



Certificate of Compliance

Certificate: 70206445

Master Contract: 259668

Project: 80059896

Date Issued: 2021-04-12

Issued to: Risen Energy Co., Ltd.
No. 23 Middle Xingke Road,
Ninghai, Ningbo, Zhejiang, 315609
P.R. CHINA

Attention: Suber Yang

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: *Simon Shen*
Simon Shen

PRODUCTS

CLASS - C531110 - POWER SUPPLIES-Photovoltaic Modules and Panels

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

Photovoltaic modules with maximum DC system voltage of 1500 V, Safety Class II.

Model series:

RSM72-6-xxxBMDG (xxx = 350 to 410 W),
RSM60-6-xxxBMDG (xxx = 290 to 345 W),
RSM144-6-xxxBMDG (xxx = 360 to 415 W),
RSM132-6-xxxBMDG (xxx = 330 to 380 W),
RSM120-6-xxxBMDG (xxx = 300 to 350 W),
RSM144-7-xxxBMDG (xxx = 425 to 455 W),
RSM132-7-xxxBMDG (xxx = 390 to 420 W),
RSM120-7-xxxBMDG (xxx = 355 to 380 W),
RSM150-8-xxxBMDG (xxx = 465 to 510 W),
RSM90-8-xxxBMDG (xxx = 285 to 300 W),
RSM144-9-xxxBMDG (xxx = 520 to 550 W),
RSM132-9-xxxBMDG (xxx = 480 to 505 W),
RSM120-9-xxxBMDG (xxx = 435 to 460 W),
RSM156-6-xxxBHDG (xxx = 435 to 465 W),



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RSM144-6-xxxBHDG (xxx = 400 to 430 W),
RSM120-6-xxxBHDG (xxx = 330 to 360 W).

Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)	Maximum over-current protection rating (A)
RSM72-6-xxxBMDG (xxx = 350 to 410 W)						
RSM72-6-350BMDG	46.60	9.70	38.30	9.15	350	20
RSM72-6-355BMDG	46.95	9.75	38.65	9.20	355	20
RSM72-6-360BMDG	47.30	9.80	38.95	9.25	360	20
RSM72-6-365BMDG	47.70	9.85	39.25	9.30	365	20
RSM72-6-370BMDG	48.15	9.90	39.60	9.35	370	20
RSM72-6-375BMDG	48.60	9.95	39.95	9.40	375	20
RSM72-6-380BMDG	48.95	10.00	40.25	9.45	380	20
RSM72-6-385BMDG	49.35	10.05	40.55	9.50	385	20
RSM72-6-390BMDG	49.70	10.10	40.85	9.55	390	20
RSM72-6-395BMDG	50.10	10.15	41.20	9.60	395	20
RSM72-6-400BMDG	50.45	10.20	41.50	9.65	400	20
RSM72-6-405BMDG	50.85	10.25	41.80	9.70	405	20
RSM72-6-410BMDG	51.20	10.30	42.10	9.75	410	20
RSM60-6-xxxBMDG (xxx = 290 to 345 W)						
RSM60-6-290BMDG	38.60	9.65	31.900	9.10	290	20
RSM60-6-295BMDG	38.80	9.70	32.250	9.15	295	20
RSM60-6-300BMDG	39.10	9.75	32.650	9.20	300	20
RSM60-6-305BMDG	39.40	9.80	33.00	9.25	305	20
RSM60-6-310BMDG	39.80	9.85	33.35	9.30	310	20
RSM60-6-315BMDG	40.10	9.90	33.70	9.35	315	20
RSM60-6-320BMDG	40.50	9.95	34.05	9.40	320	20
RSM60-6-325BMDG	40.80	10.00	34.40	9.45	325	20
RSM60-6-330BMDG	41.10	10.05	34.75	9.50	330	20
RSM60-6-335BMDG	41.40	10.10	35.10	9.55	335	20
RSM60-6-340BMDG	41.95	10.15	35.45	9.60	340	20
RSM60-6-345BMDG	42.35	10.20	35.80	9.65	345	20
RSM144-6-xxxBMDG (xxx = 360 to 415 W)						
RSM144-6-360BMDG	47.30	9.70	39.60	9.10	360	20
RSM144-6-365BMDG	47.45	9.80	39.70	9.20	365	20
RSM144-6-370BMDG	47.60	9.90	39.80	9.30	370	20
RSM144-6-375BMDG	47.75	10.00	39.90	9.40	375	20
RSM144-6-380BMDG	48.00	10.10	40.05	9.50	380	20
RSM144-6-385BMDG	48.15	10.20	40.15	9.60	385	20
RSM144-6-390BMDG	48.30	10.30	40.25	9.70	390	20



