



Certificate of Compliance

Certificate: 80228659

Master Contract: 607529

Project: 80293006

Date Issued: 2026-03-11

Issued to: HD HYUNDAI ENERGY SOLUTIONS CO., LTD.

GRC 9F,477, Bundangsuseo-ro, Bundang-gu Seongnam-si, Gyeonggi-do 13553, South Korea

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: Huijiao (Sara) Guo
Huijiao (Sara) Guo

PRODUCTS

CLASS 531110 - POWER SUPPLIES - Photovoltaic Modules and Panels

CLASS 531190 - POWER SUPPLIES - Photovoltaic Modules and Panels - Certified to US Standards

Bifacial dual glass photovoltaic modules with maximum system voltage of 1500 V dc, Safety Class II, Type 29.

Model Series:

HiN-TxxxNF(BK) (xxx = 415 to 450)

HiN-TxxxNG (xxx = 460 to 500) (xxx = 460 to 500)

HiN-TxxxNH (xxx = 510 to 550) (xxx = 510 to 550)

HiN-TxxxNI (xxx = 555 to 600) (xxx = 555 to 600)

HiN-TxxxNJ (xxx = 600 to 650) (xxx = 600 to 650)

HiN-TxxxGG (xxx = 610 to 665)

HiN-TxxxGH (xxx = 670 to 730)

HiN-TxxxCE(BK) (xxx = 440 to 465)

HiN-TxxxCF(BK) (xxx = 485 to 525)

HiN-TxxxCG (xxx = 545 to 590)

HiN-TxxxCH (xxx = 600 to 640)



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Model Type	Open Circuit Voltage (V dc)	Maximum Power Voltage (V dc)	Short Circuit Current (A dc)	Maximum Power Current (A dc)	Maximum Power (Watts)	Maximum Overcurrent Protection Rating (A)
HiN-T415NF(BK)	37.8	31.3	14.04	13.26	415	30
HiN-T420NF(BK)	38	31.5	14.11	13.34	420	30
HiN-T425NF(BK)	38.2	31.7	14.18	13.41	425	30
HiN-T430NF(BK)	38.4	31.9	14.25	13.48	430	30
HiN-T435NF(BK)	38.6	32.1	14.32	13.56	435	30
HiN-T440NF(BK)	38.8	32.3	14.39	13.63	440	30
HiN-T445NF(BK)	39	32.5	14.46	13.7	445	30
HiN-T450NF(BK)	39.2	32.7	14.53	13.77	450	30
HiN-T460NG	42.0	34.7	14.07	13.26	460	30
HiN-T465NG	42.2	34.9	14.13	13.33	465	30
HiN-T470NG	42.4	35.1	14.17	13.4	470	30
HiN-T475NG	42.6	35.3	14.24	13.46	475	30
HiN-T480NG	42.8	35.5	14.32	13.53	480	30
HiN-T485NG	43	35.7	14.38	13.59	485	30
HiN-T490NG	43.2	35.9	14.45	13.65	490	30
HiN-T495NG	43.4	36.1	14.51	13.72	495	30
HiN-T500NG	43.6	36.3	14.57	13.78	500	30
HiN-T510NH	46.3	38.4	14.04	13.29	510	30
HiN-T515NH	46.5	38.6	14.1	13.35	515	30
HiN-T520NH	46.7	38.8	14.16	13.41	520	30
HiN-T525NH	46.9	39	14.22	13.47	525	30
HiN-T530NH	47.1	39.2	14.28	13.53	530	30
HiN-T535NH	47.3	39.4	14.34	13.58	535	30
HiN-T540NH	47.5	39.6	14.4	13.64	540	30
HiN-T545NH	47.7	39.8	14.46	13.7	545	30
HiN-T550NH	47.9	40	14.52	13.75	550	30
HiN-T555NI	50.5	41.8	14.05	13.28	555	30
HiN-T560NI	50.7	42	14.11	13.34	560	30
HiN-T565NI	50.9	42.2	14.17	13.39	565	30
HiN-T570NI	51.1	42.4	14.23	13.45	570	30
HiN-T575NI	51.3	42.6	14.29	13.5	575	30
HiN-T580NI	51.5	42.8	14.35	13.56	580	30
HiN-T585NI	51.7	43	14.41	13.61	585	30
HiN-T590NI	51.9	43.2	14.47	13.66	590	30
HiN-T595NI	52.1	43.4	14.53	13.72	595	30
HiN-T600NI	52.3	43.6	14.59	13.77	600	30
HiN-T600NJ	54.7	45.3	14.01	13.25	600	30
HiN-T605NJ	54.9	45.5	14.06	13.30	605	30
HiN-T610NJ	55.1	45.7	14.11	13.35	610	30
HiN-T615NJ	55.3	45.9	14.16	13.4	615	30



