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November 1, 2021

Ms. Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: Petition 1310A - Quinebaug Solar, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 50 megawatt AC solar photovoltaic electric generating facility on approximately 561 acres comprised of 29 separate and abutting privately-owned parcels located generally north of Wauregan Road in Canterbury and south of Rukstela Road and Allen Hill Road in Brooklyn, Connecticut. Reopening of this petition based on changed conditions pursuant to Connecticut General Statutes §4-181a(b).
Request for Revision to Partial Development and Management Plan.

Dear Ms. Bachman:

I am writing on behalf of Quinebaug Solar LLC's ("Quinebaug") to request a revision to the project's development and management plan. By way of background, on April 24, 2020, the Connecticut Siting Council ("Council") approved the above-referenced Petition. On November 20, 2020, the Council approved Quinebaug's Partial Development and Management Plan ("Partial D&M Plan"). On March 26, 2021, the Council approved the second portion of the facility's Partial Development and Management Plan ("Partial D&M Plan II"). In its decisions on the Partial D&M Plan and the Partial D&M Plan II, the Council delegated approval of any changes to Council staff in accordance with Regulations of Connecticut State Agencies ("RCSA") §16-50j-62(b).

Technological advancements, material shortages, and industry changes have impacted the availability of solar panels and, as previously advised, Quinebaug changed panel manufacturers (from JinKo panels to Longi). The Project is now proposing to use two very similar types of Longi panels as provided in the table below and in the attached specification sheets. This minor change decreases the number of panels and will not increase the project's footprint or impact the surrounding area. The Longi modules are manufactured with similar materials as the original JinKo modules, and do not contain materials that are harmful to the environment. The project will

now consist of an approximate total of 143, 275 fixed solar panels and a total system size of 63.44 MW DC. Upon confirmation of the panel specifications, the project notes that the maximum height of the solar panels is slightly higher than anticipated at 6 feet 5.5 inches.

Module Size	Original	New	Diff
LR4-72HBD-2_Longi_445_BF (Count)	149,604	80,500	-69,104
LR4-72HBD-1_Longi_440_BF (Count)	0	62,775	62,775
System Size (MWdc)	66.573780	63.4435	-3.13028

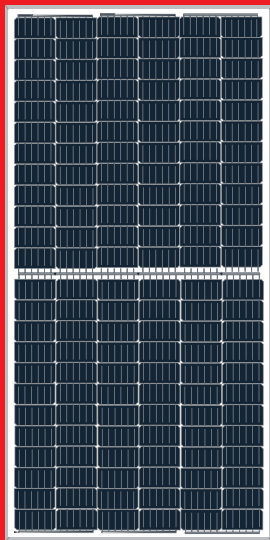
Please contact the undersigned should you have any additional questions. Thank you.

Very truly yours,



Stephen Bright

Enclosures

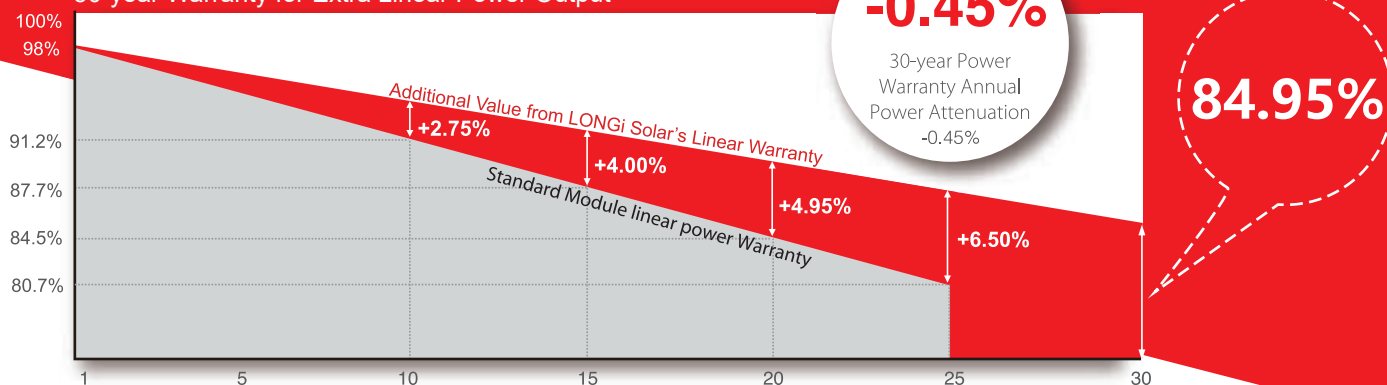


LR4-72HBD-1 425~445M

Hi-M04

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

12-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 19.9%)
- 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

