



Certificate of Compliance

Certificate: 70215816

Master Contract: 259668

Project: 80102699

Date Issued: 2021-11-03

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-xxxP (xxx = 305 to 355 W),
RSM72-6-xxxM (xxx = 370 to 410 W),
RSM60-6-xxxM (xxx = 305 to 345 W),
RSM60-6-xxxP (xxx = 260 to 295 W),
RSM156-6-xxxM (xxx = 410 to 455 W),
RSM144-6-xxxM (xxx = 350 to 415 W),
RSM132-6-xxxM (xxx = 320 to 380 W),
RSM120-6-xxxM (xxx = 295 to 350 W),
RSM120-7-xxxM (xxx = 355 to 375 W),
RSM144-7-xxxM (xxx = 425 to 450 W),
RSM150-8-xxxM (xxx = 465 to 515 W),
RSM144-9-xxxM (xxx = 525 to 555 W),
RSM132-9-xxxM (xxx = 485 to 510 W),
RSM120-9-xxxM (xxx = 440 to 465 W),
RSM110-8-xxxM (xxx = 525 to 560 W),



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RSM120-8-xxxM (xxx = 575 to 610 W),
RSM132-8-xxxM (xxx = 635 to 670 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)	Maxium overcurrent protection rating (A)
RSM72-6-xxxP (xxx = 305 to 355 W)						
RSM72-6-305P	44.80	9.00	36.10	8.45	305	20
RSM72-6-310P	45.10	9.05	36.50	8.50	310	20
RSM72-6-315P	45.10	9.00	37.10	8.50	315	20
RSM72-6-320P	45.30	9.10	37.25	8.60	320	20
RSM72-6-325P	45.50	9.20	37.40	8.70	325	20
RSM72-6-330P	45.70	9.30	37.55	8.80	330	20
RSM72-6-335P	45.90	9.40	37.65	8.90	335	20
RSM72-6-340P	46.10	9.50	37.80	9.00	340	20
RSM72-6-345P	46.30	9.60	37.95	9.10	345	20
RSM72-6-350P	46.50	9.70	38.10	9.20	350	20
RSM72-6-355P	46.70	9.80	38.20	9.30	355	20
RSM72-6-xxxM (xxx = 370 W to 410 W)						
RSM72-6-370M	48.15	9.90	39.60	9.35	370	20
RSM72-6-375M	48.60	9.95	39.95	9.40	375	20
RSM72-6-380M	48.95	10.00	40.25	9.45	380	20
RSM72-6-385M	49.35	10.05	40.55	9.50	385	20
RSM72-6-390M	49.70	10.10	40.85	9.55	390	20
RSM72-6-395M	50.10	10.15	41.20	9.60	395	20
RSM72-6-400M	50.45	10.20	41.50	9.65	400	20
RSM72-6-405M	50.85	10.25	41.80	9.70	405	20
RSM72-6-410M	51.20	10.30	42.10	9.75	410	20
RSM60-6-xxxP (xxx = 260 to 295 W)						
RSM60-6-260P	37.60	9.00	30.60	8.50	260	20
RSM60-6-265P	37.80	9.10	30.85	8.60	265	20
RSM60-6-270P	37.90	9.20	31.05	8.70	270	20
RSM60-6-275P	38.10	9.30	31.25	8.80	275	20
RSM60-6-280P	38.30	9.40	31.50	8.90	280	20
RSM60-6-285P	38.40	9.50	31.70	9.00	285	20
RSM60-6-290P	38.60	9.60	31.90	9.10	290	20
RSM60-6-295P	38.80	9.70	32.10	9.20	295	20
RSM60-6-xxxM (xxx = 305 to 345 W)						
RSM60-6-305M	39.40	9.80	33.00	9.25	305	20
RSM60-6-310M	39.80	9.85	33.35	9.30	310	20
RSM60-6-315M	40.10	9.90	33.70	9.35	315	20
RSM60-6-320M	40.50	9.95	34.05	9.40	320	20



