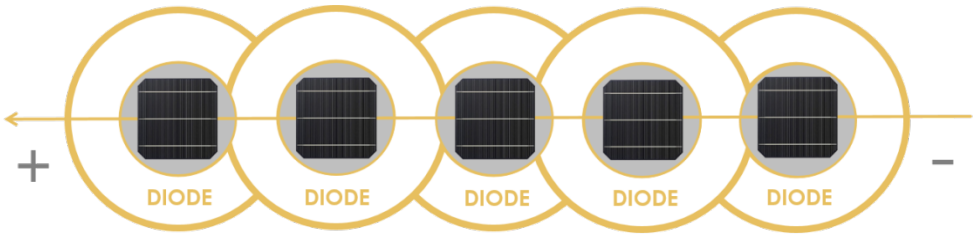
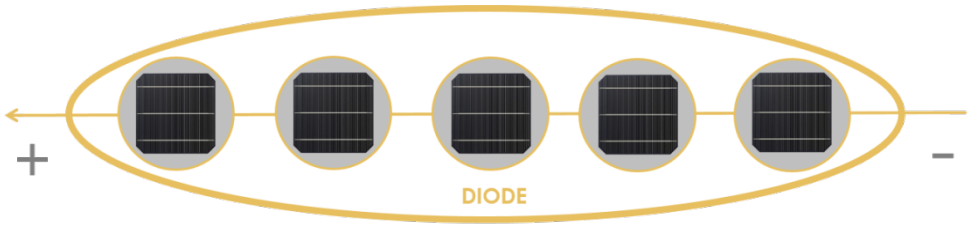
AE SOLAR
alternative energy
It's time to save the world !

# 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.



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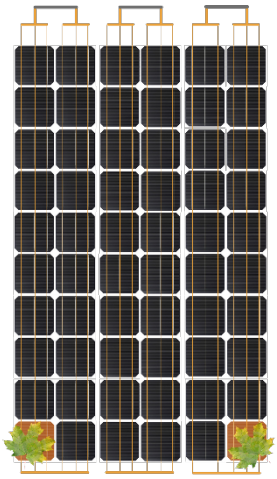
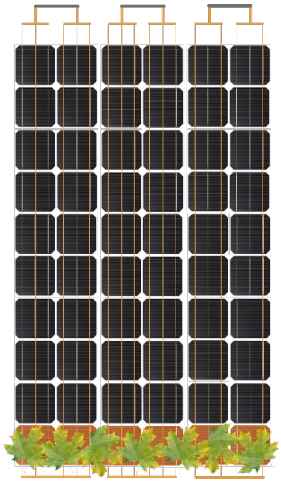
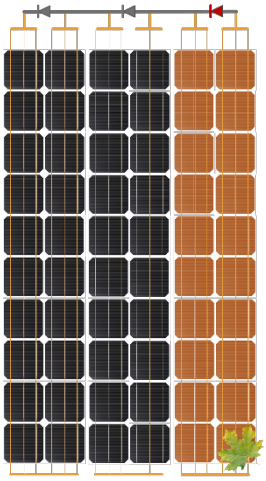
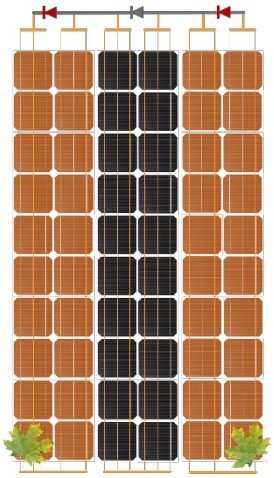
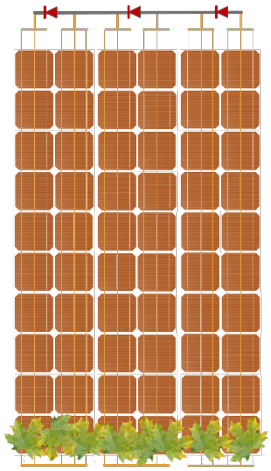
| Shades | 1 cell in a string | 2 cells from 2 strings | 1 row of cells |
|---|---|---|---|
| AE Solar Smart Module |  |  |  |
| Output of AE Smart Module | 95% | 93% | 83% |
| Standard Module |  |  |  |
| Output of standard module | 64% | 38% | 1% |

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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# AE SMART
# HOT-SPOT FREE MODULE
## AE SMM6-72 Series 320W-350W

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It's time to save the world !


We produce with green energy!

