

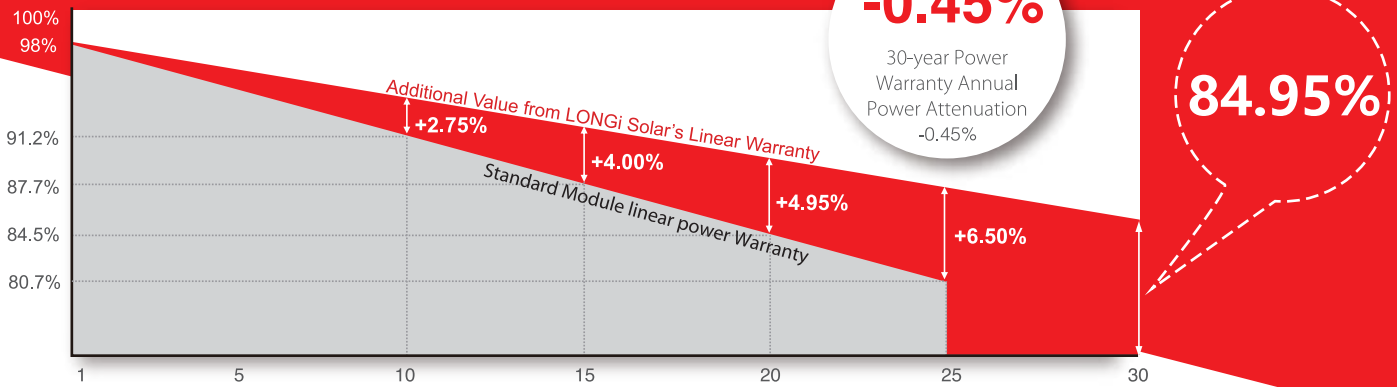
# LR4-72HBD 435~465M



**High Efficiency  
Low LID Bifacial PERC with  
Half-cut Technology**

\*Both 6BB & 9BB are available

12-year Warranty for Materials and Processing;  
30-year Warranty for Extra Linear Power Output



### Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730  
ISO 9001:2008: ISO Quality Management System  
ISO 14001: 2004: ISO Environment Management System  
TS62941: Guideline for module design qualification and type approval  
OHSAS 18001: 2007 Occupational Health and Safety



\* Specifications subject to technical changes and tests. LONGi Solar reserves the right of interpretation.

### Front side performance equivalent to conventional low LID mono PERC:

- High module conversion efficiency (up to 21.4%)
- Better energy yield with excellent low irradiance performance and temperature coefficient
- First year power degradation <2%

**Bifacial technology** enables additional energy harvesting from rear side (up to 25%)

**Glass/glass lamination** ensures 30 year product lifetime, with annual power degradation < 0.45%, 1500V compatible to reduce BOS cost

**Solid PID resistance** ensured by solar cell process optimization and careful module BOM selection

**Reduced resistive loss** with lower operating current

**Higher energy yield** with lower operating temperature

**Reduced hot spot risk** with optimized electrical design and lower operating current

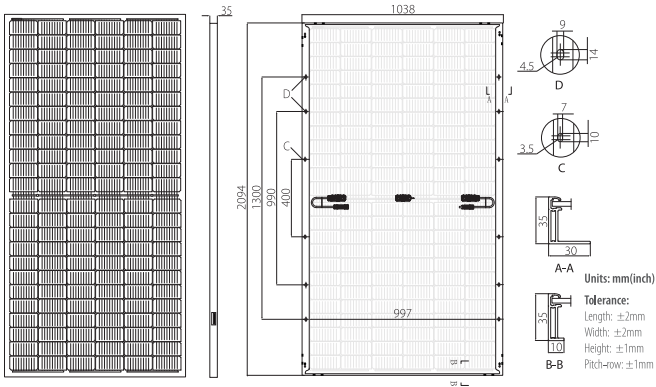
# LONGi

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Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