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RSM60-6-325M	40.80	10.00	34.40	9.45	325	20
RSM60-6-330M	41.10	10.05	34.75	9.50	330	20
RSM60-6-335M	41.40	10.10	35.10	9.55	335	20
RSM60-6-340M	41.95	10.15	35.45	9.60	340	20
RSM60-6-345M	42.35	10.20	35.80	9.65	345	20
RSM156-6-xxxM (xxx = 410 to 455 W)						
RSM156-6-410M	51.78	10.10	43.20	9.50	410	20
RSM156-6-415M	51.93	10.20	43.30	9.60	415	20
RSM156-6-420M	52.08	10.29	43.40	9.69	420	20
RSM156-6-425M	52.23	10.38	43.50	9.78	425	20
RSM156-6-430M	52.38	10.47	43.60	9.87	430	20
RSM156-6-435M	52.50	10.57	43.70	9.97	435	20
RSM156-6-440M	52.62	10.67	43.80	10.06	440	20
RSM156-6-445M	52.70	10.77	43.90	10.15	445	20
RSM156-6-450M	52.82	10.87	44.00	10.24	450	20
RSM156-6-455M	52.92	10.97	44.10	10.32	455	20
RSM144-6-xxxM (xxx = 350 to 415 W)						
RSM144-6-350M	47.20	9.70	38.60	9.07	350	20
RSM144-6-355M	47.15	9.60	39.50	9.00	355	20
RSM144-6-360M	47.30	9.70	39.60	9.10	360	20
RSM144-6-365M	47.45	9.80	39.70	9.20	365	20
RSM144-6-370M	47.60	9.90	39.80	9.30	370	20
RSM144-6-375M	47.75	10.00	39.90	9.40	375	20
RSM144-6-380M	48.00	10.10	40.05	9.50	380	20
RSM144-6-385M	48.15	10.20	40.15	9.60	385	20
RSM144-6-390M	48.30	10.30	40.25	9.70	390	20
RSM144-6-395M	48.45	10.40	40.35	9.80	395	20
RSM144-6-400M	48.60	10.50	40.45	9.90	400	20
RSM144-6-405M	48.75	10.60	40.55	10.00	405	20
RSM144-6-410M	48.90	10.70	40.65	10.10	410	20
RSM144-6-415M	49.00	10.80	40.70	10.20	415	20
RSM132-6-xxxM (xxx = 320 to 380 W)						
RSM132-6-320M	43.20	9.50	36.60	8.90	320	20
RSM132-6-325M	43.30	9.60	36.15	9.00	325	20
RSM132-6-330M	43.40	9.70	36.30	9.10	330	20
RSM132-6-335M	43.50	9.80	36.45	9.20	335	20
RSM132-6-340M	43.60	9.90	36.60	9.30	340	20
RSM132-6-345M	43.70	10.00	36.75	9.40	345	20
RSM132-6-350M	43.80	10.10	36.90	9.50	350	20



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RSM132-6-355M	43.90	10.19	37.05	9.60	355	20
RSM132-6-360M	44.00	10.29	37.20	9.69	360	20
RSM132-6-365M	44.10	10.38	37.35	9.79	365	20
RSM132-6-370M	44.20	10.48	37.50	9.88	370	20
RSM132-6-375M	44.30	10.58	37.65	9.97	375	20
RSM132-6-380M	44.40	10.68	37.80	10.07	380	20
RSM120-6-xxxM (xxx = 295 to 350 W)						
RSM120-6-295M	39.30	9.60	32.80	9.00	295	20
RSM120-6-300M	39.40	9.70	33.00	9.10	300	20
RSM120-6-305M	39.50	9.80	33.20	9.20	305	20
RSM120-6-310M	39.70	9.90	33.35	9.30	310	20
RSM120-6-315M	39.80	10.00	33.55	9.40	315	20
RSM120-6-320M	40.00	10.10	33.70	9.50	320	20
RSM120-6-325M	40.10	10.20	33.90	9.60	325	20
RSM120-6-330M	40.30	10.30	34.05	9.70	330	20
RSM120-6-335M	40.40	10.40	34.20	9.80	335	20
RSM120-6-340M	40.50	10.50	34.40	9.90	340	20
RSM120-6-345M	40.60	10.60	34.55	10.00	345	20
RSM120-6-350M	40.70	10.70	34.70	10.10	350	20
RSM144-7-xxxM (xxx = 425 to 450 W)						
RSM144-7-425M	49.20	11.00	40.90	10.40	425	20
RSM144-7-430M	49.30	11.10	40.96	10.50	430	20
RSM144-7-435M	49.40	11.20	41.05	10.60	435	20
RSM144-7-440M	49.50	11.30	41.13	10.70	440	20
RSM144-7-445M	49.60	11.40	41.25	10.80	445	20
RSM144-7-450M	49.70	11.50	41.30	10.90	450	20
RSM120-7-xxxM (xxx = 355 to 375 W)						
RSM120-7-355M	40.60	11.30	33.20	10.70	355	20
RSM120-7-360M	40.70	11.42	33.35	10.80	360	20
RSM120-7-365M	40.80	11.54	33.50	10.90	365	20
RSM120-7-370M	40.90	11.66	33.65	11.00	370	20
RSM120-7-375M	41.00	11.78	33.80	11.10	375	20
RSM150-8-xxxM (xxx = 465 to 515 W)						
RSM150-8-465M	49.47	11.97	41.34	11.26	465	20
RSM150-8-470M	49.69	12.04	41.56	11.32	470	20
RSM150-8-475M	49.91	12.11	41.78	11.38	475	20
RSM150-8-480M	50.13	12.18	42.00	11.44	480	20
RSM150-8-485M	50.35	12.25	42.22	11.50	485	20
RSM150-8-490M	50.57	12.32	42.44	11.56	490	20