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Model	Open Circuit Voltage at STC (V dc)	Short Circuit Current at STC (A dc)	Rated Voltage at STC (V dc)	Rated Current at STC (A dc)	Rated Maximum Power at STC (Watts)	Maximum over-current protection rating (A)
RSM144-6-395BMDG	48.45	10.40	40.35	9.80	395	20
RSM144-6-400BMDG	48.60	10.50	40.45	9.90	400	20
RSM144-6-405BMDG	48.75	10.60	40.55	10.00	405	20
RSM144-6-410BMDG	48.90	10.70	40.65	10.10	410	20
RSM144-6-415BMDG	49.00	10.80	40.70	10.20	415	20
RSM132-6-xxxBMDG (xxx = 330 to 380 W)						
RSM132-6-330BMDG	43.40	9.70	36.30	9.10	330	20
RSM132-6-335BMDG	43.50	9.80	36.45	9.20	335	20
RSM132-6-340BMDG	43.60	9.90	36.60	9.30	340	20
RSM132-6-345BMDG	43.70	10.00	36.75	9.40	345	20
RSM132-6-350BMDG	43.80	10.10	36.90	9.50	350	20
RSM132-6-355BMDG	43.90	10.19	37.05	9.60	355	20
RSM132-6-360BMDG	44.00	10.29	37.20	9.69	360	20
RSM132-6-365BMDG	44.10	10.38	37.35	9.79	365	20
RSM132-6-370BMDG	44.20	10.48	37.50	9.88	370	20
RSM132-6-375BMDG	44.30	10.58	37.65	9.97	375	20
RSM132-6-380BMDG	44.40	10.68	37.80	10.07	380	20
RSM120-6-xxxBMDG (xxx = 300 to 350 W)						
RSM120-6-300BMDG	39.40	9.70	33.00	9.10	300	20
RSM120-6-305BMDG	39.50	9.80	33.20	9.20	305	20
RSM120-6-310BMDG	39.70	9.90	33.35	9.30	310	20
RSM120-6-315BMDG	39.80	10.00	33.55	9.40	315	20
RSM120-6-320BMDG	40.00	10.10	33.70	9.50	320	20
RSM120-6-325BMDG	40.10	10.20	33.90	9.60	325	20
RSM120-6-330BMDG	40.30	10.30	34.05	9.70	330	20
RSM120-6-335BMDG	40.40	10.40	34.20	9.80	335	20
RSM120-6-340BMDG	40.50	10.50	34.40	9.90	340	20
RSM120-6-345BMDG	40.60	10.60	34.55	10.00	345	20
RSM120-6-350BMDG	40.70	10.70	34.70	10.10	350	20
RSM144-7-xxxBMDG (xxx = 425 to 455 W)						
RSM144-7-425BMDG	49.20	11.00	40.90	10.40	425	25
RSM144-7-430BMDG	49.30	11.10	40.96	10.50	430	25
RSM144-7-435BMDG	49.40	11.20	41.05	10.60	435	25
RSM144-7-440BMDG	49.50	11.30	41.13	10.70	440	25
RSM144-7-445BMDG	49.60	11.40	41.25	10.80	445	25
RSM144-7-450BMDG	49.70	11.50	41.30	10.90	450	25
RSM144-7-455BMDG	49.80	11.60	41.40	11.00	455	25
RSM132-7-xxxBMDG (xxx = 390 to 420 W)						



