

# CERTIFICATE

**TÜV NORD CERT GmbH**  
herewith declares that

**HYUNDAI ENERGY SOLUTIONS CO., LTD.**  
55, Bundang-ro, Bundang-gu,  
Seongnam-si, Gyeonggi-do, 13591  
Rep. of Korea

is authorized to provide the product mentioned below with the mark as illustrated:

**Description of product (details see Annex 2):**

**Crystalline Silicon Terrestrial Photovoltaic (PV) modules**



Valid from: 2022-07-01  
Valid until: 2027-06-30

Certification program:	P12-VA-01 Rev. 17 09.20
Certification fundamental(s):	IEC / EN 61215-1:2016; IEC / EN 61215-1-1:2016; IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018; IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018; IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.
Registered No.:	44 780 22 406749 - 137
Manufacturer:	see Annex 1
Test Report No.:	492012085.001
File No.:	PVP04099/22P-01



**TÜV NORD CERT GmbH**  
**Certification Body**  
**Consumer Products**



Essen, 2022-07-01

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 22 406749 - 137

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Aktenzeichen: / File reference: PVP04099/22P-01

2022-07-01

**Manufacturer:**

Manufacturer: **Tongwei Solar (Hefei) Co., Ltd.**  
No.888, Changning Road, High-tech District,  
Hefei City, Anhui Province, 230088, P.R. China

Factory inspection report no.: 862010358.005

**Remark:**

Factory inspection is mandatory to be performed annually. Please refer to factory inspection report for detailed information.



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**Consumer Products**

**Description of product(s):**

Module types:	<b>PV Modules with Segmented 6" PERC Mono-crystalline Silicon Solar Cells</b> 432 cells: HiE-SxxxUH (xxx = 445-480, in increment of 5) 408 cells: HiE-SxxxVI (xxx = 460-505, in increment of 5) 408 cells: HiE-SxxxVI(FB) (xxx = 460-500, in increment of 5) 360 cells: HiE-SxxxUF (xxx = 370-400, in increment of 5) 360 cells: HiE-SxxxUF(FB) (xxx = 370-400, in increment of 5) 340 cells: HiE-SxxxVG(FB) (xxx = 380-415, in increment of 5) 340 cells: HiE-SxxxVG (xxx = 380-420, in increment of 5)
Maximum system voltage:	1500V
Fuse rating:	20A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	III or II or I, refer to CDF for details
Design load (positive / negative):	2400Pa / 2400Pa or 3600Pa / 1600Pa, refer to CDF for details
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)



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Module types:	<b>PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells</b> 414 cells: HiE-SxxxKJ (xxx=645-670, in increment of 5) 345 cells: HiE-SxxxKN (xxx=535-555, in increment of 5) 320 cells: HiE-SxxxHG (xxx = 425-445, in increment of 5) 320 cells: HiE-SxxxHG(FB) (xxx = 420-440, in increment of 5) 305 cells: HiE-SxxxDG (xxx = 405-425, in increment of 5) 305 cells: HiE-SxxxDG(FB) (xxx = 400-420, in increment of 5)
Maximum system voltage:	1500V
Fuse rating:	30A or 25A, refer to CDF for details
Electrical protection class:	Class II
Pollution degree:	1
Material group:	III or II or I, refer to CDF for details
Design load (positive / negative):	3600Pa / 1600Pa, refer to CDF for details
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Remark:

For detailed product information, please refer to CDF (Constructional Data Form) in Annex 1 of test report.



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