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RSM150-8-495M	50.79	12.39	42.66	11.62	495	20
RSM150-8-500M	51.01	12.46	42.88	11.68	500	20
RSM150-8-505M	51.23	12.53	43.10	11.74	505	20
RSM150-8-510M	51.45	12.60	43.32	11.80	510	20
RSM150-8-515M	51.67	12.67	43.54	11.86	515	20
RSM144-9-xxxM (xxx = 525 to 555 W)						
RSM144-9-525M	49.30	13.45	41.65	12.61	525	25
RSM144-9-530M	49.40	13.55	41.75	12.70	530	25
RSM144-9-535M	49.50	13.64	41.87	12.79	535	25
RSM144-9-540M	49.60	13.74	41.99	12.87	540	25
RSM144-9-545M	49.70	13.84	42.11	12.96	545	25
RSM144-9-550M	49.80	13.94	42.20	13.04	550	25
RSM144-9-555M	49.91	14.04	42.29	13.13	555	25
RSM132-9-xxxM (xxx = 485 to 510 W)						
RSM132-9-485M	45.40	13.59	38.20	12.70	485	25
RSM132-9-490M	45.50	13.69	38.30	12.80	490	25
RSM132-9-495M	45.60	13.79	38.40	12.90	495	25
RSM132-9-500M	45.70	13.89	38.51	12.99	500	25
RSM132-9-505M	45.80	13.99	38.62	13.08	505	25
RSM132-9-510M	45.90	14.09	38.73	13.17	510	25
RSM120-9-xxxM (xxx = 440 to 465 W)						
RSM120-9-440M	40.40	13.57	34.79	12.65	440	25
RSM120-9-445M	40.50	13.68	34.91	12.75	445	25
RSM120-9-450M	40.60	13.78	35.05	12.85	450	25
RSM120-9-455M	40.70	13.88	35.15	12.95	455	25
RSM120-9-460M	40.80	13.98	35.25	13.05	460	25
RSM120-9-465M	40.91	14.04	35.35	13.12	465	25
RSM120-8-xxxM (xxx = 575 to 610 W)						
RSM120-8-575M	40.60	18.06	33.74	17.05	575	30
RSM120-8-580M	40.80	18.11	33.94	17.10	580	30
RSM120-8-585M	41.00	18.16	34.12	17.15	585	30
RSM120-8-590M	41.20	18.21	34.32	17.20	590	30
RSM120-8-595M	41.40	18.26	34.50	17.25	595	30
RSM120-8-600M	41.60	18.32	34.70	17.30	600	30
RSM120-8-605M	41.80	18.37	34.88	17.35	605	30
RSM120-8-610M	42.00	18.42	35.08	17.40	610	30
RSM132-8-xxxM (xxx = 635 to 670 W)						
RSM132-8-635M	44.75	18.08	37.22	17.07	635	30
RSM132-8-640M	44.95	18.13	37.40	17.12	640	30



