

# ESPSA

## Monocrystalline Solar Module



### High-quality

With 72 cells and 3 bypass diodes in power classes from 170 to 200 Wp for grid connected systems.



### Reliable

The high quality level of ERA SOLAR guarantees long life-time and high earnings.



### Solid

An Aluminium hollow-chamber frame on each side combined with low-iron and tempered solar glass ensures high load capacity resistance.



### Performance guarantee

ERA SOLAR grants a power guarantee of 90% of nominal power output up to 12 years and 80% up to 30 years.



WATTS  
POSITIVE  
TOLERANCE

10

YEARS  
PRODUCT  
WARRANTY

12

YEARS  
PERFORMANCE  
GUARANTEE 90%

30

YEARS  
PERFORMANCE  
GUARANTEE 80%

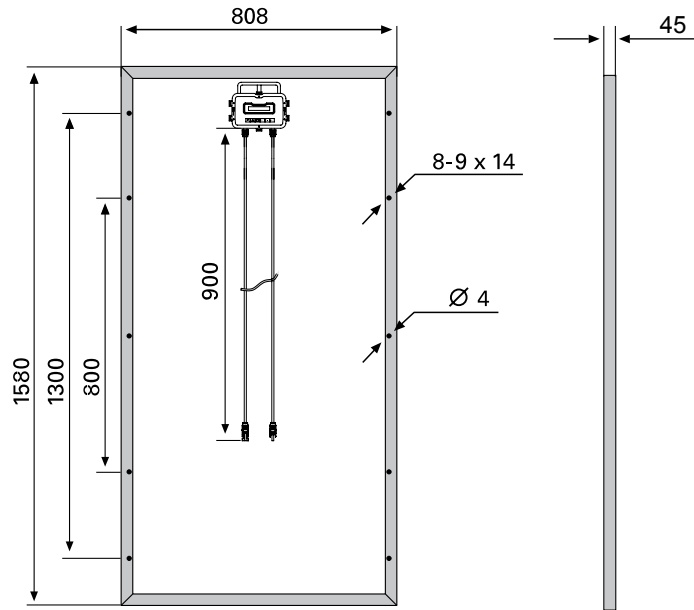


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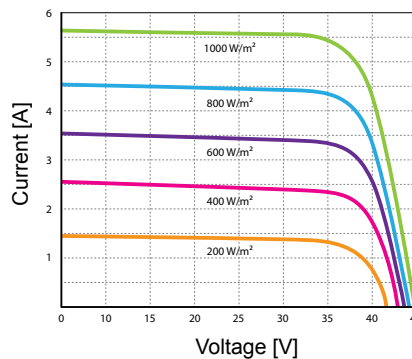
## Monocrystalline Solar Module

### SPECIFICATIONS

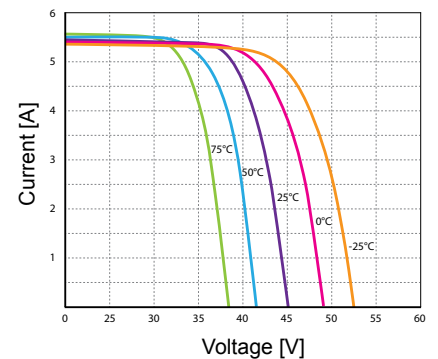
Dimensions	1580 x 808 x 45 mm
Weight	14.5 kg
Frame	Aluminium hollow-chamber frame on each side
Glass	Low-iron and tempered glass 3.2 mm
Cells	72 pcs monocrystalline Si-cells (125 x 125 mm)
Cell Embedding	EVA
Back-Foil	TPT / TPE / BBF
Junction Box	TÜV certified
Cable	4 mm <sup>2</sup> solar cable 2 x 900 mm
Temperature Range	-40°C ... +85°C
Load Capacity	5400 Pa (IEC 61215)
Power Guarantee	12 years 90% 30 years 80%
Pallet Size	1.62 x 1.12 x 1.11 m
Units	25 pcs. / pallet
Weight	390 kg / pallet



### CURRENT-VOLTAGE CURVES



Module characteristics at constant module temperatures (25°C) and different levels of irradiance.



Module characteristics at different module temperatures and constant module irradiance (1.000 W/m<sup>2</sup>).

### CHARACTERISTICS

Max. System Voltage	1000V/DC
Temperature-Coefficient $I_{SC}$	+0.07%/°C
Temperature-Coefficient $U_{OC}$	-0.36%/°C
Temperature-Coefficient $P_{mpp}$	-0.43%/°C
NOCT***	45°C

ESPSA TYPE	170	175	180	185	190	195	200
Power Class	170W	175W	180W	185W	190W	195W	200W
Max. Power Voltage ( $U_{mpp}$ )* at STC**	35V	35.3V	35.6V	35.9V	36.2V	36.45V	36.7V
Max. Power Current ( $I_{mpp}$ ) at STC	4.86A	4.96A	5.05A	5.15A	5.25A	5.35A	5.45A
Open Circuit Voltage ( $U_{OC}$ ) at STC	43.4V	43.8V	44.1V	44.5V	44.8V	45.1V	45.4V
Short Circuit Current ( $I_{SC}$ ) at STC	5.2A	5.3A	5.4A	5.5A	5.6A	5.7A	5.8A
Module Efficiency	13.3 %	13.7%	14.1 %	14.5 %	14.9 %	15.3 %	15.7 %

\* MPP: Maximum Power Point

\*\* STC (Standard Test Conditions): 1000W/m<sup>2</sup>, 25°C, AM 1.5

\*\*\* Normal Operating Cell Temperature

### CERTIFICATES

IEC 61215 edition 2 (TÜV Rheinland)

IEC 61730 UL CSA MCS