**POWER RANGE**
Plus-Sorting 0 to +4,99Wp

**PID RESISTANT**
Potential Induced Degradation Free

**SALT CORROSION RESISTANT**
Certified for Salt Rich Environment

**SAND RESISTANT**
Certified for Sand Rich Environment

**AMMONIA RESISTANT**
Certified for Ammonia Rich Atmosphere

**HIGHLY STABLE AND TOUGH**
Maximum Mechanical Load 5400 Pa

- **Up to 30% more power output compared to standard PV modules**
- **Space saving for PV plants by using of Smart-Modules compared 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**

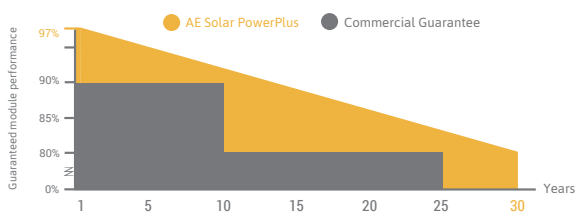
### GERMAN QUALITY
AE Solar photovoltaic modules are manufactured using high-quality materials, automated machine, German Technology and Standards

### PLUS-SORTING
Higher yield due to plus-sorting of 0 to +4.99 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 and it can bear harsh environmental influences

OUR PERFORMANCE GUARANTEE




SGS TÜV SAAR IEC 61215 IEC 61730 PERIODICAL INSPECTION
SGS IEC 61215 IEC 61730 PERIODICAL INSPECTION
TÜV SÜD
CENEC
SGS PID RESISTANT SALT MIST RESISTANT SAND RESISTANT CORROSIVE GAS ($NH_3$)
CEC CE



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# TECHNICAL DATA
## AE SMM6-72 Series 320W-350W

## ELECTRICAL DATA

| | | AE320SM M6-72 | AE325SM M6-72 | AE330SM M6-72 | AE335SM M6-72 | AE340SM M6-72 | AE345SM M6-72 | AE350SM M6-72 |
|---|---|---|---|---|---|---|---|---|
| Nominal power | Pm (Wp) | 320 | 325 | 330 | 335 | 340 | 345 | 350 |
| Open circuit voltage | Voc (V) | 46.43 | 46.62 | 46.74 | 46.84 | 46.94 | 47.08 | 47.23 |
| Short-circuit current | Isc (A) | 9.26 | 9.34 | 9.38 | 9.43 | 9.48 | 9.51 | 9.55 |
| Voltage at max power | Vmp (V) | 38.27 | 38.54 | 38.72 | 38.85 | 39.09 | 39.34 | 39.46 |
| Current at max power | Imp (A) | 8.36 | 8.43 | 8.52 | 8.62 | 8.70 | 8.77 | 8.87 |
| Module Efficiency | (%) | 16.13 | 16.38 | 16.63 | 16.86 | 17.14 | 17.39 | 17.64 |
| System Voltage | (V) | | | | 1000 | | | |
| Temp. coefficient Voc | (%/°C) | | | | -0.33 | | | |
| Temp. coefficient Isc | (%/°C) | | | | 0.059 | | | |
| Temp. coefficient Pm | (%/°C) | | | | -0.41 | | | |
| 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.

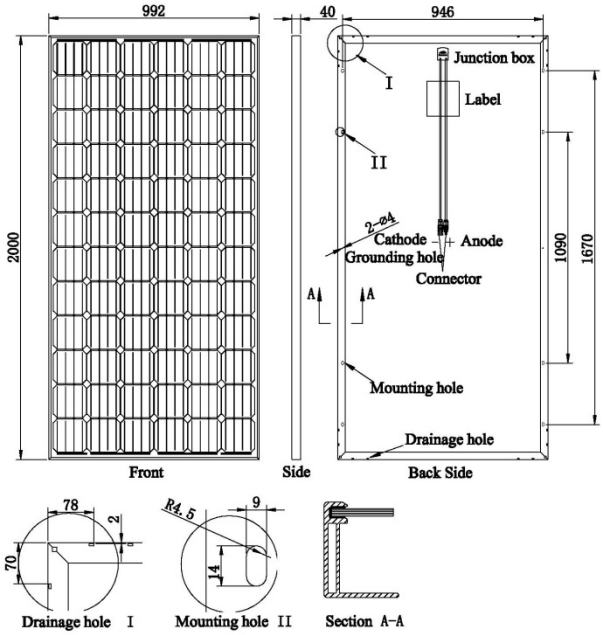
## TECHNICAL DATA

| | |
|---|---|
| Junction box | IP 67 |
| Wire cross section (Ø, mm²) | 4.0 / AWG 12 |
| Cable length (mm) | 900 or 1100 |
| Connector type | MC 4 / MC 4 compatible |
| Dimensions (L x W x H, mm) | 2000 x 992 x 40 |
| Weight (kg) | 24 |
| Specification (mm) | Mono 156 / 6 x 12 |
| Hail resistance | Max. Ø 28 mm, at 23 m/s |
| Wind load | 2400Pa / 244kg / m² |
| Mechanical load | 5400Pa / 550kg / m² |

## PACKAGING INFORMATION

| | |
|---|---|
| Packing configuration | 54pcs / pallet |
| Loading Capacity | 594pcs / 40HQ |
| Size / pallet (mm) | 2040 x 1120 x 2335 |
| Weight | 1410kg / pallet |

## SCALE



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