



Inspiring green-energy since 2003

# AE SMART HOT-SPOT FREE POLYCRYSTALLINE PV MODULES

## AE SMP6-60 Series 270W-290W

tested by **Fraunhofer**  
CSP

<b>60</b> CELLS	<b>SHADING RESISTANT</b>	<b>HOT SPOT RESISTANT</b>	<b>PID RESISTANT</b>	<b>SALT CORROSION RESISTANT</b>	<b>SAND RESISTANT</b>	<b>AMMONIA RESISTANT</b>	<b>HIGHLY STABLE AND TOUGH</b>
--------------------	--------------------------	---------------------------	----------------------	---------------------------------	-----------------------	--------------------------	--------------------------------

### TEMPERATURE

Hot spot temperature lower than 85°C  
The IEC61215 test shows that with a zero percentage, a small and a 100 percentage of shaded area, respectively hot spots will not exceed 85°C, which is the maximum operating condition.

### RELIABILITY

Bypass diodes prevent cells mismatching at shaded areas. The lower temperature of hot-spot free modules will eliminate potential cause for back sheet degradation, hence enhancing reliability for longer term.

### SAFETY

Instantly reduced temperature, thus eliminating material hazard and ensuring more safety of the module, preventing fire risks caused by hot spots.

### HIGH RETURNS

This new technology prevents instant falls in the module output, thus increasing the performance ratio up to 30% and return for all types of installations.

### GERMAN QUALITY

AE Solar photovoltaic modules are produced using high quality materials, automated robotic lines, German technology and standards.

### PLUS-SORTING

Higher yield due to plus-sorting from 0 up to +5 Wp guarantees the high system efficiency and yield stability.

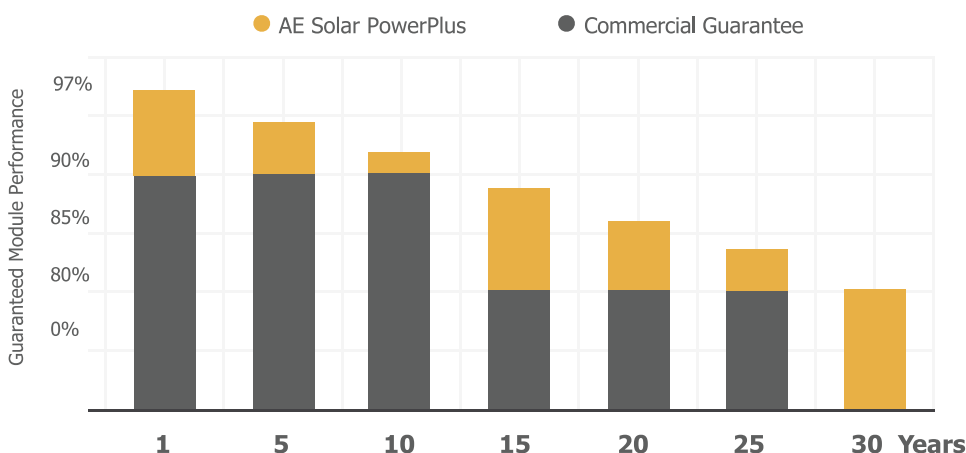
### PERFORMANCE GUARANTEE

AE Solar assures high investment, security and warranty claims by providing linear performance guarantee of 30 years and 12 years of product warranty.

### CERTIFICATES

Lining with international standards, AE Solar Photovoltaic modules are tested and certified under extreme stress conditions and it can bear harsh environment influences.

## OUR PERFORMANCE GUARANTEE



**30**  
years  
Performance Guarantee

**12**  
years  
Product Warranty



Deutsche  
Qualität  
Garantiert

# TECHNICAL DATA

## AE SMP6-60 Series 270W-290W

### SPECIFICATIONS

AE270SMP6-60    AE275SMP6-60    AE280SMP6-60    AE285SMP6-60    AE290SMP6-60

Parameter	Symbol	AE270SMP6-60	AE275SMP6-60	AE280SMP6-60	AE285SMP6-60	AE290SMP6-60
Nominal Max. Power	P <sub>max</sub> (Wp)	270	275	280	285	290
Maximum power voltage	V <sub>mp</sub> (V)	30.82	31.24	31.65	32.07	32.48
Maximum power current	I <sub>mp</sub> (A)	8.76	8.80	8.85	8.89	8.93
Open-circuit voltage	V <sub>oc</sub> (V)	38.31	38.52	38.72	38.93	39.14
Short-circuit current	I <sub>sc</sub> (A)	9.31	9.35	9.38	9.44	9.47
Module efficiency	(%)	16.26	16.56	16.86	17.16	17.46
Power tolerance	P <sub>max</sub> (Wp)	0 / + 5				
Maximum system voltage DC	(V)	1000				
Maximum series fuse rating	(A)	15				
Operating temperature	(°C)	-40 to +85				
Temp. coefficients of P <sub>max</sub>	(%/°C)	-0.40				
Temp. coefficients of V <sub>oc</sub>	(%/°C)	-0.313				
Temp. coefficients of I <sub>sc</sub>	(%/°C)	0.05				
Nom. Operating cell temp.(NOCT)	(°C)	45±2				

The electrical data apply to standard test conditions (STC): Irradiance of 1000 W/m<sup>2</sup> with spectrum AM 1.5 and a cell temperature of 25°C.

