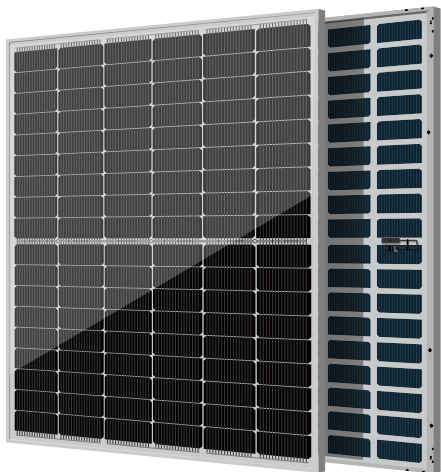




ZXM7-UHLDD108 Series

16BB HALF-CELL N-Type TOPCon Bifacial Double Glass
Monocrystalline PV Module

410-425W

POWER RANGE

21.76%

MAXIMUM EFFICIENCY

0.40%

YEARLY DEGRADATION



12 YEARS PRODUCT WARRANTY

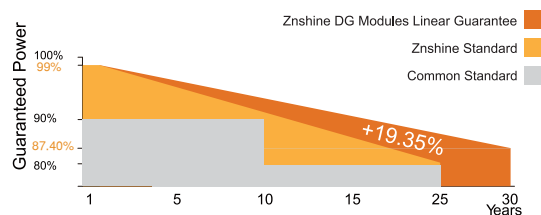


30 YEARS OUTPUT GUARANTEE

12 years product warranty for general application

15 years product warranty for Rooftop PV system

30 years output warranty / 0.40% Annual Degradation over 30 years



*Please check the valid version of Limited Product Warranty which is officially released by ZNSHINE PV-TECH Co.,Ltd.



IEC 61215/IEC 61730

ISO 14001: Environmental Management System

ISO 9001: Quality Management System

ISO45001: Occupational Health and Safety Management System

*As there are different certification requirements in different markets, please contact your local znshine sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

Key Features



Excellent Cells Efficiency

SMBB technology reduce the distance between busbars and finger grid line which is benefit to power increase.



Better Weak Illumination Response

More power output in weak light condition, such as haze, cloudy, and early morning.



TIER 1

Global, Tier 1 bankable brand, with independently certified advanced automated manufacturing.



Excellent Quality Management System

Warranted reliability and stringent quality assurances well beyond certified requirements.



Bifacial Technology

Up to 25% additional power gain from back side depending on albedo.

The technical drawing illustrates the physical characteristics of the PV module through three distinct views:

- Front View (Left):** Shows the rectangular array of solar cells. A label "Barcode 1" points to a specific area at the top left.
- Side View (Middle):** Provides a profile of the module's thickness and internal components. Key features include:
 - "Drainage holes" with a diameter of $\varnothing 6 \pm 0.3$.
 - "Mounting holes" with a diameter of $\varnothing 14 \times 9$.
 - "Barcode 2" located on the right edge.
 - "Junction box Label" positioned below the barcode.
 - "Grounding identification" mark near the bottom left corner.
 - "Grounding holes" with a diameter of $\varnothing 6 \pm 1$.
 - Overall width dimensions: 1105 ± 2 mm and 1134 ± 2 mm.
 - Height dimensions: 890 ± 2 mm, 1420 ± 2 mm, and 1722 ± 2 mm.
 - A vertical dimension of 30 ± 1 mm is indicated at the top left.
- Cross-sections (Right):** Two detailed views labeled "A-A" and "B-B" at a scale of 12:1. They show the internal layer structure and the mounting bracket used for installation.

Back View

Figure 1 shows the current-voltage (I-V) characteristics of the solar cell under different incident irradiances. The y-axis represents Current [A] from 0 to 16, and the x-axis represents Voltage [V] from 0 to 50. The cell temperature is maintained at 25 °C. The incident irradiances are 1000 W/m², 800 W/m², 600 W/m², 400 W/m², and 200 W/m². The curves show that the current increases with increasing incident irradiance, while the open-circuit voltage remains relatively constant around 38 V.

Cells temp. = 25 °C

- Incident beam = 1000 W/m² (Red line)
- Incident beam = 800 W/m² (Green line)
- Incident beam = 600 W/m² (Purple line)
- Incident beam = 400 W/m² (Blue line)
- Incident beam = 200 W/m² (Grey line)

The graph shows that as the incident beam intensity increases, the maximum power output of the cell increases. The power curves are bell-shaped, indicating an optimal voltage for maximum power at each intensity level.