

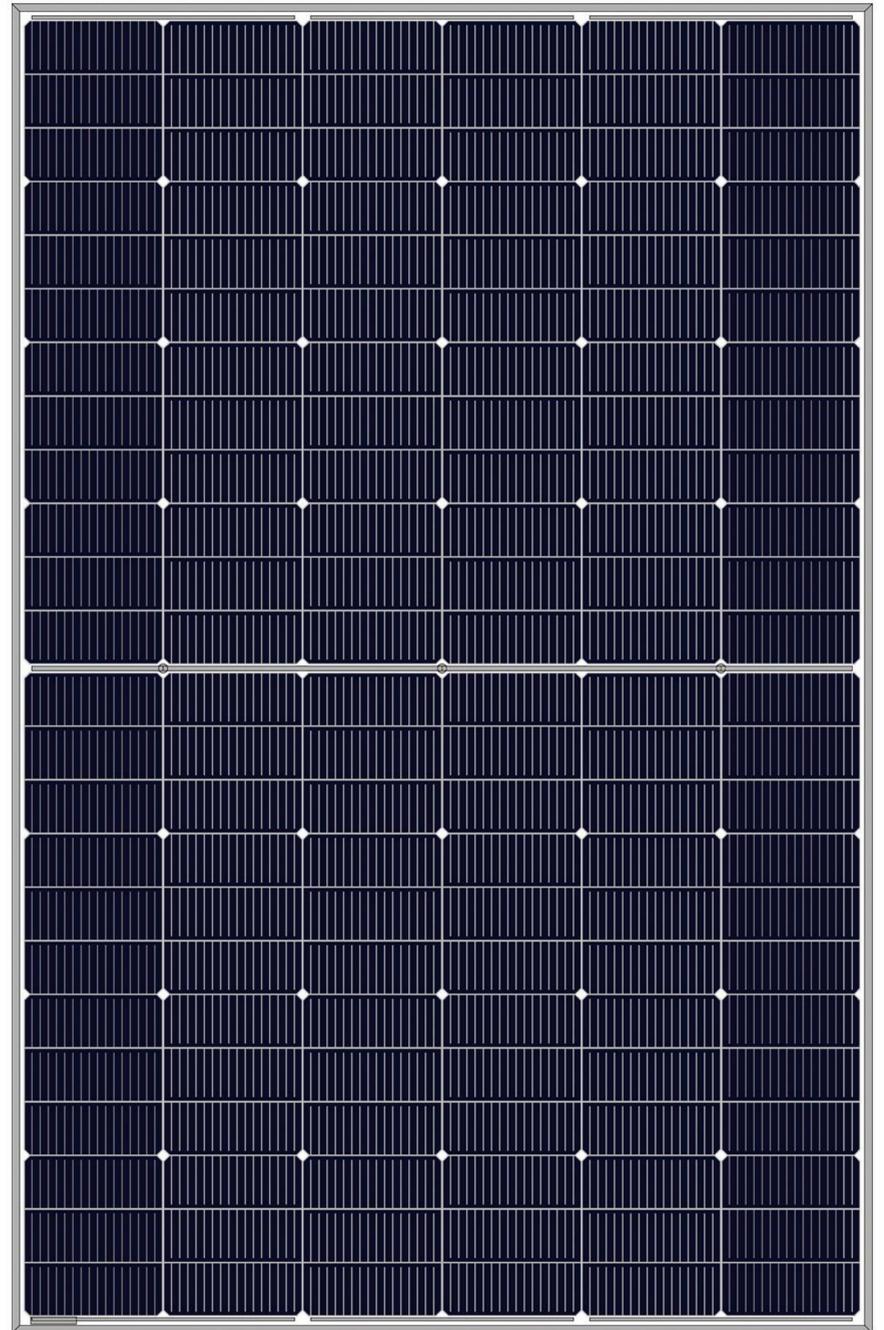
# DHM48D60-TP

## 425-450W

double glass bifacial solar module

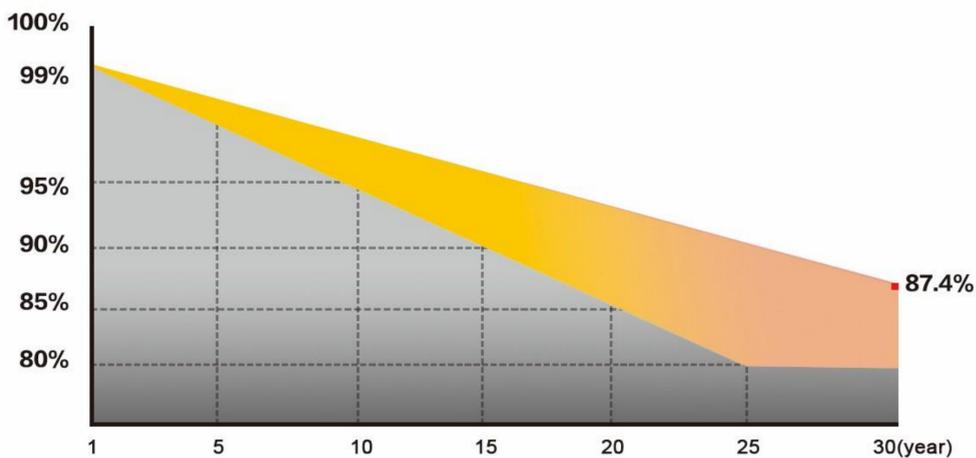
-  High performance 210R+N-Type TOPCon 16BB silicon cells, with a conversion efficiency upto 22.52%.
-  Up to 30 % more power output by Bifacial-Technology
-  Ultra-low attenuation rate, first year attenuation  $\leq 1\%$ , 2-30 years linear attenuation  $\leq 0.4\%$
-  Fully automatic production line with full quality inspection to ensure product assurance
-  Components are resisting wind loads of 2400pa and snow loads of 5400pa

DAHAI SOLAR is a renewable energy enterprise founded in 2011 , with 5GW high efficiency solar module production and 10GW silicon production capacity. Adhering to the brand concept of "new energy for a new world", Dahai solar has always been committed to doing a stand out in the photovoltaic industry, transforming light with ingenuity and provide green energy to everybody.



**30 YEARS** 30 YEAR LINEARITY POWER OUTPUT WARRANTY

**25 YEARS** 25 YEARS OF EXCELLENT PRODUCTS MATERIAL AND PROCESS WARRANTY



The power attenuation shall not exceed 1% in the first year and 0.4% in the following years.



CQC TUV CE MCS UKCA  
 IEC 61215, IEC 61730  
 ISO 9001:Quality Management System  
 ISO 14001:Environmental Management System  
 ISO 45001:Occupational Health And Safety Management System



