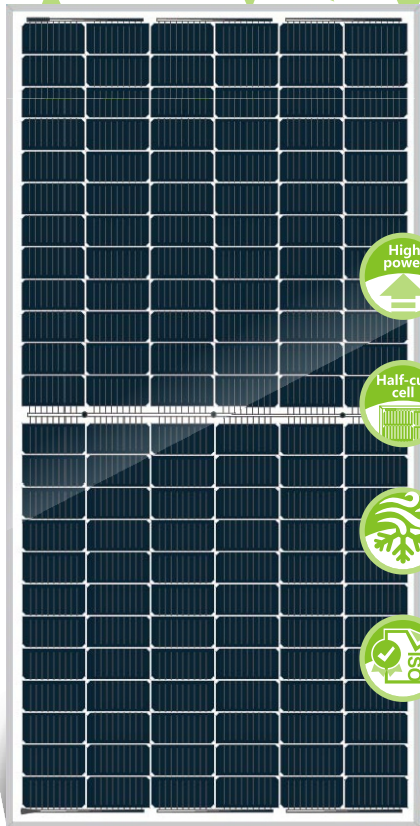


LHM72HB-166M-9BB 425-455W



High Efficiency Low LID Mono PERC with Half-cut Technology

Front side performance equivalent to conventional low LID mono PERC:

- High module conversion efficiency (up to 20.9%)
- Better energy yield with excellent low irradiance performance and temperature coefficient
- First year power degradation <2%

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

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

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

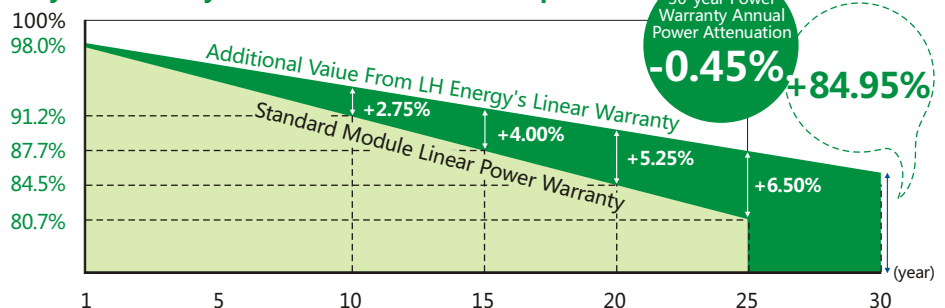
OHSAS 18001: 2007 Occupational Health and Safety



* Specifications subject to technical changes and tests.
LH Energy reserves the right of interpretation.

Founded in 2010, LH Energy is the world's leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. LH Energy now distributes its PV products to over 60 countries all over the world. LH Energy is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of LH Energy as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

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



LIGHT & HOPE

COMPANY NAME: LIGHT & HOPE ENERGY CO.,LTD

FACTORY ADD: 88/24-25 MOO 15. BANGSAOTHONG SUB- DISTRICT.

BANGSAOTHONG DISTRICT SAMUT PRAKARN THAILAND 10570

TAX ID: 0115562029595 **TEL:** +66 02 0001217 **Email:** sales@lh-solar.com

Website: www.lighthopeenergy.com

LHM72HB-166M-9BB

425-455W

Electrical Characteristics

Model Number
Testing Condition
Maximum Power (Pmax/W)
Open Circuit Voltage (Voc/V)
Short Circuit Current (Isc/A)
Voltage at Maximum Power (Vmp/V)
Current at Maximum Power (Imp/A)
Module Efficiency (%)

