



# Certificate of Compliance

**Certificate:** 80027925

**Master Contract:** 266494

**Project:** 80125869

**Date Issued:** 2022-04-29

**Issued To:** Longi Green Energy Technology Co., Ltd.  
No. 388, Middle Hangtian Road,  
Chang'an District  
Chang'an District, Xi'an., Shaanxi, 710100  
China

**Attention:** Guoyi Tang

*The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.*



**Issued by:** Tom Yang  
Tom Yang

## **PRODUCTS**

CLASS - C531110 - POWER SUPPLIES Photovoltaic Modules and Panels

CLASS - C531190 - POWER SUPPLIES Photovoltaic Modules and Panels - Certified to US Standards

Mono-Crystalline-Si photovoltaic modules with maximum system voltage of 1000V or 1500 V dc, Safety Class II PV modules. Model series:

LR6-72-xxxM (xxx=320-350, in step of 5),

LR6-72HV-xxxM (xxx=320-350, in step of 5),

LR6-72BK-xxxM (xxx=320-350, in step of 5),

LR6-72PE-xxxM (xxx=360-380, in step of 5),

LR6-72PH-xxxM (xxx=360-380, in step of 5),



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LR6-72PB-xxxM (xxx=340-380, in step of 5),  
LR6-72HPB-xxxM (xxx=360-385, in step of 5),  
LR6-72HIB-xxxM (xxx=360-385, in step of 5),

LR6-60-xxxM (xxx=270-300, in step of 5),  
LR6-60HV-xxxM (xxx=270-300, in step of 5),  
LR6-60BK-xxxM (xxx=270-300, in step of 5),  
LR6-60PE-xxxM (xxx=300-320, in step of 5),  
LR6-60PH-xxxM (xxx=300-320, in step of 5),  
LR6-60PB-xxxM (xxx=280-320, in step of 5),  
LR6-60OP-xxxM (xxx=350-370, in step of 5),  
LR6-60OPB-xxxM (xxx=345-365, in step of 5),  
LR6-72OPH-xxxM (xxx=385-415, in step of 5),  
LR6-60OPH-xxxM (xxx=335-365, in step of 5),  
LR6-72HPH-xxxM (xxx=365-395, in step of 5),  
LR6-72HIH-xxxM (xxx=365-395, in step of 5),  
LR6-60HPH-xxxM (xxx=300-330, in step of 5),  
LR6-60HPB-xxxM (xxx=295-320, in step of 5),  
LR6-60HIB-xxxM (xxx=295-320, in step of 5),  
LR6-60HIH-xxxM (xxx=300-330, in step of 5),  
LR6-60ZPH-xxxM (xxx=335-355, in step of 5),

LR4-72HPB-xxxM (xxx=405-450, in step of 5),  
LR4-72HIB-xxxM (xxx=405-455, in step of 5),  
LR4-72HPH-xxxM (xxx=420-465, in step of 5),  
LR4-72HIH-xxxM (xxx=420-455, in step of 5),

LR4-66HPH-xxxM (xxx=395-425, in step of 5),  
LR4-66HP-xxxM (xxx=395-425, in step of 5),  
LR4-66HIH-xxxM (xxx=395-425, in step of 5),

LR4-50HPH-xxxM (xxx=305-325, in step of 5),  
LR4-60HPB-xxxM (xxx=345-380, in step of 5),  
LR4-60HIB-xxxM (xxx=335-380, in step of 5),  
LR4-60HPH-xxxM (xxx=350-385, in step of 5),  
LR4-60HP-xxxM (xxx=350-385, in step of 5),  
LR4-60HIH-xxxM (xxx=350-380, in step of 5),  
LR4-60ZPB-xxxM (xxx=340-360, in step of 5),  
LR4-72ZPH-xxxM (xxx=420-440, in step of 5),  
LR4-78ZPH-xxxM (xxx=450-485, in step of 5),

LR5-54HPH-xxxM (xxx=400-420, in step of 5),  
**LR5-54HPB-xxxM (xxx=390-420, in step of 5),**  
**LR5-54HIB-xxxM (xxx=390-415, in step of 5),**  
LR5-66HPH-xxxM (xxx=480-500, in step of 5),



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LR5-66HIH-xxxM (xxx=480-505, in step of 5),  
LR5-72HPH-xxxM (xxx=525-555, in step of 5),  
LR5-72HIH-xxxM (xxx=525-545, in step of 5),  
LR5-78HPH-xxxM (xxx=575-595, in step of 5),  
LR5-78ZPH-xxxM (xxx=565-585, in step of 5).