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RSM132-7-390BMDG	45.10	10.90	37.43	10.50	390	25
RSM132-7-395BMDG	45.20	11.00	37.52	10.60	395	25
RSM132-7-400BMDG	45.30	11.10	37.60	10.70	400	25
RSM132-7-405BMDG	45.40	11.20	37.68	10.80	405	25
RSM132-7-410BMDG	45.50	11.30	37.77	10.90	410	25
RSM132-7-415BMDG	45.60	11.40	37.85	11.00	415	25
RSM132-7-420BMDG	45.70	11.50	37.93	11.10	420	25
RSM120-7-xxxBMDG (xxx = 355 to 380 W)						
RSM120-7-355BMDG	40.60	11.30	33.20	10.70	355	25
RSM120-7-360BMDG	40.70	11.42	33.35	10.80	360	25
RSM120-7-365BMDG	40.80	11.54	33.50	10.90	365	25
RSM120-7-370BMDG	40.90	11.66	33.65	11.00	370	25
RSM120-7-375BMDG	41.00	11.78	33.80	11.10	375	25
RSM120-7-380BMDG	41.10	11.90	33.95	11.20	380	25
RSM150-8-xxxBMDG (xxx = 465 to 510 W)						
RSM150-8-465BMDG	49.47	11.97	41.34	11.26	465	25
RSM150-8-470BMDG	49.69	12.04	41.56	11.32	470	25
RSM150-8-475BMDG	49.91	12.11	41.78	11.38	475	25
RSM150-8-480BMDG	50.13	12.18	42.00	11.44	480	25
RSM150-8-485BMDG	50.35	12.25	42.22	11.50	485	25
RSM150-8-490BMDG	50.57	12.32	42.44	11.56	490	25
RSM150-8-495BMDG	50.79	12.39	42.66	11.62	495	25
RSM150-8-500BMDG	51.01	12.46	42.88	11.68	500	25
RSM150-8-505BMDG	51.23	12.53	43.10	11.74	505	25
RSM150-8-510BMDG	51.45	12.60	43.32	11.80	510	25
RSM90-8-xxxBMDG (xxx = 285 to 300 W)						
RSM90-8-285BMDG	29.94	12.11	25.07	11.38	285	25
RSM90-8-290BMDG	30.21	12.25	25.33	11.47	290	25
RSM90-8-295BMDG	30.46	12.32	25.57	11.56	285	25
RSM90-8-300BMDG	30.68	12.39	25.81	11.65	290	25
RSM144-9-xxxBMDG (xxx = 520 to 550 W)						
RSM144-9-520BMDG	49.20	13.35	41.55	12.52	520	25
RSM144-9-525BMDG	49.30	13.45	41.65	12.61	525	25
RSM144-9-530BMDG	49.40	13.55	41.75	12.70	530	25
RSM144-9-535BMDG	49.50	13.64	41.87	12.79	535	25
RSM144-9-540BMDG	49.60	13.73	41.99	12.88	540	25
RSM144-9-545BMDG	49.70	13.84	42.11	12.96	545	25
RSM144-9-550BMDG	49.80	13.94	42.20	13.04	550	25