### MATERIAL CHARACTERISTICS

Cell type	Poly-crystalline 156.75mm × 156.75mm
No. of cells	60 (6 × 10)
Dimensions	1674 × 992 × 35mm
Weight	18 kg
Junction box	IP 67 rated
Output cable	1 × 4.0mm <sup>2</sup> , 900mm length or customised
Connector type	MC 4 / MC 4 compatible
Hail resistance	Max. Ø 28 mm, at 23 m/s
Wind load	2400 Pa / 244 kg/m <sup>2</sup>
Mechanic	5400 Pa / 550 kg/m <sup>2</sup>

### PACKAGING INFORMATION

Packing configuration	64 pcs / double pallet
Loading Capacity	896 pcs / 40HQ
Size / pallet (mm)	1710 × 1135 × 2325
Weight	1210 kg / pallet

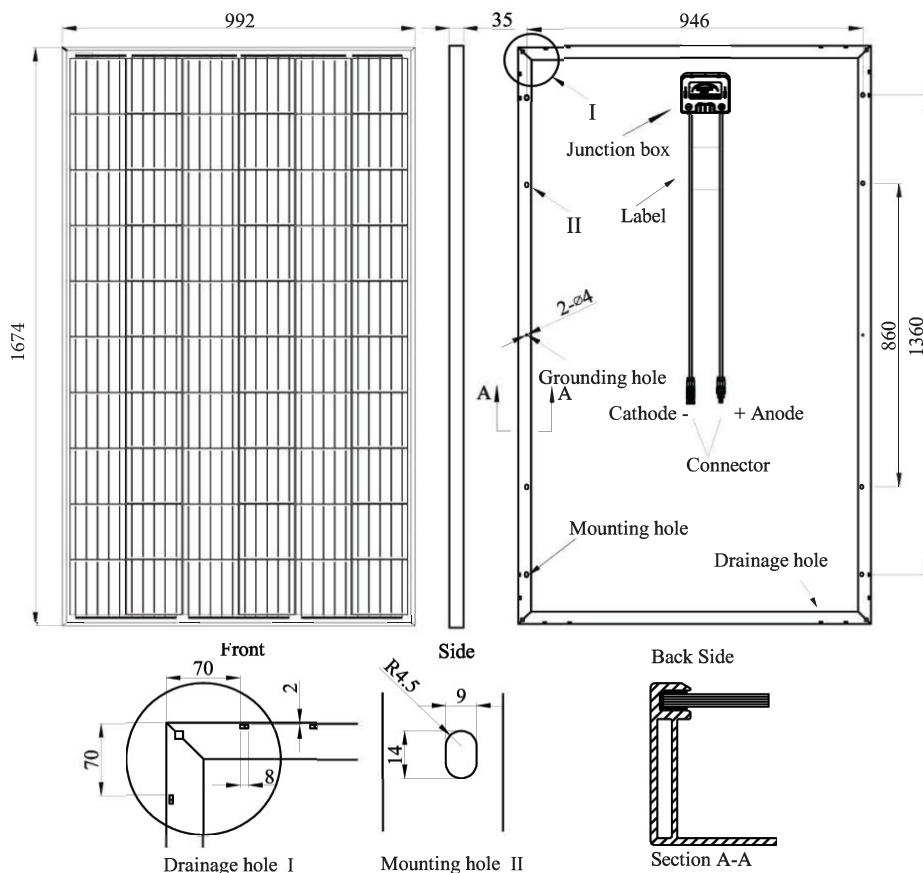
### CERTIFICATES



FOR INNOVATIVE SHADING RESISTANT MODULES DEVELOPMENT

AES-DSH2019 V.002  
All rights reserved. Specifications included in this data sheet are subject to change without notice.

### DIMENSIONS



### AE Solar GmbH

Messerschmittring 54  
86343 Königsbrunn  
Germany

Tel.: +49 8231 92 92 52 2  
Fax: +49 8231 97 82 68 9  
Email: sales@ae-solar.com  
Web: www.ae-solar.com