# LR4-72HBD 435~465M

## Design (mm)



## Mechanical Parameters

Cell Orientation: 144 (6×24)  
 Junction Box: IP68, three diodes  
 Output Cable: 4mm<sup>2</sup>, 300mm in length,  
 length can be customized  
 Glass: Dual glass  
 2.0mm coated tempered glass  
 Frame: Anodized aluminum alloy frame  
 Weight: 27.5kg  
 Dimension: 2094×1038×35mm  
 Packaging: 30pcs per pallet  
 150pcs per 20'GP  
 660pcs per 40'HC

## Operating Parameters

Operational Temperature: -40 C ~ +85 C  
 Power Output Tolerance: 0 ~ +5 W  
 Voc and Isc Tolerance: ±3%  
 Maximum System Voltage: DC1500V (IEC/UL)  
 Maximum Series Fuse Rating: 25A  
 Nominal Operating Cell Temperature: 45±2 C  
 Safety Protection Class: Class II  
 Fire Rating: UL type 3  
 Bifaciality: Glazing 70±5%

## Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number	LR4-72HBD-435M		LR4-72HBD-440M		LR4-72HBD-445M		LR4-72HBD-450M		LR4-72HBD-455M		LR4-72HBD-460M		LR4-72HBD-465M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	435	324.9	440	328.6	445	332.3	450	336.1	455	339.8	460	343.5	465	347.3
Open Circuit Voltage (Voc/V)	49.1	45.9	49.2	46.0	49.4	46.2	49.6	46.4	49.8	46.6	50.0	46.8	50.2	47.0
Short Circuit Current (Isc/A)	11.36	9.18	11.45	9.25	11.52	9.30	11.58	9.36	11.65	9.41	11.73	9.48	11.79	9.52
Voltage at Maximum Power (Vmp/V)	40.8	38.0	41.0	38.2	41.2	38.4	41.4	38.6	41.6	38.8	41.8	39.0	42.0	39.2
Current at Maximum Power (Imp/A)	10.66	8.54	10.73	8.60	10.80	8.65	10.87	8.70	10.93	8.76	11.01	8.82	11.08	8.88
Module Efficiency(%)	20.0		20.2		20.5		20.7		20.9		21.2		21.4	

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25 C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20 C, Spectra at AM1.5, Wind at 1m/s

Electrical characteristics with different rear side power gain (reference to 445W front)

Pmax /W	Voc/V	Isc /A	Vmp/V	Imp /A	Pmax gain
467	49.4	12.09	41.2	11.34	5%
490	49.4	12.67	41.2	11.88	10%
512	49.5	13.24	41.3	12.42	15%
534	49.5	13.82	41.3	12.96	20%
556	49.5	14.40	41.3	13.50	25%

## Temperature Ratings (STC)

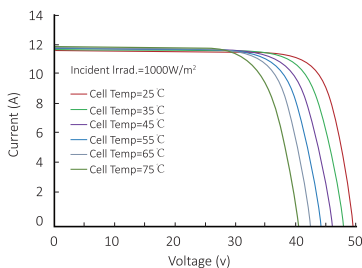
Temperature Coefficient of Isc: +0.050%/C  
 Temperature Coefficient of Voc: -0.284%/C  
 Temperature Coefficient of Pmax: -0.350%/C

## Mechanical Loading

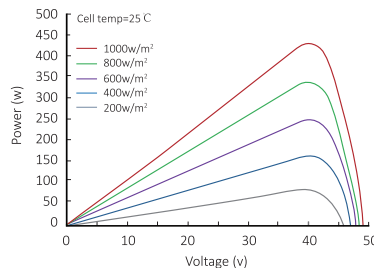
Front Side Maximum Static Loading: 5400Pa  
 Rear Side Maximum Static Loading: 2400Pa  
 Hailstone Test: 25mm Hailstone at the speed of 23m/s

## I-V Curve

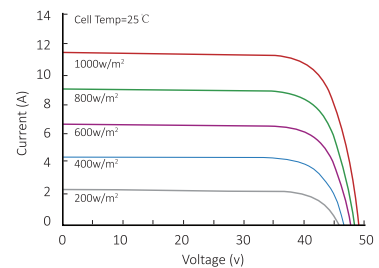
Current-Voltage Curve (LR4-72HBD-440M)



Power-Voltage Curve (LR4-72HBD-440M)



Current-Voltage Curve (LR4-72HBD-440M)



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