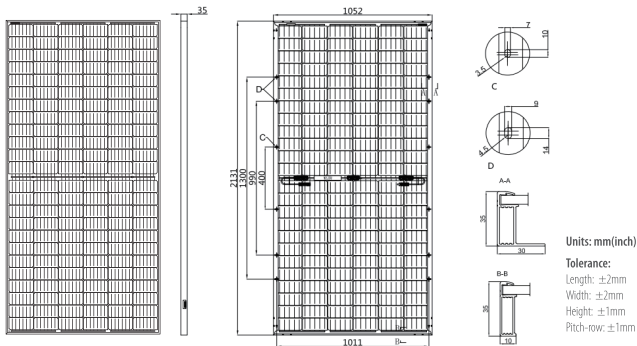
LONGi

Room 801, Tower 3, Lujiazui Financial Plaza, No.826 Century Avenue, Pudong Shanghai, 200120, China
Tel: +86-21-80162606 E-mail: module@longi-silicon.com Facebook: www.facebook.com/LONGi Solar

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.

LR4-72HBD-1 425~445M

Design (mm)



Mechanical Parameters

Cell Orientation: 144 (6×24)
 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: 29.5kg
 Dimension: 2131×1052×35mm
 Packaging: 30pcs per pallet
 150pcs per 20'GP
 600pcs per 40'HC

Operating Parameters

Operational Temperature: -40℃ ~ +85℃
 Power Output Tolerance: 0 ~ +5 W
 Voc and Isc Tolerance: $\pm 3\%$
 Maximum System Voltage: DC1500V (IEC / UL)
 Maximum Series Fuse Rating: 20A
 Nominal Operating Cell Temperature: 45 ± 2 ℃
 Safety Class: Class II
 Fire Rating: UL type 3
 Bifaciality: Glazing $\geq 70\%$

Electrical Characteristics

Test uncertainty for Pmax: $\pm 3\%$

Model Number	LR4-72HBD-425M		LR4-72HBD-430M		LR4-72HBD-435M		LR4-72HBD-440M		LR4-72HBD-445M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	425	316.0	430	319.7	435	323.5	440	327.2	445	331
Open Circuit Voltage (Voc/V)	49.4	46.0	49.6	46.2	49.8	46.4	49.9	46.5	50.1	46.7
Short Circuit Current (Isc/A)	11.02	8.93	11.09	8.98	11.16	9.04	11.25	9.11	11.32	9.16
Voltage at Maximum Power (Vmp/V)	41.0	38.1	41.2	38.2	41.4	38.4	41.5	38.5	41.7	38.7
Current at Maximum Power (Imp/A)	10.37	8.30	10.44	8.36	10.51	8.42	10.61	8.50	10.68	8.55
Module Efficiency(%)	19.0		19.2		19.4		19.6		19.9	

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25℃, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20℃, Spectra at AM1.5, Wind at 1m/s

Electrical characteristics with different rear side power gain (reference to 425W front)

Pmax /W	Voc/V	Isc /A	Vmp/V	Imp /A	Pmax gain
446	49.4	11.58	41.0	10.88	5%
468	49.4	12.13	41.0	11.40	10%
489	49.5	12.68	41.1	11.92	15%
510	49.5	13.23	41.1	12.44	20%
531	49.5	13.78	41.1	12.96	25%

Temperature Ratings (STC)

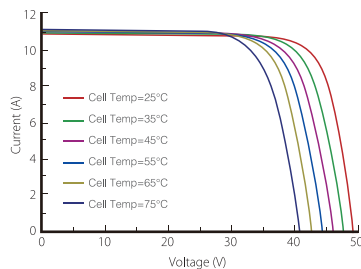
Temperature Coefficient of Isc	+0.060%/℃
Temperature Coefficient of Voc	-0.300%/℃
Temperature Coefficient of Pmax	-0.370%/℃

Mechanical Loading

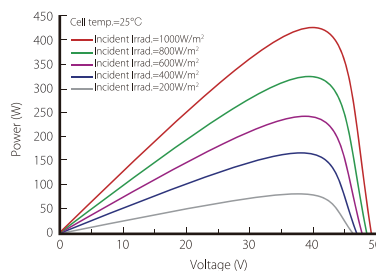
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

I-V Curve

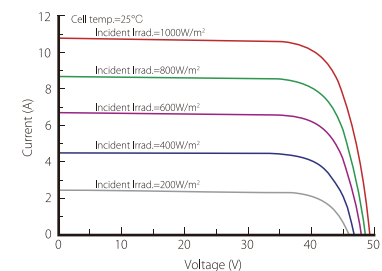
Current-Voltage Curve (LR4-72HBD-425M)



Power-Voltage Curve (LR4-72HBD-425M)



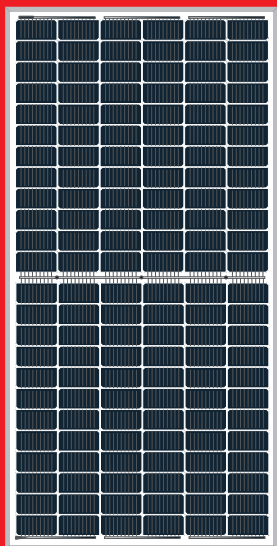
Current-Voltage Curve (LR4-72HBD-425M)



