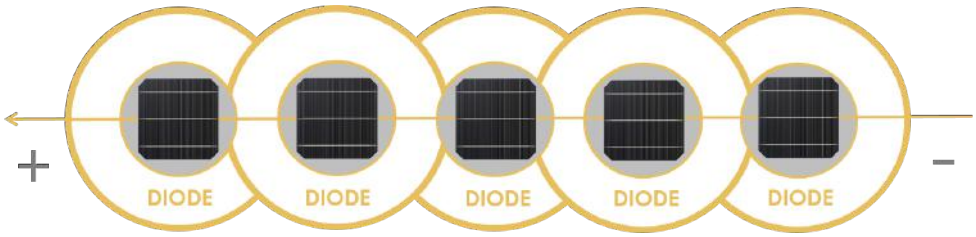
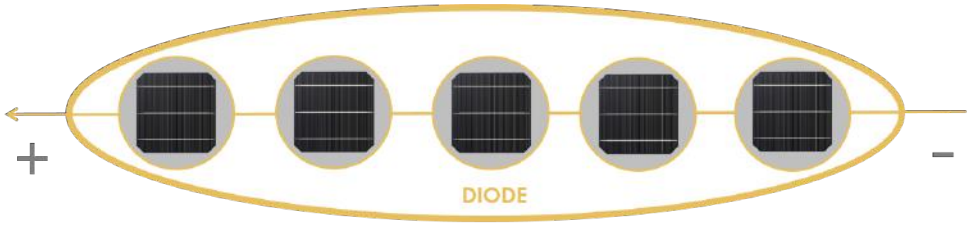
AE SOLAR
alternative energy
It's time to save the world !

AE Smart Module
Core - Technology

NEW AE SOLAR MODULE



STANDARD MODULE



AE Smart Module technology protects each cell by an individual bypass diode. When the current of a single cell does not match the current of the whole string, that cell has a reverse voltage, when measured more than 0.6V, it will automatically activate the bypass diode. As a result, the rest of the cells will not be affected by the disruption. The heated cell will consume less energy generated by the unaffected cells, and produce less heat. Meanwhile, only the heated cell will be bypassed, and the rest of good cells will continue to generate power.

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
The lower temperature of hot-spot free modules will eliminate potential cause for back sheet degradation, hence enhancing reliability for longer term.

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.

SAFETY
Instantly reduced temperature, thus eliminating material hazard and ensuring more safety of the module.

AE SOLAR
Messerschmittring 54
86343 Königsbrunn
Germany
Tel.: +49 8231 97 82 68 0
Fax: +49 8231 97 82 68 9
E-Mail: info@ae-solar.com
Web: www.ae-solar.com

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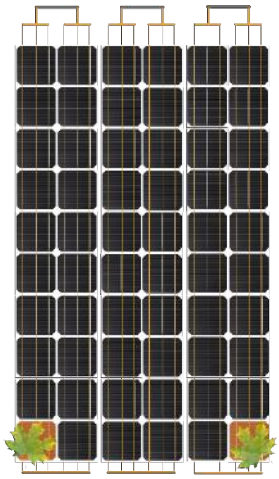
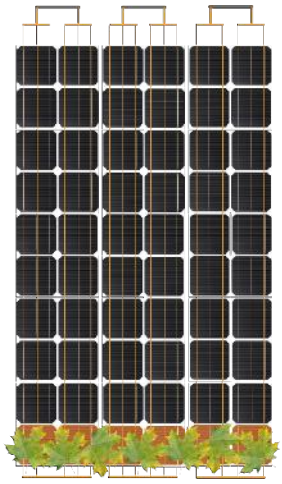
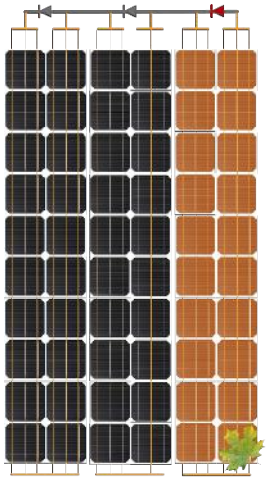
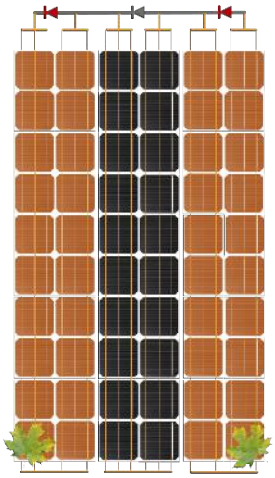
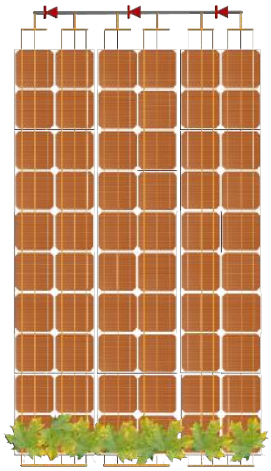
Shades	1 cell in a string	2 cells from 2 strings	1 row of cells
AE Solar Smart Module			
Output of AE Smart Module	95%	93%	83%
Standard Module			
Output of standard module	64%	38%	1%

When multiple cells are in shade, a hot-spot free module can generate up to 80% more power, compared to a standard module.

It prevents the sharp falls in module output caused by hot spots or module shading, also with the smart optimizer, reducing current and voltage mismatch to significantly increase in overall return for both rooftop and ground mounted installations.

Drastic reduced temperature on hot-spot cells from 160°C to 85°C henceforth eliminates the potential hazards such fire and material degradation and ensures better safety, long life and high returns.