Electrical Characteristics

Test uncertainty for Pmax: ±3%

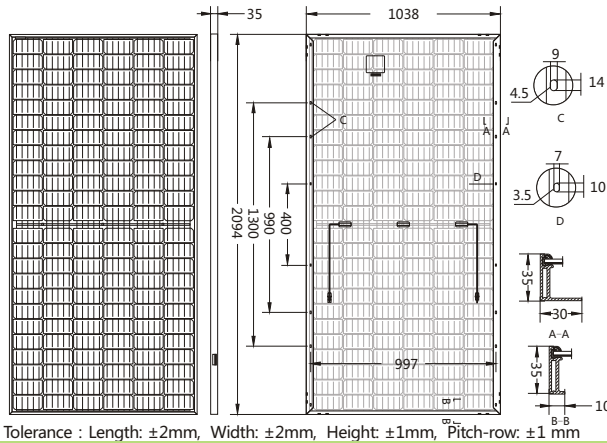
	425W		430W		435W		440W		445W		450W		455W	
	STC NOCT		STC NOCT		STC NOCT		STC NOCT		STC NOCT		STC NOCT		STC NOCT	
Maximum Power (Pmax/W)	425	317.4	430	321.1	435	324.9	440	328.6	445	332.3	450	336.1	455	339.8
Open Circuit Voltage (Voc/V)	48.7	45.6	48.9	45.8	49.1	45.9	49.2	46.0	49.4	46.2	49.6	46.4	49.8	46.6
Short Circuit Current (Isc/A)	11.22	9.06	11.30	9.13	11.36	9.18	11.45	9.25	11.52	9.30	11.58	9.36	11.65	9.41
Voltage at Maximum Power (Vmp/V)	40.4	37.7	40.5	37.9	40.8	38.0	41.0	38.2	41.2	38.4	41.4	38.6	41.6	38.8
Current at Maximum Power (Imp/A)	10.52	8.42	10.60	8.49	10.66	8.54	10.73	8.60	10.80	8.65	10.87	8.70	10.93	8.76
Module Efficiency (%)	19.6		19.8		20.0		20.2		20.5		20.7		20.9	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25°C, Spectra at AM1.5
 NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

Electrical characteristics with different rear side power gain (reference to 380W 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%

Design (mm)



Mechanical Parameters

- Cell Orientation: 144 (6x24)
- Junction Box: IP68, three diodes
- Output Cable: 4mm², 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: 20A
- Nominal Operating Cell Temperature: 45±2°C
- Safety Class: Class II
- Fire Rating: UL
- Bifaciality: Glazing 70±5%

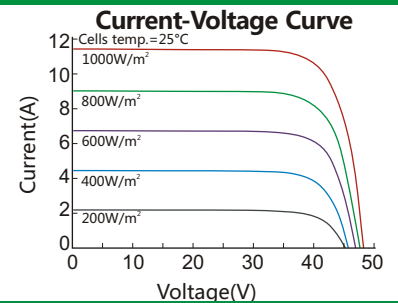
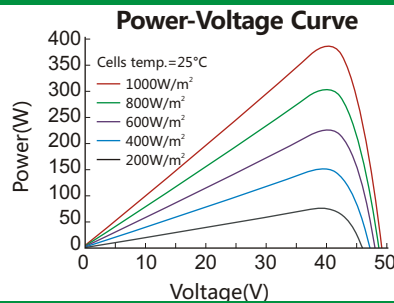
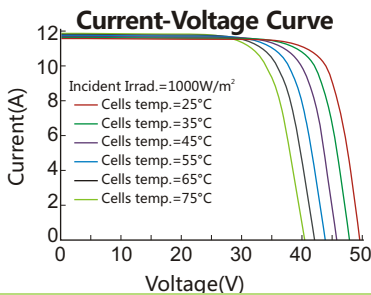
Temperature Ratings (STC)

- 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 (LHM72HB-166M-440W)



LIGHT & HOPE

COMPANY NAME: LIGHT & HOPE ENERGY CO.,LTD

FACTORY ADD: 88/24-25 MOO 15. BANGSAOTHONG SUB- DISTRICT. BANGSAOTHONG DISTRICT SAMUT PRAKARN THAILAND 10570

TAX ID: 0115562029595 **TEL:** +66 02 0001217 **Email:** sales@lh-solar.com

Website: www.lighthopeenergy.com