Note:

1. All electrical data are shown as relative to standard test conditions (STC) (1 000 W/m<sup>2</sup>, (25 ± 2) °C, AM 1,5 according to IEC 60904-3).
2. Manufacturer's stated tolerance is ±3% for Voc and Pm, and Isc.
3. All modules model with suffix 'HV' after '72' or '60', can be used in PV system with maximum system voltage 1500 V dc.
4. All modules model with suffix 'BK' after '72' or '60', are black modules (substrate is in black color).
5. All modules model with suffix 'PH' after '72' or '60', are modules with PERC cells used in maximum system voltage of 1500 V dc.
6. All modules model with suffix 'PE' after '72' or '60', are modules with PERC cells used in maximum system voltage of 1000 V dc.
7. All modules model with suffix 'PB' after '72' or '60', are black modules with PERC cell (substrate is in black color).
8. All modules model with suffix 'OPH' after '72' or '60', are modules with 1/6 cut cells used in maximum system voltage of 1500 V dc.
9. All modules model with suffix 'HPH' or 'HIH' after '72' or '66' or '60' or '54' or '50', are modules with 1/2 cut cells used in maximum system voltage of 1500 V dc.
10. All modules model with suffix 'HP' after '72' or '60', are modules with 1/2 cut cells used in maximum system voltage of 1000 V dc.
11. All modules model with suffix 'HPB' or 'HIB' after '72' or '60' or '54', are black modules with 1/2 cut cells used in maximum system voltage of 1000 V dc.
12. LR6 is for models with 156mm cells, LR4 is for models with 166mm cells, LR5 is for models with 182mm cells.
13. All modules model with suffix 'ZPH' after '72' or '60', are modules with 1/2 cut cells, total cells no. is 144 or 120, Zero Clearance Perc used in maximum system voltage of 1500 V dc.
14. All modules model with suffix 'ZPB' after '72' or '60', are black modules with 1/2 cut cells, total cells no. is 144 or 120, Zero Clearance Perc used in maximum system voltage of 1500 V dc.
15. All modules model with suffix 'ZPH' after '78' or '72' or '60', are modules with 1/2 cut cells, total cells no. is 156 or 144 or 120, Zero Clearance Perc used in maximum system voltage of 1500 V dc.
16. All modules model with suffix 'OP' after '60', are modules with 1/5 cut cells used in maximum system voltage of 1000 V dc.
17. All modules model with suffix 'OPB' after '60', are modules with 1/5 cut cells used in maximum system voltage of 1000 V dc, black color.
18. The operating ambient temperature of these devices may exceed 40°C at full load for all wire sizes if it is determined suitable in the field use application.



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**APPLICABLE REQUIREMENTS**

CSA C22.2 No. 61730-1:19	Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction, 2019-12
CSA C22.2 No. 61730-2:19	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing, 2019-12
UL 61730-1 1 <sup>st</sup> Edition	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, 2017-12-04, revision date 2020-04-30
UL 61730-2 1 <sup>st</sup> Edition	Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing, 2017-12-04, revision date 2020-04-30

**Notes:**

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Products certified under Class C531110 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). [www.scc.ca](http://www.scc.ca)





## Supplement to Certificate of Compliance

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*The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.*

### Product Certification History

Project	Date	Description
80125869	2022-04-29	Update report 80027925 to revise the 182 mm cells dimension with little change (182(±2) mm), half cut 182(±2) x 91(±2) mm, enlarge power range to 505W for model series LR5-66HIH, revise the triangle cells connectors description, change the manufacturers name from MULTI-CONTACT ESSEN GMBH to Staubli Electrical Connectors AG as acquisition, and new model series LR5-54HPB and LR5-54HIB based on approved models, add alternative size for several model series with approved size for other model series.
80112569	2022-01-28	Update report 80027925 to add new model series LR4-50HPH, include new sizes for model series LR5-66HPH-xxxM(2093 x 1134 x 35), LR5-72HPH-xxxM(2278 x 1134 x 35), with little change as previous approved, include new model series LR5-54HPH-xxxM, with previous evaluation models, include reflective string connection 0.3mm x 4mm, 0.3mm x 7mm.
80108450	2022-01-07	Update report 80027925 to include alternative superstrate glass by Ningxia Jinjin Technology Co., Ltd, include alternative output wiring system PV-LR07A complied with IEC 62790, based on TÜV SÜD Test Report No.: 70.407.18.168.01-01A1, with additional evaluation requirement by CSA Group.
80105962	2021-12-16	Update report 80027925 to include new installation method to model series LR4-72HPB-xxxM with front side 8100Pa, back side 6120Pa, add alternate revised cell M6B9B, M10B9B, M10D9B.
80092559	2021-11-08	Update report to include alternative substrate NewCo-1500 by Zhejiang Sinopoly Materials Co., Ltd. combined with encapsulation B601HP/B601W, SV-15296/SV-15297W, alternate superstrate glass by Suolate Special Glass (Jiangsu) Co., Ltd, include substrate (26) by Longi Green Energy Technology Co Ltd(E521036) under UL multiple listing, include alternate flux WTO-PV112F by Shenzhen Weite New Material Co., Ltd, include alternative Jbox/Frame adhesive RS-3316, potting RS-3200 by ZHENJIANG RAYBOND HEW MATERIAL TECHIILOGY CO.LTD.



