CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

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

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: 2024-04-07
Valid until: 2028-12-26

Certification program:	P12-VA-01 Rev. 17 09.20
Certification fundamental(s):	P12.4-AA-02 Rev. 00 (IEC TS 62804-1:2015 modified)
Remark:	Test temperature: 85°C; Relative humidity: 85%; Test duration: 96 hours.
Registered No.:	44 780 18 406749 - 370R10A4M10
Manufacturer:	see Annex 1
Test Report No.:	492011149.011
File No.:	PVP11050/23P-06

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Essen, 2024-04-07

Please also pay attention to the information stated overleaf.

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Manufacturer:

Manufacturer 1:	**Tongwei Solar (Hefei) Co., Ltd.** No.888, Changning Road, High-tech District, Hefei City, Anhui Province, 230088, P.R. China
Factory inspection report no.:	862010358.007
Manufacturer 2:	**Hefei GCL System Integration New Energy Technology Co., Ltd.** Southeast Corner of Intersection of Sidingshan Road and Ruquan Road, Hefei Circular Economy Demonstration Park, Feidong County, Hefei City, Anhui Province, P.R. China
Factory inspection report no.:	862010696.007
Manufacturer 3:	**Jiangsu Yueyang Photovoltaic Technology Co., Ltd.** 777 Tangqiao Road, High-tech Economic Zone, Jianhu County, Yancheng City, 224700 Jiangsu Province, P.R. China.
Factory inspection report no.:	862010688.007
Manufacturer 4:	**Zibo JinenU Solar Technology Co., LTD.** 3005, Silk Road, Zhoucun District, Zibo, Shandong China
Factory inspection report no.:	862010689.002
Manufacturer 5:	**Funing GCL System Integration Technology Co., Ltd.** No.888 (A) Hong Kong Road, Funing Economic Development Zone, Yancheng City, Jiangsu Province, P.R. China
Factory inspection report no.:	862010744.001
Manufacturer 6:	**Tongwei Solar (Yancheng) Co., Ltd.** No. 88, Jiuhuashan Road, Economic Development Zone, Yancheng City, Jiangsu Province, China
Factory inspection report no.:	862010763.001

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Manufacturer 7:	**Tongwei Solar (Sichuan) Co., Ltd.** No.888, Jilin East Road, Huai Kou Street, Jintang County, Chengdu City, Sichuan Province
Factory inspection report no.:	862010782.001
Manufacturer 8:	**Tongwei Solar (Nantong) Co., LTD** No. 8, Bonded 10 Road, Economic Development Zone, Nantong City, Jiangsu Province, P. R. China
Factory inspection report no.:	862010863.001
Manufacturer 9:	**Tongwei Solar (Chengdu) Co., LTD** No. 888, Linjiaci Road, Huangjia Subdistrict, Shuangliu District, Chengdu City, Sichuan Province, China
Factory inspection report no.:	862010864.001

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

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Description of product(s):

Module types:	**Double Glass PV Modules with Segmented 6" PERC Mono-crystalline Silicon Solar Cells:** 408 cells: THxxxPM5-72SD (xxx = 390-410, in increment of 5) 340 cells: THxxxPM5-60SD (xxx = 325-340, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	20A
Application class:	Class A
Electrical protection class:	Class II

Module types:	**Double Glass PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells:** 414 cells: THxxxPMB6-69SDC (xxx = 635-670, in increment of 5) 408 cells: THxxxPMB6-68SDC (xxx = 630-660, in increment of 5) 390 cells: THxxxPMB6-65SDC (xxx = 600-630, in increment of 5) 345 cells: THxxxPMB6-58SDC (xxx = 530-555, in increment of 5) 340 cells: THxxxPMB6-57SDC (xxx = 520-550, in increment of 5) 325 cells: THxxxPMB6-54SDC (xxx = 500-525, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	30A or 25A
Application class:	Class A
Electrical protection class:	Class II