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Germany

Tel.: +49 8231 97 82 68 0
Fax: +49 8231 97 82 68 9

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AE SMART
HOT-SPOT FREE MODULE
AE SMM6-60 Series 275W-300W

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It's time to save the world !

POWER RANGE
275W - 300W
Plus-Sorting 0 to + 4,99Wp

PID RESISTANT
PID FREE
Potential induced degradation free

SALT CORROSION RESISTANT
Certified for salt rich environment

SAND RESISTANT
Certified for sand rich environment

AMMONIA RESISTANT
NH_3
Certified for ammonia rich environment

HIGH STRENGTHENED DESIGN
550 kg/m²
Maximum mechanical load 5400 Pa

Up to 30% more power output in comparison to conventional PV modules

Space saving for PV plants by using of Smart-Modules in comparison to standard PV modules

The temperature of Smart-Module cells is not higher than the operating temperature of PV modules

No reduction of PV modules stability and no fire risk, which is caused by hot spots

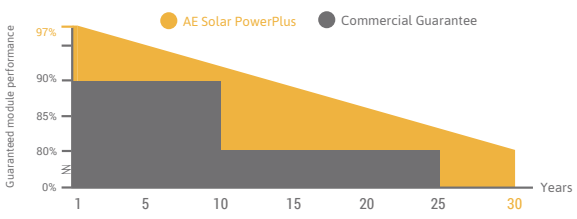
GERMAN QUALITY
AE Solar photovoltaic modules are characterized by high-quality materials, best workmanship, German development and management

PLUS-SORTING
Higher yield due to plus-sorting of 0 to +4.99 Wp guarantees the highest system efficiency and yield stability

PERFORMANCE GUARANTEE
With the linear performance guarantee of 30 years and a product warranty of 12 years, AE Solar guarantees highest investment security and warranty claims

CERTIFICATES
AE Solar photovoltaic modules are not only in line with international standards, but also tested and certified under extreme stress and any environmental influences

OUR PERFORMANCE GUARANTEE



SGS TÜV SAAR IEC 61215 IEC 61730 PERIODICAL INCEPTION

SGS IEC 61215 IEC 61730 PERIODICAL INCEPTION

TÜV SÜD

CEC

SGS PID RESISTANT SALT MIST RESISTANT SAND RESISTANT CORROSIVE GAS (NH_3)

CEC CE

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TECHNICAL DATA
AE SMM6-60 Series 275W-300W

ELECTRICAL DATA

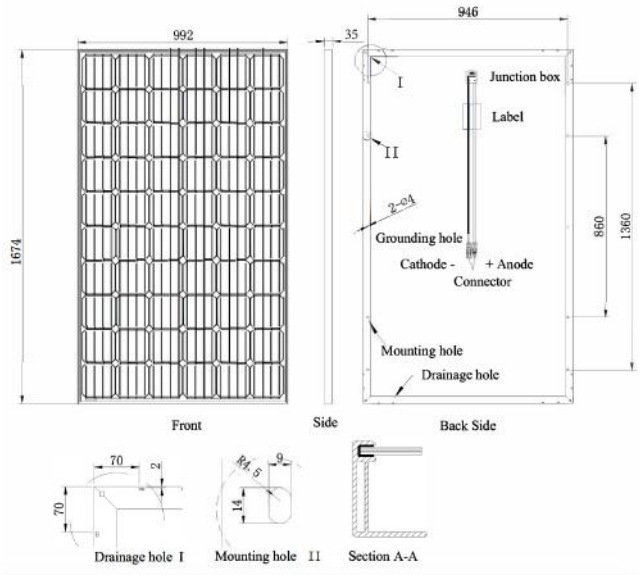
		AE275SM M6-60	AE280SM M6-60	AE285SM M6-60	AE290SM M6-60	AE295SM M6-60	AE300SM M6-60
Nominal power	Pm (Wp)	275	280	285	290	295	300
Open circuit voltage	Voc (V)	38.32	38.52	38.73	38.94	39.15	39.36
Short-circuit current	Isc (A)	9.38	9.44	9.49	9.48	9.57	9.62
Voltage at max power	Vmp (V)	31.51	31.93	32.34	32.76	33.18	33.59
Current at max power	Imp (A)	8.73	8.77	8.81	8.85	8.89	8.93
Module efficiency	(%)	16.56	16.86	17.16	17.46	17.76	18.07
System Voltage	(V)	1000					
Temp. coefficient Voc	(%/°C)	-0.36					
Temp. coefficient Isc	(%/°C)	0.06					
Temp. coefficient Pm	(%/°C)	-0.36					
Operating temp.	(°C)	-40 to +85					
NOCT	(°C)	45±2					

The electrical data apply to standard test conditions (STC): Irradiance of 1000 W/m² with spectrum AM 1.5 and a cell temperature of 25°C.

TECHNICAL DATA

Junction box	3 bypass diodes, IP 67
Wire cross section (Ø, mm²)	4.0
Cable length (mm)	900
Connector type	MC 4 / MC 4 compatible
Dimensions (L x W x H, mm)	1674 x 992 x 35
Weight (kg)	18.6
Specification (mm)	Mono 156 / 6 x 10
Hail resistance	Max. Ø 28 mm, at 23 m/s
Wind load	2400Pa / 244kg / m²
Mechanical load	5400Pa / 550kg / m²

SCALE



PACKAGING INFORMOTION

Packing configuration	62pcs / pallet
Loading Capacity	868pcs / 40HQ
Size / pallet (mm)	1710 x 1135 x 2325
Weigh	1270kg / pallet

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