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Solar Panel Guide Specification Data Sheet

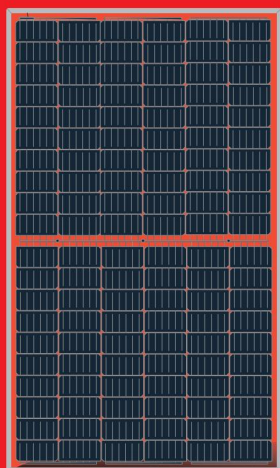
Runda (Xi'an) Resource Technology Co., Ltd.

LR4-60HBD 345~365M

LR4-60HBD-350M

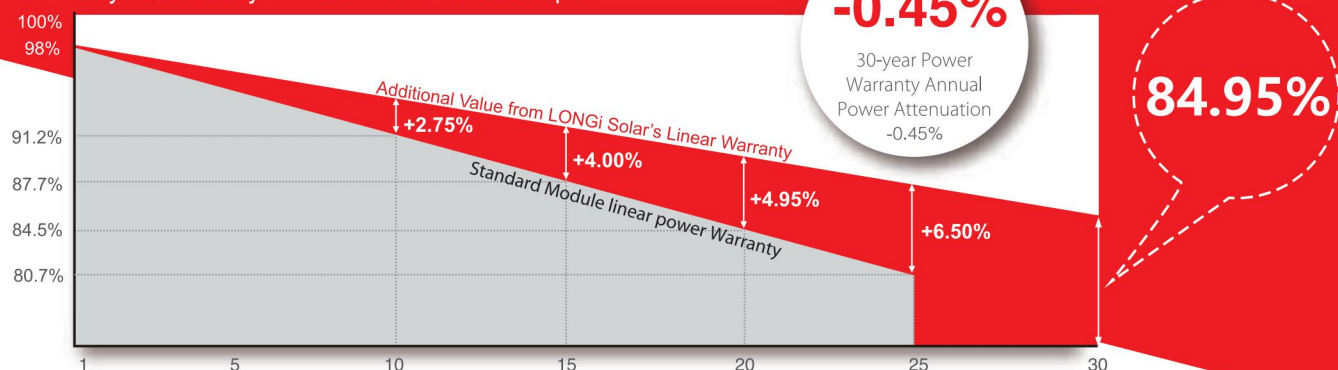
Also available on the web at
EnergyPal.com/runda-xi-an-resource-technology-co-ltd-solar-panels/lr4-60hbd-350m

LR4-60HBD 345~365M



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

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



Complete System and Product Certifications

IEC 61215, IEC61730, UL1703
 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 19.4%)
- 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

30mm frame design enables easy installation and robust mechanical strength

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

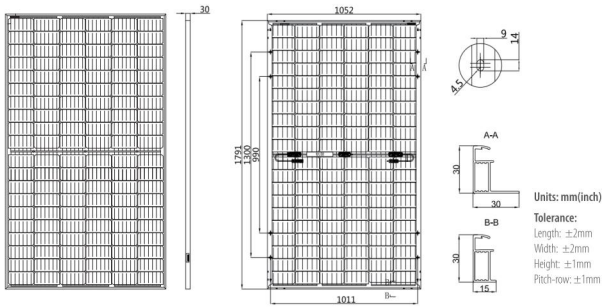
Reduced hot spot risk with optimized electrical design and lower operating current



Xian Runda Resource technology As Authorized Agent of Longi for sales
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 Tel:+8629 8177 8790 info@rundaenergy.com

LR4-60HBD 345~365M

Design (mm)



Mechanical Parameters

Cell Orientation: 120 (6x20)
 Junction Box: IP68, three diodes
 Output Cable: 4mm², 300mm in length,
 length can be customized
 Glass: Dual glass
 2.0mm tempered glass
 Frame: Anodized aluminum alloy frame
 Weight: 24.0kg
 Dimension: 1791x1052x30mm
 Packaging: 35pcs per pallet
 210pcs per 20'GP
 840pcs 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 type 3
 Bifaciality: Glazing≥70%

Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number	LR4-60HBD-345M		LR4-60HBD-350M		LR4-60HBD-355M		LR4-60HBD-360M		LR4-60HBD-365M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	345	256.5	350	260.3	355	264.0	360	267.7	365	271.4
Open Circuit Voltage (Voc/V)	40.7	37.9	40.9	38.1	41.1	38.3	41.3	38.5	41.5	38.7
Short Circuit Current (Isc/A)	10.88	8.81	10.96	8.87	11.04	8.94	11.11	8.99	11.18	9.05
Voltage at Maximum Power (Vmp/V)	33.7	31.3	33.9	31.5	34.1	31.7	34.3	31.8	34.5	32.0
Current at Maximum Power (Imp/A)	10.24	8.20	10.33	8.27	10.42	8.35	10.50	8.41	10.58	8.47
Module Efficiency(%)	18.3		18.6		18.8		19.1		19.4	

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 355W front)

Pmax /W	Voc/V	Isc /A	Vmp/V	Imp /A	Pmax gain
373	41.1	11.59	34.1	10.94	5%
391	41.1	12.14	34.1	11.46	10%
408	41.2	12.70	34.2	11.98	15%
426	41.2	13.25	34.2	12.50	20%
444	41.2	13.80	34.2	13.03	25%

Temperature Ratings (STC)

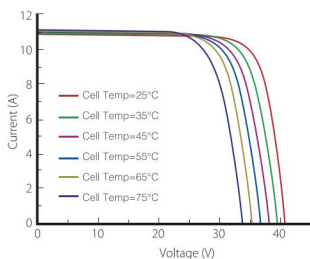
Temperature Coefficient of Isc: +0.060%/ C
 Temperature Coefficient of Voc: -0.300%/ C
 Temperature Coefficient of Pmax: -0.370%/ C

Mechanical Loading

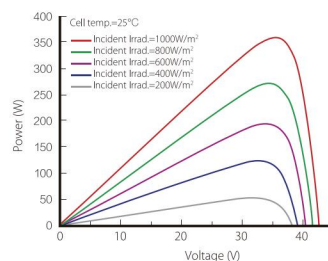
Front Side Maximum Static Loading: 5400Pa
 Rear Side Maximum Static Loading: 2400Pa
 Hailstone Test: 25mm Hailstone at the speed of 23m/s

I-V Curve

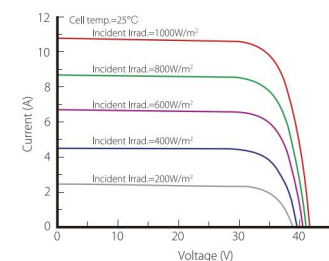
Current-Voltage Curve (LR4-60HBD-355M)



Power-Voltage Curve (LR4-60HBD-355M)



Current-Voltage Curve (LR4-60HBD-355M)



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Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi Solar 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.