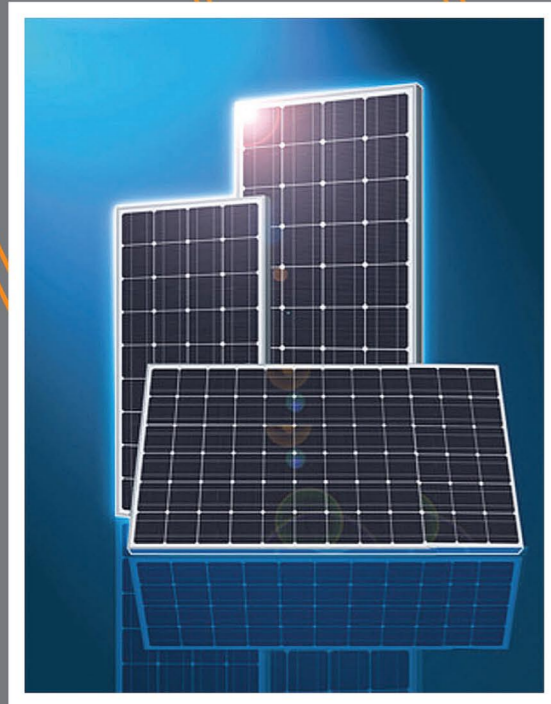


# ERA SOLAR



Monocrystalline Solar Module ESPSA

## High-Quality Solar Modules

Within 72 cells and 3 bypass diodes in powerclasses of 160 to 180 Wp for grid connected systems.

## Reliable

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

## Solid

Aluminium hollow-chamber frame on each side combined with low-iron, tempered solar-glass ensures a very high mechanical capacitance.

## Performance Guarantee

ERA SOLAR give a power guarantee of 90% of nominal power output for 10 years and 80% for 25 years

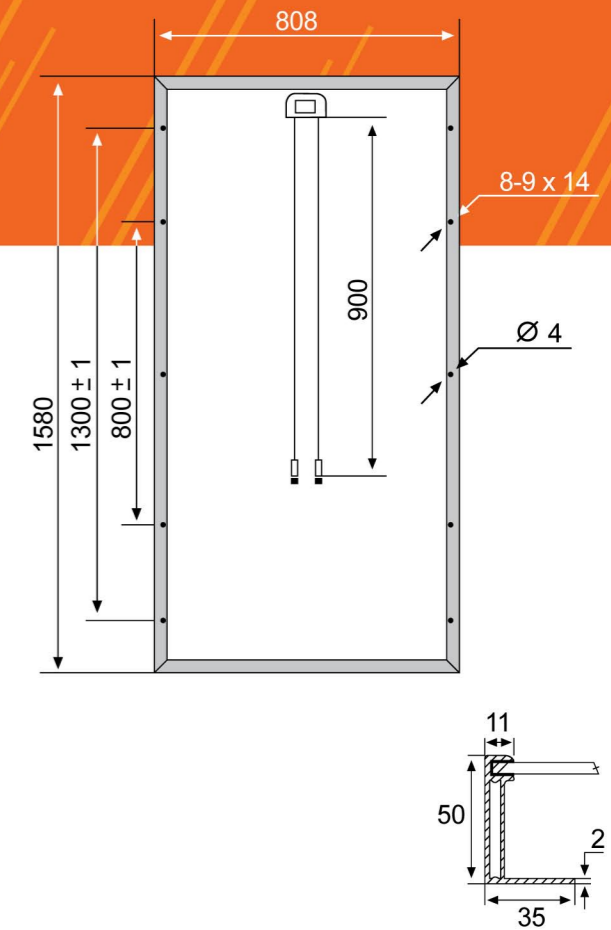
## Certificates

IEC 61215 edition 2 (TÜV Rheinland)  
Safety Class II  
LEAD testing and certification (UK)



## Specifications

<b>Dimensions</b> .....	1580 x 808 mm x 50 mm
<b>Weight</b> .....	15.5kg
<b>Frame</b> .....	Aluminium hollow-chamber frame on each side
<b>Glass</b> .....	Pilkington, Australia
<b>Cells</b> .....	72 pcs monocrystalline Si-cells (125 x 125 mm)
<b>Cell Embedding</b> .....	EVA
<b>Back-Foil</b> .....	Tedlar TPT
<b>Junction Box</b> .....	Cixi Renhe PV-RH0502 FPE 001 Aluminium Junction Box
<b>Cable</b> .....	4 mm <sup>2</sup> solar-cable 2 x 900 mm
<b>Temperature-Range</b> .....	-40°C ... +85°C
<b>Certificates</b> .....	IEC 61215 edition 2, Safety-Class II
<b>Power-Guarantee</b> .....	10 years 90%, 25 years 80%



## Electrical Characteristics

Typ	ESPSA 160	ESPSA 165	ESPSA 170	ESPSA 175	ESPSA 180
<b>Power-Class +/- 5%</b>	160 W	165 W	170 W	175 W	180 W
<b>Max. Power Voltage (U<sub>mpp</sub>)*at STC**</b>	35.6 V	35.8 V	36.1 V	36.5 V	36.7 V
<b>Max. Power Current (I<sub>mpp</sub>)at STC</b>	4.50 A	4.60 A	4.70 A	4.80 A	4.90 A
<b>Open Circuit Voltage (U<sub>oc</sub>) at STC</b>	42.7 V	43.0 V	43.3 V	43.7 V	44.3 V
<b>Short Circuit Current (I<sub>sc</sub>) at STC</b>	4.80 A	4.90 A	5.00 A	5.10 A	5.20 A
<b>Efficiency</b>	12.5%	12.9%	13.3%	13.7%	14.1%

<b>Max. System Voltage</b>	1000 V
<b>Temperature-Coefficient I<sub>sc</sub></b>	1.9 mA/K
<b>Temperature-Coefficient U<sub>oc</sub></b>	-165 mV/K
<b>Temperature-Coefficient P<sub>mpp</sub></b>	-0.43% /K
<b>NOCT***</b>	48°C +/-2°C

\* **MPP: Maximum Power Point**  
 \*\* **STC (Standard Test Conditions): 1000 W/m<sup>2</sup>, 25°C, AM 1.5**  
 \*\*\* **Normal Operating Cell Temperature**

ERA SOLAR

MINDEX s.r.o.  
Unhošťská 122  
CZ 27201 - Kladno  
Czech republic - EUROPE

Tel.: 00420 774 240 666  
Email: info@mindex.cz  
www.mindex.cz  
www.era-solar.eu