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HiN-T620NJ	55.5	46.1	14.21	13.45	620	30
HiN-T625NJ	55.7	46.3	14.26	13.5	625	30
HiN-T630NJ	55.9	46.5	14.31	13.55	630	30
HiN-T635NJ	56.1	46.7	14.36	13.6	635	30
HiN-T640NJ	56.3	46.9	14.41	13.65	640	30
HiN-T645NJ	56.5	47.1	14.46	13.7	645	30
HiN-T650NJ	56.7	47.3	14.51	13.75	650	30
HiN-T610GG	42.9	35.8	18.04	17.04	610	35
HiN-T615GG	43.1	36	18.09	17.09	615	35
HiN-T620GG	43.3	36.2	18.14	17.14	620	35
HiN-T625GG	43.5	36.4	18.19	17.18	625	35
HiN-T630GG	43.7	36.6	18.24	17.22	630	35
HiN-T635GG	43.9	36.8	18.29	17.26	635	35
HiN-T640GG	44.1	37.0	18.34	17.3	640	35
HiN-T645GG	44.3	37.2	18.39	17.34	645	35
HiN-T650GG	44.5	37.4	18.44	17.38	650	35
HiN-T655GG	44.7	37.6	18.49	17.43	655	35
HiN-T660GG	44.9	37.8	18.54	17.47	660	35
HiN-T665GG	45.1	38.0	18.59	17.51	665	35
HiN-T670GH	47.1	39.3	18.03	17.05	670	35
HiN-T675GH	47.3	39.5	18.07	17.09	675	35
HiN-T680GH	47.5	39.7	18.11	17.13	680	35
HiN-T685GH	47.7	39.9	18.15	17.17	685	35
HiN-T690GH	47.9	40.1	18.19	17.21	690	35
HiN-T695GH	48.1	40.3	18.23	17.25	695	35
HiN-T700GH	48.3	40.5	18.27	17.29	700	35
HiN-T705GH	48.5	40.7	18.31	17.33	705	35
HiN-T710GH	48.7	40.9	18.35	17.37	710	35
HiN-T715GH	48.9	41.1	18.39	17.4	715	35
HiN-T720GH	49.1	41.3	18.43	17.44	720	35
HiN-T725GH	49.3	41.5	18.47	17.48	725	35
HiN-T730GH	49.5	41.7	18.51	17.51	730	35
HiN-T440CE(BK)	35.1	29.4	15.89	14.97	440	35
HiN-T445CE(BK)	35.3	29.6	15.96	15.04	445	35
HiN-T450CE(BK)	35.5	29.8	16.03	15.11	450	35
HiN-T455CE(BK)	35.7	30.0	16.1	15.17	455	35
HiN-T460CE(BK)	35.9	30.2	16.17	15.24	460	35
HiN-T465CE(BK)	36.1	30.4	16.24	15.3	465	35
HiN-T485CF(BK)	39.1	32.7	15.76	14.84	485	35
HiN-T490CF(BK)	39.3	32.9	15.82	14.9	490	35