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*Both 6BB & 9BB are available

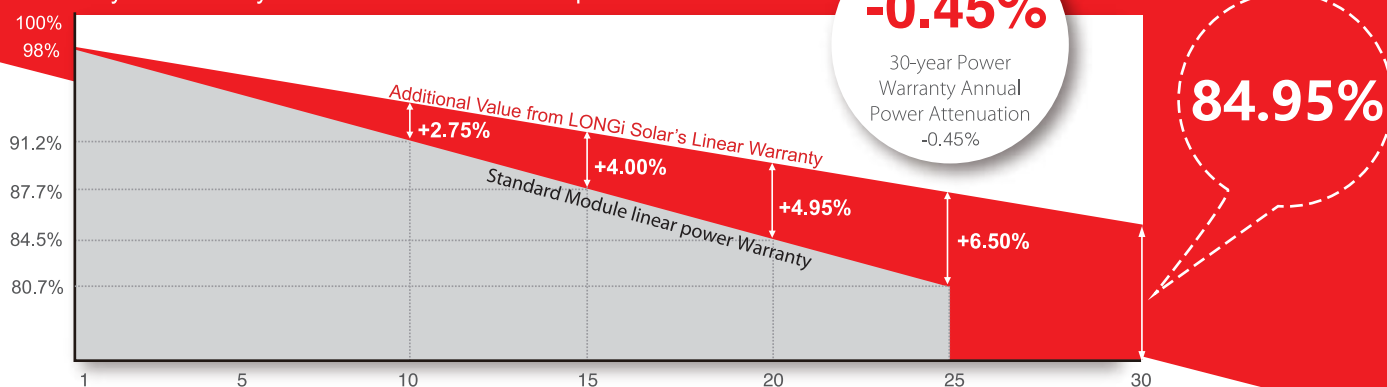
LR4-72HBD-2 425~455M

Hi-MO 4

NEW

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

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

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TS62941: Guideline for module design qualification and type approval

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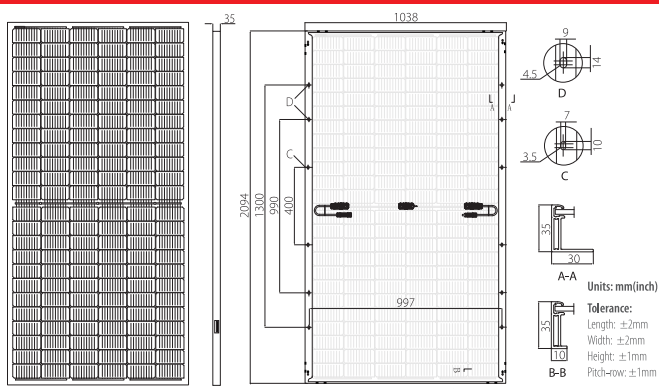
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LR4-72HBD-2 425~455M

Design (mm)



Mechanical Parameters

Cell Orientation: 144 (6×24)
 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: 25A
 Nominal Operating Cell Temperature: 45±2 °C
 Safety Class: Class II
 Fire Rating: UL type 3
 Bifaciality: Glazing 70±5%

Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number	LR4-72HBD-425M		LR4-72HBD-430M		LR4-72HBD-435M		LR4-72HBD-440M		LR4-72HBD-445M		LR4-72HBD-450M		LR4-72HBD-455M	
Testing Condition	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	40.6	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 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)

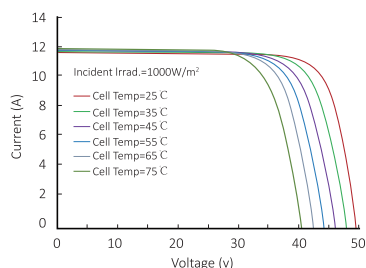
Temperature Coefficient of Isc	+0.050%/ °C
Temperature Coefficient of Voc	-0.284%/ °C
Temperature Coefficient of Pmax	-0.350%/ °C

Mechanical Loading

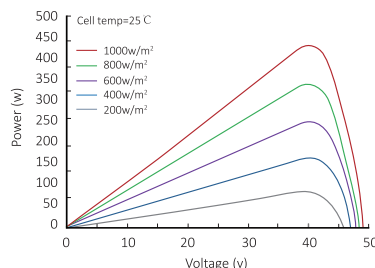
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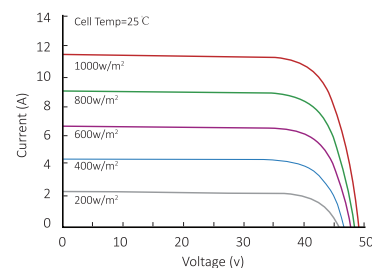
Current-Voltage Curve (LR4-72HBD-440M)



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



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



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