80096067	2021-09-26	Update report 80027925 to add new 2.8mm and 3.2mm thickness superstrate solar glass by Chenzhou Kibing Photovoltaic Glass Co., Ltd, Combination between TFB-30(PLUS) and encapsulation B601HP/B601W, include alternate fixing tape 9966, include alternate installation method(Project 80092909).
80096049	2021-08-31	Update report 80027925 to include alternate EVA B601HP/B601W, combined with substrate BEC-306D, ETT15S-1, Crown BF-TM4(1500V),TPP1, include alternate superstrate glass 2.8&3.2 mm thickness by Anhui Shengshi New Energy Materials Technology Co., Ltd
80084261	2021-08-11	Update report to include new model series LR5-78HPH-xxxM and LR5-78ZPH-xxxM, add alternate flux 8000T20 by ShenZhen Embrace Glory Electronic Material Co.,Ltd or HuiZhou Embrace Glory New Material Technology Co. LTD. Include encapsulation and substrates by Longi Green Energy Technology Co Ltd(E521036) under UL multiple listing. Change manufacture name from Jiangsu CREVO science & technology Co.,Ltd. to Sika (Jiangsu) industrial Material Ltd.
80087616	2021-06-15	Update report 8027925 to add material combinations: Substrate ETT15S-1 with encapsulation S201MT1/ S201W, F406PS/F806W, SV-15296/SV-15297W, LRET/LREW.
80069667	2021-05-28	Update report to: (1) Add alternate encapsulation and substrate combinations, (i) S201MT1/S201MT2 by Shanghai HIUV New Materials Co Ltd., (ii) F406PS/F806W by HANGZHOU FIRST APPLIED MATERIAL CO., LTD., (iii) SV15296/SV15297W by Changzhou Sveck Photovoltaic New Material Co., Ltd., combined with KFB-30(plus) by JOLYWOOD (SUZHOU) SUNWATT CO LTD.; (2) Add alternative cell, manufactured by LONGi Solar Technology Co., Ltd., type M6C9B; (3) Add alternative cell interconnector, with diameter 0.3mm; (4) Correction of electrical parameters of LR4-72HPB-xxxM (xxx=405-450, in step of 5).
80077617	2021-04-23	Update report to alternate frame design for model series LR4-72HPB-xxxM, alternate label 50 micron White PET TC/S333, which only changes the color as the approved one.
80075511	2021-04-13	Update report to add alternate encapsulation S201MT1/S201MT2 by Shanghai HIUV New Materials Co Ltd, alternate black color for substrate BEC-306D, combined with F806PS, and S201MT2, and alternate encapsulation LRET/LRET, LRET/LREW by Longi Green Energy Technology Co Ltd, as a multiple listee with Shanghai HIUV New Materials Co Ltd.
80075689	2021-03-19	Update report to add alternate superstrate glass, manufactured by Henan Ancai Hi-Tech Co., Ltd., AR coated and temped glass, air side coated, with thickness of 2.8mm and 3.2mm.
80070015	2021-02-26	Update report to include new model series LR5-72HIBD-xxxM and LR5-66HIBD-xxxM, using new cell M10D9B, include new model series LR4-





66HP-xxxM, enlarge the power range of LR4-66HIH-xxxM, LR4-66HIH-xxxM, LR4-66HIH-xxxM up to 425W, and add 3.2 mm thickness glass by Shanxi Rishengda New Material Technology Co., Ltd.

