## **ZXM5** | 72 Cells



## 190 - 205 Watt

### Monocrystalline photovoltaic module (alu and black)

ZXM5-72 is one of ZNSHINE SOLAR's most popular and compact monocrystalline panels. Versatile and adaptable, with a power output ranging from 190 Wp up to 205 Wp (black modules up to 200 Wp), it is perfect for residential rooftop systems as well as for ground-mounted installations.



High module conversion efficiency up to 16,06 %



Insured output warranty of 25 years



Green Certifications: PV-Cycle, carbon footprint and RoHS



Without Potential-Induced Degradation (PID-free)



Resistant against ammonia and salt mist



Certified to withstand extreme snowloads of 5.400 Pascal

This module is made of reliable and carefully selected components. With a 25-year output warranty and a 10-year workmanship warranty, ZXM5-72 meets rigorous quality controls and international standard such as ISO 9001, ISO 14001 and OHSAS 18001. The panel is tested by widely acknowledged certifying institutions such as TÜV Süd. The recycling of this module at the product's end of life follws the prescriptions of PV-CYCLE Association certification.



# Output 100 % - PowerGuard 90 % - SPECIALTY INSURANCE SERVICES 80 % - Output Guarantee 50 % - 10 years: 90 % 20 % - 25 years: 80 % 10 % - 5 10 15 20 25 Yea

## 25 years power output guarantee insured by PowerGuard

ZNSHINE SOLAR is one of the first manufacturers whose modules participate in the PowerGuard insurance programme, guaranteeing an output of 90% for 10 years and of 80% for 25 years even in the unlikely case of manufacturer's insolvency.



The carbon emission of this solar module is 246 kg CO<sub>2</sub> equivalent. This result was calculated in 07.2012.

SGS Report No. PCF 5212122















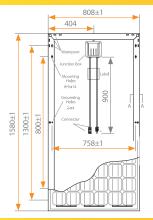


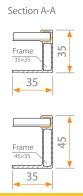


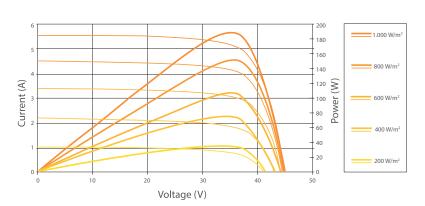
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#### **Dimensions of the PV module**

#### I-V Curves of the PV module







| Electrical Data                                       | ZXM5-72-190/MS | ZXM5-72-195/MS | ZXM5-72-200/MS | ZXM5-72-205/MS |
|---|----------------|----------------|----------------|----------------|
| Nominal Power Watt P <sub>max</sub> (W <sub>p</sub> ) | 190            | 195            | 200            | 205            |
| Power Output Tolerance P <sub>max</sub> (%)           | 0 ~ +3         | 0 ~ +3         | 0 ~ +3         | 0 ~ +3         |
| $Maximum\ Power\ Voltage\ V_{\tiny max}(V)$           | 36.65          | 36.90          | 37.30          | 37.55          |
| Maximum Power Current I <sub>Mpp</sub> (A)            | 5.18           | 5.28           | 5.36           | 5.46           |
| Open Circuit Voltage V <sub>oc</sub> (V)              | 45.36          | 45.50          | 45.65          | 45.75          |
| Short Circuit Current I <sub>sc</sub> (A)             | 5.58           | 5.63           | 5.65           | 5.70           |
| Module Efficiency $\eta_{_m}$ (%)                     | 14.88          | 15.27          | 15.67          | 16.06          |
| Cell Efficiency η <sub>ε</sub> (%)                    | 17.39          | 17.89          | 18.38          | 18.92          |

#### Mechanical Data

Solar Cells Mono 125 × 125 mm

Cells Orientation 72 (6  $\times$  12)

 $\textbf{Module Dimensions} \qquad 1580 \times 808 \times 35 \ \text{mm} \ / \ 45 \ \text{mm}$ 

Weight 16.0 kg

Glass High transparency, low Iron,

AR-coating, tempered glass 3.2 mm

Frame Anodized Aluminium alloy. Frame and

backside in alu or black

Junction Box IP 65

Cables/Connector 4 mm<sup>2</sup>, 900 mm, MC4-compatible

Number of Diodes 3

#### Warranty Information

10 years workmanship warranty

10 years warranty at 90% power output

+ further 15 years warranty at 80% power output

#### Temperature Ratings

Nominal Operating Cell Temperature  $45 \, ^{\circ}\text{C} \, (\pm 2 \, ^{\circ}\text{C})$ Temperature Coefficient of  $P_{\text{mpp}}$   $-0.42 \, \%/\text{K}$ Temperature Coefficient of  $V_{\text{oc}}$   $-0.29 \, \%/\text{K}$ 

**Temperature Coefficient of I** 0.04 %/K

#### **Working Conditions**

Maximum System Voltage1000 V DC (TÜV)Operating Temperaturefrom -40 to +85 °CMaximum Series Fuse10 AMaximum Load (Snow/Wind)5400 Pa / 2400 PaAmmonia-/Salt Mist ResistanceIEC 62716, 61701 ✓

#### **Packaging Information**

 Module per Box
 36 pcs. (35 mm)

 30 pcs. (45 mm)

 Module per 40' HQ Container
 1008 pcs. (35 mm)

 840 pcs. (45 mm)

#### ZNSHINE PV-Tech Co., Ltd

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¹ Measurement Tolerance STC:  $\pm$  3% ( $P_{max}$ ),  $\pm$  10% ( $V_{max}$   $I_{Mppr}$   $V_{oct}$   $I_{sc}$ ), Values at Standard Test Conditions STC (Air Mass AM 1,5, Irradiance 1000 W/m², Cell Temperature 25 °C) Remark: Please read safety and installation instructions before using the product | Subject to change without prior notice © ZNSHINE SOLAR 2013 | Versionscode: ZXM5-72-ST-1307.E