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RSM132-9-xxxBMDG (xxx = 480 to 505 W)						
RSM132-9-480BMDG	45.30	13.49	38.10	12.60	480	25
RSM132-9-485BMDG	45.40	13.59	38.20	12.70	485	25
RSM132-9-490BMDG	45.50	13.69	38.30	12.80	490	25
RSM132-9-495BMDG	45.60	13.79	38.40	12.90	495	25
RSM132-9-500BMDG	45.70	13.89	38.51	12.99	500	25
RSM132-9-505BMDG	45.80	13.99	38.62	13.08	505	25
RSM120-9-xxxBMDG (xxx = 435 to 460 W)						
RSM120-9-435BMDG	40.30	13.47	34.68	12.55	435	25
RSM120-9-440BMDG	40.40	13.57	34.79	12.65	440	25
RSM120-9-445BMDG	40.50	13.68	34.91	12.75	445	25
RSM120-9-450BMDG	40.60	13.78	35.05	12.85	450	25
RSM120-9-455BMDG	40.70	13.88	35.15	12.95	455	25
RSM120-9-460BMDG	40.80	13.98	35.25	13.05	460	25
RSM156-6-xxxBHDG (xxx = 435 to 465 W)						
RSM156-6-435BHDG	58.40	9.55	48.53	8.97	435	20
RSM156-6-440BHDG	58.70	9.60	48.83	9.02	440	20
RSM156-6-445BHDG	59.00	9.65	49.13	9.07	445	20
RSM156-6-450BHDG	59.30	9.70	49.43	9.12	450	20
RSM156-6-455BHDG	59.60	9.75	49.73	9.16	455	20
RSM156-6-460BHDG	59.90	9.80	50.03	9.20	460	20
RSM156-6-465BHDG	60.20	9.85	50.33	9.25	465	20
RSM144-6-xxxBHDG (xxx = 400 to 430 W)						
RSM144-6-400BHDG	53.50	9.55	44.75	8.95	400	20
RSM144-6-405BHDG	53.80	9.60	45.05	9.00	405	20
RSM144-6-410BHDG	54.10	9.65	45.35	9.05	410	20
RSM144-6-415BHDG	54.40	9.70	45.65	9.10	415	20
RSM144-6-420BHDG	54.70	9.75	45.95	9.15	420	20
RSM144-6-425BHDG	55.00	9.80	46.25	9.20	425	20
RSM144-6-430BHDG	55.30	9.85	46.55	9.25	430	20
RSM120-6-xxxBHDG (xxx = 330 to 360 W)						
RSM120-6-330BHDG	44.35	9.55	37.10	8.91	330	20
RSM120-6-335BHDG	44.65	9.60	37.40	8.97	335	20
RSM120-6-340BHDG	44.95	9.65	37.70	9.03	340	20
RSM120-6-345BHDG	45.25	9.70	38.00	9.09	345	20
RSM120-6-350BHDG	45.55	9.75	38.30	9.15	350	20
RSM120-6-355BHDG	45.85	9.80	38.60	9.21	355	20
RSM120-6-360BHDG	46.15	9.85	38.90	9.27	360	20

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Note:

1. All electrical data are shown as relative to standard test conditions (STC) (1000 W/m², (25 ± 2) °C, AM 1.5 according to IEC 60904-3).
2. The manufacturer declared tolerance of Open-circuit voltage, Short-circuit current, Maximum power is ±3%, ±4%, ±3% respectively.
3. The maximum over-current protection rating is 20A or 25A.
4. The manufacturer declared Bifaciality coefficient of bifacial module at STC for maximum power is 75±5%. The electrical power performance shown in the table above is only generated by front side of the module, more power may be generated if considering back side of the module.
5. 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.

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 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 1: Requirements for Construction, 2017-12-04, revision date 2020-04-30
UL 61730-2 First Edition	Photovoltaic (PV) Module Safety Qualification - Part 2: Requirements for Testing, 2017-12-04, revision date 2020-04-30