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RSM132-8-645M	45.15	18.18	37.58	17.17	645	30
RSM132-8-650M	45.35	18.23	37.76	17.22	650	30
RSM132-8-655M	45.55	18.28	37.94	17.27	655	30
RSM132-8-660M	45.75	18.33	38.12	17.32	660	30
RSM132-8-665M	45.95	18.38	38.30	17.37	665	30
RSM132-8-670M	46.15	18.43	38.48	17.42	670	30
RSM110-8-xxxM (xxx = 525 to 560 W)						
RSM110-8-525M	37.18	18.03	30.86	17.02	525	30
RSM110-8-530M	37.38	18.08	31.06	17.07	530	30
RSM110-8-535M	37.58	18.13	31.26	17.12	535	30
RSM110-8-540M	37.78	18.18	31.46	17.17	540	30
RSM110-8-545M	38.02	18.23	31.66	17.22	545	30
RSM110-8-550M	38.24	18.28	31.86	17.27	550	30
RSM110-8-555M	38.46	18.33	32.06	17.32	555	30
RSM110-8-560M	38.68	18.38	32.26	17.37	560	30

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. Maximum over-current protection rating is 20A or 25A.
4. 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
80102699	2021-11-03	Update report 70215816 to add RSM132-8-xxxM and RSM110-8-xxxM new model series.
80102700	2021-11-03	Update report 70215816 to add RSM120-8-xxxM new model series, add RSTDB210S type 210mm*105mm new solar cell, add 8mm*0.35mm new specification of end ribbon, add Φ 0.32 new specification of interconnect ribbon, add new output wiring system (3) with PV-SY017-25 new junction box, SBRB4050TS bypass diode, JS-1184A / JS1184B type new potting, add JS-606 type new adhesive for junction box and frame, add additional cross-bar for RSM120-8-xxxM new model series.
80065070	2021-05-06	Update report 70215816 to add RSM144-9-xxxM, RSM132-9-xxxM, RSM120-9-xxxM new model series, add new Xinyi superstrate glass, add RSTDB182S (10BB) type 182mm*91mm new cell, add WTO-PV112B type new flux, add HT906Z type new adhesive for junction box and frame, add 5299W-S type new potting for PV-SY017 type junction box.
80066676	2021-03-10	Update report 70215816 to add new 9BB bifacial 166mm*83mm cell M166-9BB-Bifacial-Half-PERC from Talesun Technologies (Thailand) Co., Ltd.
80059943	2021-01-21	Update report 70215816 to add RSM150-8-xxxM new model series, add M2109BPERCBP type 210mm*70mm new cell, update 20A rating for PV-SY017 junction box, add MH-3668 type new adhesive for junction box and frame, add MH-3667 type new potting for junction box.
80050838	2020-12-10	Update report 70215816 to add new RSM144-7-xxxM and RSM120-7-xxxM model series, add RSTDB166S type 166mm*83mm new cell, add TS-688 type new adhesive for junction box and frame.
80035471	2020-09-23	Update report 70215816 to add new RSM156-6-xxxM model series, add new RSTDB156S type cell, new PV358S type backsheets, new SV-15296P/ SV-15297P type EVA, new Flat Glass Group Co., Ltd. glass manufacturer, new Φ 0.35 specification for interconnect ribbon, new SF105 type Flux, new JS-1184A / JS1184B type potting for junction box, new 6005-2 T6 material for frame, new JS-606 type adhesive for junction box and frame.
80037733	2020-07-21	Update report 70215816 to add new cell PM45BF22B2 from GINTECH (THAILAND) CO., LTD.
80037734	2020-03-30	Update report to extend the power rating for RSM72-6-xxxM model series to 410W.



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80027014	2020-03-12	Update report to add new cell T1S-00000UD4B manufactured by TAINERGY TECH CO., LTD.
80027013	2020-03-12	Update report to add new cell T1S-00000UB4B manufactured by TAINERGY TECH CO., LTD, add new module series RSM72-6-xxxM, RSM60-6-xxxM, extend the power rating for RSM144-6-xxxM, RSM132-6-xxxM, RSM120-6-xxxM 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.
80022610	2019-10-30	Update report for factory “Vietnam Sunergy Joint Stock Company”.
80011115	2019-09-05	Update report to add two alternative cells: T1M- manufactured by VIETNERGY CO., LTD. and NP6W manufactured by GINTECH (THAILAND) LIMITED.
70215816	2019-07-02	CSA C/US Certification for Photovoltaic (PV) Modules, Model Series RSM72-6-xxxP (xxx = 305 to 355 W), RSM60-6-xxxP (xxx = 260 to 295 W), RSM144-6-xxxM (xxx = 350 to 405 W), RSM132-6-xxxM (xxx = 320 to 370 W), and RSM120-6-xxxM (xxx = 295 to 340 W).