Module types:	**Double Glass PV Modules with Half-cut 7" PERC Mono-crystalline Silicon Solar Cells:** 156 cells: TWMPD-78HDxxx (xxx = 570-615, in increment of 5) 156 cells: TWxxxMBAP-156-D (xxx = 575-615, in increment of 5) 156 cells: TWxxxMBGP-156-D (xxx = 570-610, in increment of 5) 144 cells: TWMPD-72HDxxx (xxx = 525-565, in increment of 5) 144 cells: TWxxxMBAP-144-D (xxx = 530-565, in increment of 5) 144 cells: TWxxxMBGP-144-D (xxx = 525-560, in increment of 5) 132 cells: TWMPD-66HDxxx (xxx = 480-520, in increment of 5) 132 cells: TWxxxMBAP-132-D (xxx = 485-520, in increment of 5) 132 cells: TWxxxMBGP-132-D (xxx = 480-515, in increment of 5) 120 cells: TWMPD-60HDxxx (xxx = 440-470, in increment of 5)

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120 cells: TWxxxMBAP-120-D (xxx = 440-470, in increment of 5)
120 cells: TWxxxMBGP-120-D (xxx = 440-470, in increment of 5)
108 cells: TWMPD-54HDxxx (xxx = 395-425, in increment of 5)
108 cells: TWxxxMBAP-108-D (xxx = 400-425, in increment of 5)
108 cells: TWxxxMBGP-108-D (xxx = 395-420, in increment of 5)
144 cells: TWMPG-72HDxxx (xxx = 560-590, in increment of 5)
108 cells: TWMPG-54HDxxx (xxx = 420-440, in increment of 5)
108 cells: TWMPG-54HCxxx (xxx = 420-440, in increment of 5)
132 cells: TWMPH-66HDxxx (xxx = 575-590, in increment of 5)
120 cells: TWMPH-60HDxxx (xxx = 525-535, in increment of 5)
96 cells: TWMPH-48HDxxx (xxx = 420-430, in increment of 5)
96 cells: TWMPH-48HCxxx (xxx = 420-430, in increment of 5)
Remark: xxx indicates output power from the front side only.

Maximum system voltage:	1500V
Fuse rating:	30A
Application class:	Class A
Electrical protection class:	Class II

Module types:

Double Glass PV Modules with Half-cut 7" TOPCon Mono-crystalline Silicon Solar Cells:

156 cells: TWMND-78HDxxx (xxx = 580-640, in increment of 5)
156 cells: TWxxxMBGT-156-D (xxx = 580-640, in increment of 5)
144 cells: TWMND-72HDxxx (xxx = 535-590, in increment of 5)
144 cells: TWxxxMBGT-144-D (xxx = 535-590, in increment of 5)
132 cells: TWMND-66HDxxx (xxx = 490-540, in increment of 5)
132 cells: TWxxxMBGT-132-D (xxx = 490-540, in increment of 5)
120 cells: TWMND-60HDxxx (xxx = 445-490, in increment of 5)
120 cells: TWxxxMBGT-120-D (xxx = 445-490, in increment of 5)
108 cells: TWMND-54HDxxx (xxx = 400-440, in increment of 5)
108 cells: TWxxxMBGT-108-D (xxx = 400-440, in increment of 5)
144 cells: THxxxTMBI-72ZDD (xxx = 545-560, in increment of 5)
144 cells: THxxxTMBI-72ZDDF (xxx = 545-560, in increment of 5)
132 cells: THxxxTMBI-66ZDD (xxx = 500-510, in increment of 5)
132 cells: THxxxTMBI-66ZDDF (xxx = 500-510, in increment of 5)
120 cells: THxxxTMBI-60ZDD (xxx = 455-465, in increment of 5)
120 cells: THxxxTMBI-60ZDDF (xxx = 455-465, in increment of 5)
108 cells: THxxxTMBI-54ZDD (xxx = 410-420, in increment of 5)
108 cells: THxxxTMBI-54ZDDF (xxx = 410-420, in increment of 5)
144 cells: TWMNG-72HDxxx (xxx = 580-620, in increment of 5)