80062976	2021-02-18	Update report to add alternate string interconnectors with black coating.
80061338	2021-02-07	Update report to include: (1) Alternate cell design for type M6B9B; (2) Alternate flux agent, manufactured by Asahi Solder Technology (Wuxi) Co., Ltd., type SF56; (3) Alternate bypass diode used in junction box Longi PV-LR03A, manufactured by Zhejiang Zhonghuan Sunter PV Technology Co., Ltd., type 30SQ045.
80048181	2021-01-12	Update report to include: (1) New encapsulation and substrate combinations, (a) “Changzhou Sveck Photovoltaic New Material Co., Ltd.”, type “SV-15296” above cells, type “SV-15297W” below cells, with “Jolywood (Suzhou) Sunwatt Co., Ltd.”, type “TFB-30(plus)”; (b) “Shanghai HIUV New Materials Co., Ltd.”, type “S201MT1” above cells, type “S201W” below cells, with “Jolywood (Suzhou) Sunwatt Co., Ltd.”, type “TFB-30(plus)”; (2) New model series LR4-66HPH-xxxM (xxx=395 to 415) and LR4-66HIH-xxxM (xxx=395 to 415).
80063163	2020-12-18	Update report to include new model series LR5-72HPH-xxxM and LR5-66HPH-xxxM, using halved cut cell M10B9B.
80048180	2020-12-07	Update report to include: (1) Alternative superstrate , “Shanxi Rishengda New Material Technology Co., Ltd.”, type “AR coated tempered glass 2.8mm”; (2) Alternative substrate, “Suzhou First PV Material Co., Ltd.”, type “BEC-306D”; (3) New encapsulation and substrate combinations; (4) Alternative junction box adhesive, “Chengdu Guibao Science & Technology Co., Ltd.”, type “888N”; (5) Alternative frame adhesive, “Chengdu Guibao Science & Technology Co., Ltd.”, type “888N”; (6) Alternative potting material, “Chengdu Guibao Science & Technology Co., Ltd.”, type “4808”; (7) Alternative potting material, “JIANGSU TIANCHEN NEW MATERIALS CO LTD”, type “HT6360”; (8) Alternative fixing tape, manufactured by “Cybrid Technologies Inc”, type “FF3665”.
80055541	2020-11-02	Update report 80027925 to add new design for model series LR6-60OP-xxxM and LR6-60OPB-xxxM.
80055320	2020-09-25	Update report 80027925 to add new designed model series LR4-78ZPH.
80048179	2020-09-04	Update report to include: (1) Alternative superstrate glasses with reduced thickness, manufactured by Xinfuxing and Topray, with thickness reduction from 3.2mm to 2.8mm; (2) New encapsulation and substrate combinations; (3) Alternative fixing tape, manufactured by “Yantai Darbond Technology Co., Ltd.”, type “DT-9609”.
80042752	2020-07-24	Update report to add alternate substrate MGTPE390.



80042860	2020-07-24	Update report to add new 30 mm x 30mm frame design for LR4-60HPH model series.
80037991	2020-06-17	Update report to add model series using new cell M6E6B, by Vina Cell technology Co., Ltd., and flux SF105.
80036991	2020-06-17	Add white EVA LR6-72PH-375 M
80024182	2020-04-27	Update report to add model series LR6-60ZPH-xxxM, LR6-60ZPB-xxxM and LR6-72ZPH-xxxM with new cells M2B6B and M6B6B, add model series LR4-60HP-xxxM with maximum system voltage of 1000V dc.
80035966	2020-03-20	Update report to add alternate cells interconnectors, and alternate output wiring compartments PV-LR02A, PV-LR02C, PV-LR03A, PV-LR03C, PV-LR04A.
80027422	2020-03-20	Update report to add alternate cells M6B9B and M6E9B, interconnectors, and alternate module sizes for models with 9bb M6 cells.
80034137	2020-02-27	Update report to add new model series LR4-72HPB-xxxM, LR4-72HPH-xxxM, LR4-60HPB-xxxM, LR4-60HPH-xxxM, with new cell M6E6B.
80023863	2020-02-20	Update report to add model series using new cells M2C5B, M2C6B, M6C6B, and related model series.
80030666	2020-01-09	Update report to add combinations of materials and new model series, as a reference of Test Report No. 704061802022-05, 704061802022-06 by TÜV SÜD Certification and Testing (China) Co., Ltd, and previous CSA Projects.
80027925	2019-12-17	Original certification





Product Service

# CERTIFICATE

No. Z2 099333 0045 Rev. 21

**Holder of Certificate:** **LONGi Green Energy Technology Co., Ltd.**

No. 388, Middle Hangtian Road  
Chang'an District  
710100 Xi'an City, Shaanxi  
PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:**