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
80059896	2021-04-12	Update report 70206445 to add new 9BB bifacial 158.75mm*79.395mm cell ECG19BSE2 type from ET Solar.
80030794	2021-03-25	Update report 70206445 to add new RSM156-6-xxxBHDG, RSM144-6-xxxBHDG, RSM120-6-xxxBHDG model series, add RSYCB158B type 158.75mm*79.38mm N type HJT new cell from Risen Energy Co., Ltd., add Sn43Pb43Bi14 new interconnect ribbon, add new UV-100 type fixing tape from 3M.
80067736	2021-03-03	Update report 70206445 to add new 9BB bifacial 158.75mm*79.375mm cell M158.75/D223 (16.8) -9BB-Bifacial-Half-PERC from Talesun Technologies (Thailand) Co., Ltd.
80066677	2021-02-23	Update report 70206445 to add new 9BB bifacial 166mm*83mm cell M166-9BB-Bifacial-Half-PERC from Talesun Technologies (Thailand) Co., Ltd.
80065071	2021-02-09	Update report 70206445 to add new RSM144-9-xxxBMDG, RSM132-9-xxxBMDG, RSM120-9-xxxBMDG model series, add new 10BB bifacial 182mm*91mm cell RSTDB182S from Risen, add new specifications for end ribbon, add new flux WTO-PV112B type from Shenzhen Vital Material Company Limited.
80059944	2020-11-20	Update report 70206445 to add new RSM150-8-xxxBMDG, RSM90-8-xxxBMDG model series, add new 9BB bifacial 1/3 cut cell M2109BPERCBP from Tongwei, new fixing tape FF-3665 from Cybrid Technologies Inc., new EVA 9110T/POE PO8110 combination from 3M China Ltd., new junction box potting JS-1184 and junction box adhesive JS-606 from Hangzhou Zhijiang Silicone Chemicals Co., Ltd., new frame adhesive JS-606 from Hangzhou Zhijiang Silicone Chemicals Co., Ltd.
80056572	2020-10-26	Update report 70206445 to add 531190 Class number for Risen Energy (Changzhou) Co., Ltd. (0000600986-Agreement contract).
80039515	2020-08-24	Update report 70206445 to add new RSM144-7-xxxBMDG, RSM132-7-xxxBMDG, RSM120-7-xxxBMDG model series, add new 9BB bifacial cell RSTDB166S from Risen, new flux SF105 from Asahi Solder, new fixing tape HZ UV-100 from Huizhou Zhikuan Technology, new EVA SV-15296P/POE SE556 combination from Changzhou Sveck PV New Material Co., Ltd., new junction box PV-SY017-25 from Zhejiang Twinsel and related cable, connector, bypass diode, potting, adhesive.



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80039517	2020-06-10	Update report to add new POE PO8110 manufactured by 3M Company.
80041966	2020-05-07	Update report to add new junction box potting 5299W-S manufactured by Shanghai Huitian New Material Co., Ltd. and new junction box adhesive and frame adhesive manufactured by Shanghai Huitian New Material Co., Ltd.
80039516	2020-04-22	Update report to add new RSM72-6-xxxBMDG, RSM60-6-xxxBMDG model series.
80039894	2020-04-16	Update report to add a new manufacturer Risen Energy (YIWU) Co., Ltd., admin project to active the manufacturer in internal system.
80027015	2020-03-13	Update report to add new bifacial cell RSTDB156S (9BB) manufactured by TAINERGY TECH CO., LTD., add 0.35mm in diameter interconnect ribbon and update the standard from CAN/CSA-C22.2 No. 61730-1:11 to the latest standard CAN/CSA-C22.2 No. 61730-1:19.
80030795	2020-01-21	Update report to add a new manufacturer Risen Energy (YIWU) Co., Ltd.
80018285	2019-12-30	Update report to add new bifacial cell RSTDB156S (9BB) manufactured by Risen Energy Co., Ltd.
80027016	2019-12-20	Addition of new factory “Risen Energy (Changzhou) Co., Ltd.”
70206445	2019-05-29	CSA C/US Certification for Double Glass Bifacial PV Modules, Model Series RSM144-6-xxxBMDG (xxx = 360 to 405 W), RSM132-6-xxxBMDG (xxx = 330 to 370 W), and RSM120-6-xxxBMDG (xxx = 300 to 340 W).