

MODULE TYPES

MW290S, MW295S, MW300S, MW305S, MW310S



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*The electrical parameters are typical values from historical production data. Measuring tolerance $\pm 3\%$.
Technical changes in the course of product development, mistakes and errors reserved. Data sheet MW290 - 310S 72c V02-13*

PRODUCT FEATURES

MONOWATT Modules with 72 cells offer 5 performance classes designed for roof - or ground mounting. The modules are best suitable for small, medium and large scale solar systems for on- or off-grid operations. Technology, design and construction guarantee the highly efficient and reliable long term output of each and every module. Our automatic production and our latest flash tower technology guarantee a documented performance above industry standard.

- + Industry leading power tolerance 0 - + 3 %
- + Unique frame design for insolation and weather exposure
- + Automatic clean-room production for sustainable returns
- + Frame mounting concept for long- and short side mounting
- + High transmission low iron tempered glass
- + Enhanced strength and impact resistance
- + Advanced EVA component encapsulation, multilayer backsheets technology

WARRANTIES & ASSURANCES


Industry leading guaranty on material and manufacturing: 10 years

Output assurance: up to 12 years: 90 %, up to 25 years: 80%

Please refer to our warranty conditions

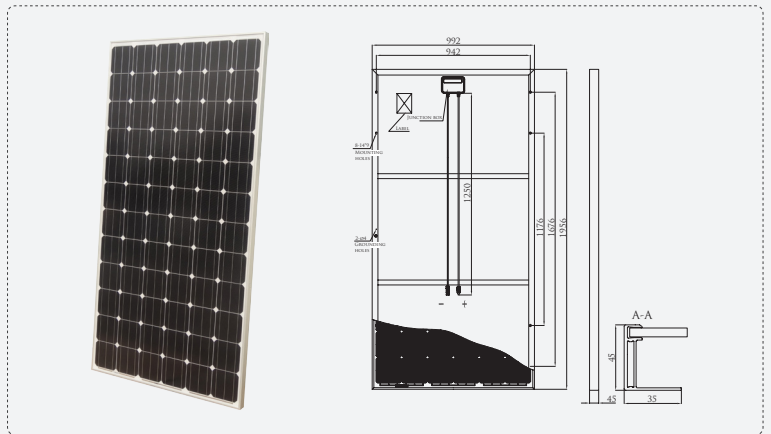
QUALIFICATIONS & CERTIFICATES

Ongoing quality control and performance testing executed by independent testing laboratories grant the maximal benefit of your environmentally friendly energy production.

IEC 61215.2 / IEC 61730 / safety class II 



TECHNICAL DATA MODULE SERIES MW 290 - 310 S - 72C



MECHANICAL DATA & MEASURES

Cable type, Diameter, Length	4mm ² , TÜV certified, 900 mm
Connector type	RADOX® SOLAR or Typ IV compatible
Dimension (mm)	1956 x 992 x 45
Weight	24
Drainage Holes in Frame	8
Glass, Type, Thickness	High Transmission, Low Iron, 3,2 mm Tempered Glass
Junction box	IP 65 Typ IV or IP67 RADOX® SOLAR
Bypass-Diodes	3

ABSOLUTE RATINGS

Dielectric Insulation Voltage (V)	3000 V
Operating Temperature (°C)	-40 ~ +85
Storage Temperature (°C)	-40 ~ +85
Mechanical Load	5400 Pa up to 10000 Pa extrem

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Max-System Voltage (VDC)	600V(UL) / 1000V(IEC)
Number, type and arrangement of cells	72, Mono-Crystalline Silicon (6 x 12)
Cell Size (mm)	156 x 156
Max. Series fuse (A)	15
Module variants	Indus, extrem , Shadow Black (290-305W)

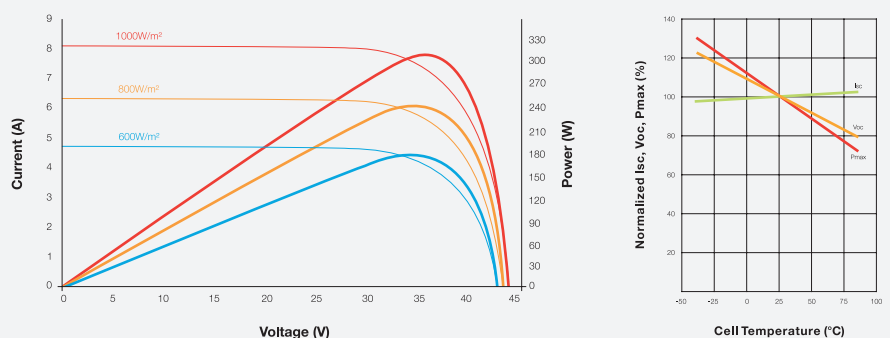
ELECTRICAL DATA AT STC / NOCT (47 ± 2°C)

Module type	MW290S	MW295S	MW300S	MW305S	MW310S
Rated output P _{MPP} (W)	290 Wp	295 Wp	300 Wp	305 Wp	310 Wp
Max-Power Voltage V _m (V)	35,81 / 31,86 V	36,28 / 32,04 V	36,75 / 32,57 V	37,25 / 33,0 V	37,51 / 33,39 V
Max-Power Current I _{MPP} (A)	8,17 / 6,89 A	8,2 / 6,97 A	8,23 / 6,97 A	8,26 / 7,0 A	8,33 / 7,03 A
Open circuit Voltage V _{OC} (V)	45,29 / 41,35 V	45,36 / 41,41 V	45,79 / 41,8 V	45,94 / 41,94 V	46,22 / 42,2 V
Short circuit voltage I _{SC} (A)	8,71 / 7,41 A	8,73 / 7,42 A	8,73 / 7,42 A	8,74 / 7,43 A	8,8 / 7,48 A
Cell Efficiency (%)	17,60%	18,00%	18,30%	18,60%	18,90%
Module efficiency %	14,90%	15,20%	15,50%	15,70%	15,90%

CURRENT-VOLTAGE CURVE (I-V-CURVE)

I-V Curve

The current in relation to the voltage, illustrates the cell performance at different irradiances and temperatures. (AM1.5; 25°C)



THERMAL CHARACTERISTICS

Pm Temperature Coefficient (%/K)	-0,4454
Isc Temperature Coefficient (%/K)	0,0499
Voc Temperature Coefficient (%/K)	-0,3336