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Nominal output

Power tolerance

Maximum efficiency

First year attenuation

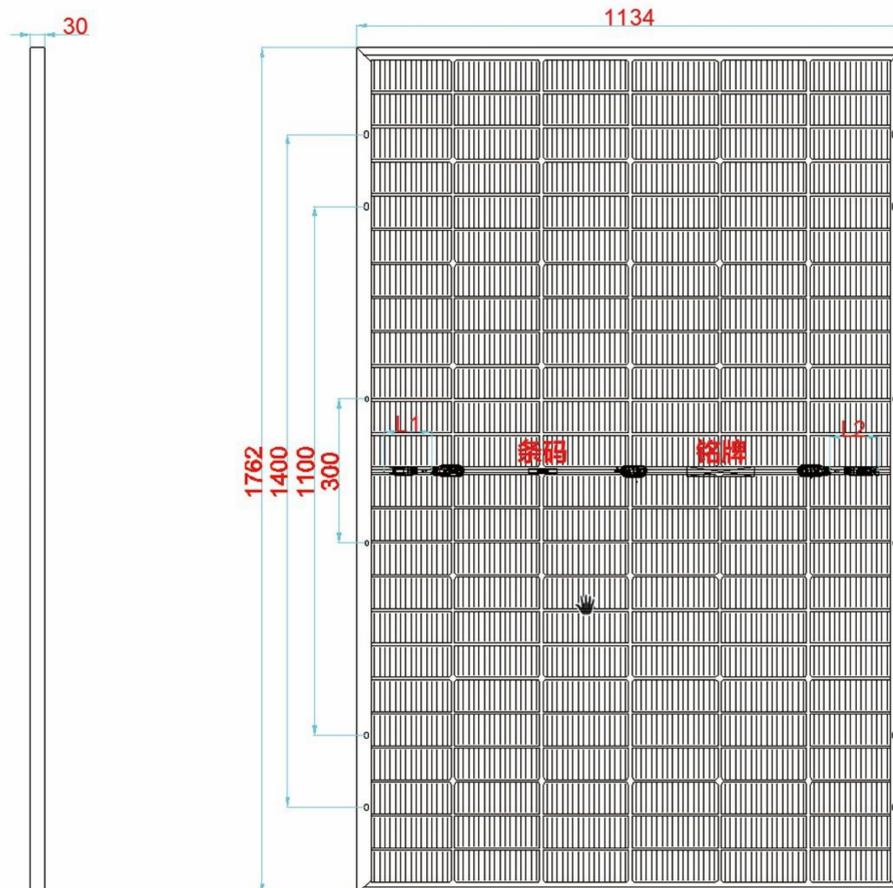
Decay over the years

**450W**
**0~+5W**
**22.52%**
**≤1.0%**
**≤0.4%**
**MECHANICAL PROPERTIES**

Cell type	210R+N-TOPCon
Weight	21.5kg
Dimension	1762×1134×30mm
No. of Cells	144(6x24)
Output Cable	4mm <sup>2</sup>
Junction Box	IP68, 3 diodes
Connector	MC4-EVO2
Packaging information	36 pcs/pallet 936pcs per 40"HC

**WORKING PARAMETERS**

Maximum system voltage	1500V (TUV)
Operating temperature	-40°C~ +85°C
Maximum series fuse rating	30A
Front side maximum static loading	5400pa
Back side maximum static loading	2400pa
Nominal operating cell temperature	
Application Level	


**TEMPERATURE CHARACTERISTICS**

Temperature Coefficient of Pmax	-0.30%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.04%/°C

**ELECTRICAL PERFORMANCE PARAMETERS UNDER STC**

Modle	DHM48D60 -425/TP	DHM48D60 -430/TP	DHM48D60 -435/TP	DHM48D60 -440/TP	DHM48D60 -445/TP	DHM48D60 -450/TP
Maximum power (Pmax/W)	425	430	435	440	445	450
Voltage at maximum power point (Vmp/V)	42.82	43.24	43.63	44.06	44.48	44.78
Current at maximum power point (Imp/A)	9.93	9.94	9.97	9.99	10.00	10.05
Open circuit voltage (Voc/V)	50.85	51.20	51.55	51.90	52.25	52.55
Short circuit current (Isc/A)	10.56	10.60	10.64	10.68	10.72	10.78
Component efficiency [%]	21.27%	21.52%	21.77%	22.02%	22.27%	22.52%
Power tolerance (W)	0~+5					
Standard test environment	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, spectrum AM1.5					

Note: Due to continuous innovation, research and product upgrading, the parameters in this specification are not just a component, but can only be used for comparison between different types.

**BIFACIAL OUTPUT - BACKSIDE POWER GAIN**

Modle	DHM48D60 -425/TP	DHM48D60 -430/TP	DHM48D60 -435/TP	DHM48D60 -440/TP	DHM48D60 -445/TP	DHM48D60 -450/TP
5% Power output	446	452	457	462	467	473
Module Efficiency	22.33%	22.60%	22.86%	23.12%	23.38%	23.65%
10% Power output	468	473	479	484	490	495
Module Efficiency	23.40%	23.67%	23.95%	24.22%	24.50%	24.77%
20% Power output	510	516	522	528	534	540
Module Efficiency	25.52%	25.82%	26.12%	26.42%	26.73%	27.03%