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	120 cells: TWMNG-60HDxxx (xxx = 485-515, in increment of 5) 120 cells: TWMNG-60HCxxx (xxx = 485-515, in increment of 5) 108 cells: TWMNG-54HDxxx (xxx = 435-465, in increment of 5) 108 cells: TWMNG-54HCxxx (xxx = 435-465, in increment of 5) 132 cells: TWMNH-66HDxxx (xxx = 580-620, in increment of 5) 120 cells: TWMNH-60HDxxx (xxx = 530-560, in increment of 5) 108 cells: TWMNH-54HDxxx (xxx = 475-505, in increment of 5) 108 cells: TWMNH-54HCxxx (xxx = 475-505, in increment of 5) 96 cells: TWMNH-48HDxxx (xxx = 420-450, in increment of 5) 96 cells: TWMNH-48HCxxx (xxx = 420-450, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	30A
Application class:	Class A
Electrical protection class:	Class II
Module types:	**Double Glass PV Modules with Half-cut 8" PERC Mono-crystalline Silicon Solar Cells:** 132 cells: TWMPF-66HDxxx (xxx = 635-685, in increment of 5) 132 cells: TWxxxMBCP-132-D (xxx = 635-675, in increment of 5) 132 cells: TWxxxMBIP-132-D (xxx = 635-685, in increment of 5) 120 cells: TWMPF-60HDxxx (xxx = 580-620, in increment of 5) 120 cells: TWxxxMBCP-120-D (xxx = 580-610, in increment of 5) 120 cells: TWxxxMBIP-120-D (xxx = 580-620, in increment of 5) 108 cells: TWMPF-54HDxxx (xxx = 520-560, in increment of 5) 108 cells: TWxxxMBCP-108-D (xxx = 520-550, in increment of 5) 108 cells: TWxxxMBIP-108-D (xxx = 520-560, in increment of 5) 110 cells: TWMPF-55HDxxx (xxx = 530-570, in increment of 5) 110 cells: TWxxxMBCP-110-D (xxx = 530-560, in increment of 5) 110 cells: TWxxxMBIP-110-D (xxx = 530-570, in increment of 5) 100 cells: TWMPF-50HDxxx (xxx = 480-515, in increment of 5) 100 cells: TWxxxMBCP-100-D (xxx = 480-510, in increment of 5) 100 cells: TWxxxMBIP-100-D (xxx = 480-515, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	35A
Application class:	Class A
Electrical protection class:	Class II

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Module types:	**Double Glass PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:** 132 cells: TWMNF-66HDxxx (xxx = 665-720 in increment of 5) 132 cells: TWxxxMBIT-132-D (xxx = 665-720, in increment of 5) 120 cells: TWMNF-60HDxxx (xxx = 605-655, in increment of 5) 120 cells: TWxxxMBIT-120-D (xxx = 605-655, in increment of 5) 108 cells: TWMNF-54HDxxx (xxx = 545-590, in increment of 5) 108 cells: TWxxxMBIT-108-D (xxx = 545-590, in increment of 5) 110 cells: TWMNF-55HDxxx (xxx = 530-570, in increment of 5) 110 cells: TWxxxMBIT-110-D (xxx = 530-570, in increment of 5) 100 cells: TWMNF-50HDxxx (xxx = 480-515, in increment of 5) 100 cells: TWxxxMBIT-100-D (xxx = 480-515, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	35A
Application class:	Class A
Electrical protection class:	Class II

Module types:	**Double Glass PV Modules with Half-cut 8" HJT Mono-crystalline Silicon Solar Cells:** 132 cells: TWMHF-66HDxxx (xxx = 660-720, in increment of 5) 120 cells: TWMHF-60HDxxx (xxx = 600-655, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	35A
Application class:	Class A
Electrical protection class:	Class II

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

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