



MODULE SERIES PW 230 - 250 - 60C

MODULE TYPES

PW230, PW235, PW240, PW245, PW250



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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 PW230 - 250S 60c V02-13*

PRODUCT FEATURES

POLYWATT Modules with 60 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 insulation 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 backsheet 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

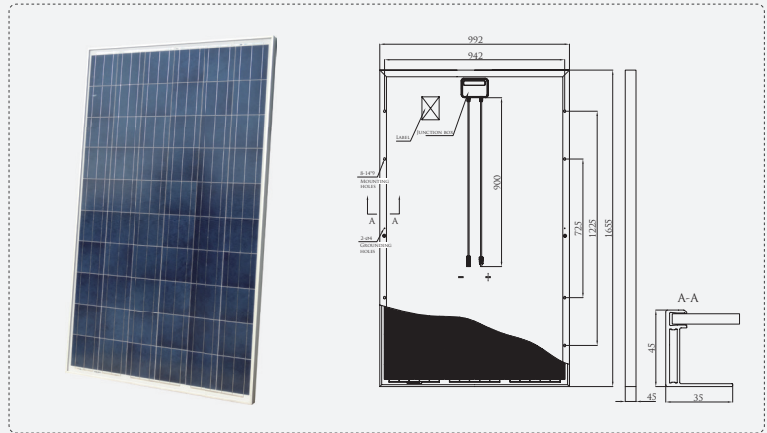
QUALIFICATIONS & CERTIFICATES

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 PW 230 - 250 - 60C



MECHANICAL DATA & MEASURES

Cable type, Diameter, Length	4mm ² , TÜV certified, 900 mm
Connector type	RADOX® SOLAR or Typ IV compatible
Dimension (mm)	1655 x 992 x 45
Weight	22,5
Drainage Holes in Frame	10
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	60, Poly-Crystalline Silicon (6 x 10)
Cell Size (mm)	156 x 156
Max. Series fuse (A)	15
Module variants	Indus, extrem , Shadow Black (230-245W)

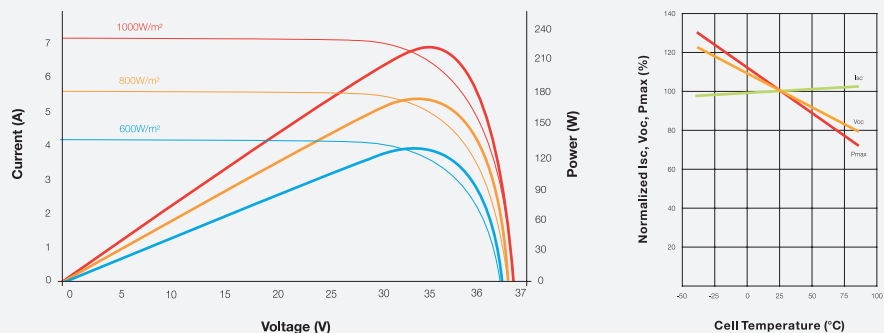
ELECTRICAL DATA AT STC / NOCT (47 ± 2°C)

Module type	PW230	PW235	PW240	PW245	PW250
Rated output P _{MPP} (W)	230 Wp	235 Wp	240 Wp	245 Wp	250 Wp
Max-Power Voltage V _m (V)	29,3 / 27,54 V	29,57 / 27,63 V	29,82 / 27,81 V	30,08 / 27,99 V	30,32 / 28,17
Max-Power Current I _{MPP} (A)	7,94 / 6,32 A	8,03 / 6,44 A	8,13 / 6,54 A	8,23 / 6,63 A	8,33 / 6,72 A
Open circuit Voltage V _{oc} (V)	36,9 / 33,52 V	37,4 / 33,98 V	37,7 / 34,25 V	38,0 / 34,52 V	38,3 / 34,8 V
Short circuit voltage I _{sc} (A)	8,31 / 7,12 A	8,42 / 7,21 A	8,42 / 7,21 A	8,48 / 7,27 A	8,54 / 7,32 A
Cell Efficiency (%)	15,75%	16,10%	16,30%	17,00%	17,20%
Module efficiency %	14,00%	14,30%	14,60%	14,90%	15,20%

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

P _m Temperature Coefficient (%/K)	-0,4418
I _{sc} Temperature Coefficient (%/K)	0,0877
V _{oc} Temperature Coefficient (%/K)	-0,3522