**Product:**

**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**  
**Mono-Crystalline Silicon Photovoltaic Module**

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: [www.tuvsud.com/ps-cert](http://www.tuvsud.com/ps-cert)

**Test report no.:** 704061700516-21

**Valid until:** 2027-06-30

**Date,** 2022-07-01

( Zhulin Zhang )

# CERTIFICATE

No. Z2 099333 0045 Rev. 21

## Model(s):

LR6-72HV-xxxM, (xxx=335-360 in step of 5)  
 LR6-60HV-xxxM, (xxx=280-300 in step of 5)  
 LR6-72PH-xxxM, (xxx=340-380 in step of 5)  
 LR6-60PH-xxxM, (xxx=285-315 in step of 5)  
 LR6-72HPH-xxxM, (xxx=365-395 in step of 5)  
 LR6-72HIH-xxxM, (xxx=365-395 in step of 5)  
 LR6-60HPH-xxxM, (xxx=300-325 in step of 5)  
 LR6-60HIH-xxxM, (xxx=300-325 in step of 5)  
 LR6-72OPH-xxxM, (xxx=385-415 in step of 5)  
 LR6-60OPH-xxxM, (xxx=335-365 in step of 5)  
 LR6-72HPH-xxxMC, (xxx=375-390 in step of 5)  
 LR6-60HPH-xxxMC, (xxx=305-325 in step of 5)  
 LR4-72HPH-xxxM, (xxx=420-465 in step of 5)  
 LR4-72HIH-xxxM, (xxx=420-465 in step of 5)  
 LR4-60HPH-xxxM, (xxx=350-380 in step of 5)  
 LR4-60HIH-xxxM, (xxx=350-380 in step of 5)  
 LR4-72ZPH-xxxM, (xxx=420-435 in step of 5)  
 LR4-60ZPH-xxxM, (xxx=350-365 in step of 5)  
 LR6-60ZPH-xxxM, (xxx=330-355 in step of 5)  
 LR4-78ZPH-xxxM, (xxx=455-485 in step of 5)  
 LR5-72HPH-xxxM, (xxx=525-555 in step of 5)  
 LR5-66HPH-xxxM, (xxx=480-505 in step of 5)  
 LR4-66HPH-xxxM, (xxx=395-415 in step of 5)  
 LR4-66HIH-xxxM, (xxx=395-415 in step of 5)  
 LR5-72HIH-xxxM, (xxx=525-555 in step of 5)  
 LR5-66HIH-xxxM, (xxx=480-505 in step of 5)  
 LR5-78HPH-xxxM, (xxx=575-595 in step of 5)  
 LR5-78ZPH-xxxM, (xxx=565-585, in step of 5)  
 LR4-50HPH-xxxM, (xxx=305-320, in step of 5)  
 LR4-66HTB-xxxM, (xxx=410-430 in step of 5)  
 LR4-60HTB-xxxM, (xxx=370-390 in step of 5)  
 LR5-54HPH-xxxM, (xxx=395-415 in step of 5)  
 LR4-66HTH-xxxM, (xxx=420-440 in step of 5)  
 LR4-60HTH-xxxM, (xxx=380-400 in step of 5)  
 LR5-54HIH-xxxM, (xxx=395-415 in step of 5)  
 LR5-72HTH-xxxM, (xxx=555-600 in step of 5)  
 LR5-54HTH-xxxM, (xxx=420-450 in step of 5)  
 LR5-54HTB-xxxM, (xxx=410-440 in step of 5)  
 xxx stands for rated output power at STC

## Parameters:

Fire Safety Class: Class C according to UL790.  
 Safety Class: Class II  
 Max. System Voltage: 1500V DC  
 Test Laboratory: Yangzhou Opto-Electrical  
 Products Testing Institute.  
 No.10 West Kaifa Road, Yangzhou  
 225009 Jiangsu, P.R. China.  
 Construction: Framed, with Junction box, cable and

connector.

## Tested according to:

IEC 61215-1:2016  
 IEC 61215-1-1:2016  
 IEC 61215-2:2016  
 IEC 61730-1:2016  
 IEC 61730-2:2016  
 EN 61215-1:2016  
 EN 61215-1-1:2016  
 EN 61215-2:2017  
 EN IEC 61730-1:2018  
 EN IEC 61730-1:2018/AC:2018-06  
 EN IEC 61730-2:2018  
 EN IEC 61730-2:2018/AC:2018-06