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HiN-T495CF(BK)	39.5	33.1	15.88	14.96	495	35
HiN-T500CF(BK)	39.7	33.3	15.94	15.02	500	35
HiN-T505CF(BK)	39.9	33.5	16.00	15.08	505	35
HiN-T510CF(BK)	40.1	33.7	16.06	15.14	510	35
HiN-T515CF(BK)	40.3	33.9	16.12	15.2	515	35
HiN-T520CF(BK)	40.5	34.1	16.18	15.26	520	35
HiN-T525CF(BK)	40.7	34.3	16.24	15.32	525	35
HiN-T545CG	43.7	36.5	15.86	14.94	545	35
HiN-T550CG	43.9	36.7	15.92	15.00	550	35
HiN-T555CG	44.1	36.9	15.97	15.05	555	35
HiN-T560CG	44.3	37.1	16.02	15.1	560	35
HiN-T565CG	44.5	37.3	16.07	15.15	565	35
HiN-T570CG	44.7	37.5	16.12	15.2	570	35
HiN-T575CG	44.9	37.7	16.17	15.25	575	35
HiN-T580CG	45.1	37.9	16.23	15.31	580	35
HiN-T585CG	45.3	38.1	16.28	15.36	585	35
HiN-T590CG	45.5	38.3	16.33	15.41	590	35
HiN-T600CH	48.1	40.2	15.85	14.93	600	35
HiN-T605CH	48.3	40.4	15.9	14.98	605	35
HiN-T610CH	48.5	40.6	15.95	15.03	610	35
HiN-T615CH	48.7	40.8	16	15.08	615	35
HiN-T620CH	48.9	41.0	16.05	15.13	620	35
HiN-T625CH	49.1	41.2	16.09	15.17	625	35
HiN-T630CH	49.3	41.4	16.14	15.22	630	35
HiN-T635CH	49.5	41.6	16.19	15.27	635	35
HiN-T640CH	49.7	41.8	16.24	15.32	640	35

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%.
3. The electrical power performance shown in the table above is only generated by front side of the PV module, more power may be generated if considering back side of the module.
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.



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APPLICABLE REQUIREMENTS

CSA C22.2 No. 61730-1:19	Photovoltaic (PV) module safety qualification — Part 1: Requirements for construction - second edition, 2019-12.
CSA C22.2 No. 61730-2:19	Photovoltaic (PV) module safety qualification — Part 2: Requirements for testing - second edition, 2019-12.
UL 61730-1 Second Edition	Photovoltaic (PV) Module Safety Qualification – Part 1: Requirements for Construction - second edition, 2022-10-28.
UL 61730-2 Second Edition	Photovoltaic (PV) Module Safety Qualification – Part 2: Requirements for Testing - second edition, 2022-10-28, reprint with revisions through and including November 10, 2023.

Notes:

Products certified under Class C531110, CLASS 531190 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca



MARKINGS

Each unit shall bear all the required markings identified in the applicable certification report(s).



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
80293006	2026-03-11	Multiple listing for HD HYUNDAI ENERGY SOLUTIONS CO., LTD. Base Manufacturer: New East Solar Energy (Cambodia) Co., Ltd.(Master Contract: 300737)
80228659	2024-11-10	HD HYUNDAI ENERGY SOLUTIONS CO., LTD. Base Manufacturer: New East Solar Energy (Cambodia) Co., Ltd.(Master Contract: 300737)

Original Report	Submitter's Models	Listee's Models
80080672	NESExxx-54THB-M10 (xxx = 415 to 450)	HiN-TxxxNF(BK) (xxx = 415 to 450)
	NESExxx-60THB-M10 (xxx = 460 to 500)	HiN-TxxxNG (xxx = 460 to 500)
	NESExxx-66THB-M10 (xxx = 510 to 550)	HiN-TxxxNH (xxx = 510 to 550)
	NESExxx-72THB-M10 (xxx = 555 to 600)	HiN-TxxxNI (xxx = 555 to 600)
	NESExxx-78THB-M10 (xxx = 600 to 650)	HiN-TxxxNJ (xxx = 600 to 650)
	NESExxx-60THB-G12 (xxx = 610 to 665)	HiN-TxxxGG (xxx = 610 to 665)
	NESExxx-66THB-G12 (xxx = 670 to 730)	HiN-TxxxGH (xxx = 670 to 730)
	NESExxx-48THB-G12R (xxx = 440 to 465)	HiN-TxxxCE(BK) (xxx = 440 to 465)
	NESExxx-54THB-G12R (xxx = 485 to 525)	HiN-TxxxCF(BK) (xxx = 485 to 525)
	NESExxx-60THB-G12R (xxx = 545 to 590)	HiN-TxxxCG (xxx = 545 to 590)
	NESExxx-66THB-G12R (xxx = 600 to 640)	HiN-TxxxCH (xxx = 600 to 640)