

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: 2028-12-03

Certification program:

Certification fundamental(s):

P12-VA-01 Rev. 17 09.20

IEC / EN 61215-1:2016;

IEC / EN 61215-1-1:2016;

IEC 61215-2:2016 / EN 61215-2:2017;

IEC 61730-1:2016 / EN IEC 61730-1:2018;

IEC 61730-2:2016 / EN IEC 61730-2:2018.

44 780 18 406749 - 343R23A6M38

See Annex 1

Registered No.:

Manufacturer and factory(-ies):

Test Report No.:

File No.:

492011148.042

PVP11046/23P



TÜV NORD CERT GmbH
Certification Body
Consumer Products



Essen, 2024-04-07

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: **44 780 18 406749 - 343R23A6M38**

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Aktenzeichen: / File reference: **PVP11046/23P**

2024-04-07

Manufacturer:

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

Factory(-ies):

Factory 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

Factory 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.: 862010696.002

Factory 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.: 862010688.002

Factory 4: **Zibo JinenU Solar Technology Co., LTD.**
3005, Silk Road, Zhoucun District,
Zibo, Shandong China

Factory inspection report no.: 862010689.002

Factory 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



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Factory 6: **Tongwei Solar (Yancheng) Co., Ltd.**
No. 88, Jiuhuashan Road, Economic Development Zone,
Yancheng City, Jiangsu Province, China
Factory inspection report no.: 862010763.001

Factory 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

Factory 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

Factory 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" Mono-crystalline Silicon Solar Cells: 408 cells: THxxxCM5-72SD (xxx = 350-390, in increment of 5) 340 cells: THxxxCM5-60SD (xxx = 290-325, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Fuse rating:	20A
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	2400Pa / 2400Pa or 3600Pa / 1600Pa or 3600Pa / 3600Pa or 1600Pa / 1600Pa, refer to CDF for details
Safety factors:	1.5
Fire safety class:	Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details



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Consumer Products

Module types:

Double Glass PV Modules with Segmented 6" PERC Monocrystalline Silicon Solar Cells:

408 cells: THxxxPM5-72SD (xxx = 390-410, in increment of 5)

408 cells: THxxxPM5-72SDA (xxx = 410-440, in increment of 5)

408 cells: THxxxPM5-72SDA-F (xxx = 410-440, in increment of 5)

408 cells: THxxxPMB5-72SD (xxx = 390-410, in increment of 5)

408 cells: THxxxPMB5-72SDA (xxx = 410-440, in increment of 5)

408 cells: THxxxPMB5-72SDA-F (xxx = 410-440, in increment of 5)

340 cells: THxxxPM5-60SD (xxx = 325-340, in increment of 5)

340 cells: THxxxPM5-60SDA (xxx = 340-365, in increment of 5)

340 cells: THxxxPM5-60SDA-F (xxx = 340-365, in increment of 5)

340 cells: THxxxPMB5-60SD (xxx = 325-340, in increment of 5)

340 cells: THxxxPMB5-60SDA (xxx = 340-365, in increment of 5)

340 cells: THxxxPMB5-60SDA-F (xxx = 340-365, in increment of 5)

Remark: xxx indicates output power from the front side only.

Maximum system voltage:

1500V

Fuse rating:

20A

Electrical protection class:

Class II

Pollution degree:

1

Material group:

I

Design load (positive / negative):

2400Pa / 2400Pa or 3600Pa / 1600Pa or 3600Pa / 3600Pa or 1600Pa / 1600Pa, refer to CDF for details

Safety factors:

1.5

Fire safety class:

Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details



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Consumer Products

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 = 625-660, 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

Electrical protection class:

Class II

Pollution degree:

1

Material group:

I

Design load (positive / negative):

2400Pa / 1600Pa or 3600Pa / 1600Pa, refer to CDF for details

Safety factors:

1.5

Fire safety class:

Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details

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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)
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
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details

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)
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
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa



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Anlage 2 zum Zertifikat Nr.: / Annex 2 to Certificate No.: **44 780 18 406749 - 343R23A6M38**

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Aktenzeichen: / File reference: **PVP11046/23P**

2024-04-07

Safety factors: 1.5

Fire safety class: Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details



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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

Electrical protection class:

Class II

Pollution degree:

1

Material group:

I

Design load (positive / negative):

3600Pa / 1600Pa

Safety factors:

1.5

Fire safety class:

Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details



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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

Electrical protection class:

Class II

Pollution degree:

1

Material group:

I

Design load (positive / negative):

3600Pa / 1600Pa

Safety factors:

1.5

Fire safety class:

Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details



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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
Electrical protection class:	Class II
Pollution degree:	1
Material group:	I
Design load (positive / negative):	3600Pa / 1600Pa
Safety factors:	1.5
Fire safety class:	Class A or Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018), refer to CDF for details

Remark:

For detailed product information, please refer to CDF (Constructional Data Form) attached to test report.



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