

To / 致:

Company / 公司: Tongwei Co., Ltd.

Contact / 联系人: Mr. Wei Yang

Email / 邮箱: YANGW012@tongwei.com

From / 自:Company / 公司: TÜV NORD (HANGZHOU)
CO., LTD. / 杭州汉德质量认证
服务有限公司

Contact / 联系人: Mrs. Serena.Wu/ 邬玉婷 女士

Email / 邮箱: sewu@tuv-nord.com

Subject: Announcement of cancellation**主题: 证书取消通知**

File No.: PVP06180/25P-05

项目号:

License holder: **Tongwei Co., Ltd.**持证人: No. 588, Middle Section Tianfu Avenue, High-Tech Zone,
Chengdu, China (Sichuan) Pilot Free Trade Zone

Certificate No.: 44 780 23 406749 - 333R8A2M20

证书号:

Product: Crystalline Silicon Terrestrial Photovoltaic (PV) Modules

产品: 地面用晶体硅光伏组件

Herewith it is declared, that the above noted certificate(s) has (have) been invalidated since 2025-12-05
特此声明, 上述证书自 2025 年 12 月 5 日起失效。

The cancellation is due to:

取消原因:

☐ License holder applied for cancellation.

持证人申请取消。

☒ New certificate(s) (no: 44 780 23 406749 - 333R9A2M21) has (have) been issued to replace the cancelled one(s).新证书(证书号: 44 780 23 406749 - 333R9A2M21) 签发, 取代旧证书。☐ Certificate(s) is (are) expired.

证书有效期满。

☐ Certificate(s) has (have) been suspended for one year, and the factory inspection, verification, and rectification required to restore the certificate(s) has (have) not been completed.

证书暂停满一年, 未完成恢复证书所需厂检、核查、整改等。

☐ Certificate(s) has (have) been suspended for one year, and the annual certificate fee has (have) not been paid.

证书暂停满一年, 未支付证书年费。

☐ Others: _____

其他情况: _____

Please pay attention to stop using the invalid certificate(s) from 2025-12-05. Meanwhile, please send back the original copies of above mentioned certificate(s) to us.

请注意从 2025 年 12 月 5 日开始停止使用无效证书。同时，请将上述证书原件寄回给我们。

TÜV NORD reserved the right of final explanation about the cancellation of certificate(s). TÜV NORD will not take any responsibility for the circumstance of misusing the invalid certificate(s) by the license holder or the manufacturer.

TÜV NORD 保留对证书取消的最终解释权。TÜV NORD 对证书持有者或制造商滥用无效证书的情况不承担任何责任。

Renewable Energy / 可再生能源

TÜV NORD (Hangzhou) Co., Ltd. / 杭州汉德质量认证服务有限公司



Serena.Wu/ 郭玉婷

Technical Support / 技术支持

Certificate



This certifies that the company:

Tongwei Co., Ltd.

No. 588, Middle Section Tianfu Avenue,
High-Tech Zone, Chengdu,
China (Sichuan) Pilot Free Trade Zone

is authorized to provide the product(s) mentioned below with the mark as illustrated.

Manufacturer and factory(-ies): See Annex 1

Description of product(s) **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**
(details see Annex 2):

Certification program: P12-VA-01 Rev. 17 / 09.20

Certification fundamental(s): P12.4-AA-04 Rev. 00 / 06.18 (IEC 60068-2-68:1994 modified)

It is certified by TÜV NORD CERT GmbH that the product(s) described above has(have) been assessed according to the certification program mentioned above and found in compliance with the requirements of above specified certification fundamental(s). This certification is based on evaluation results as documented in test report(s) referenced below and production site(s) audit results as documented in factory inspection report(s) referenced in Annex 1. This certificate is valid in conjunction with these quoted report(s).

Registration no.: 44 780 23 406749 - 333R9A2M21
Report no.: 492012725.022
File no.: PVP08056/25P-04
Remark: Test Method Lc1;
Dust concentration: $5 \pm 1.5 \text{ g/m}^3$;
Wind velocity: $20 \pm 2 \text{ m/s}$;
Test duration: 4 hours each side.

Valid from: 2025-12-05

Valid until: 2026-06-15

Essen, 2025-12-05

Certification Body - Consumer Products

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Please also pay attention to the information stated overleaf.



Visit our database to
verify the validity of
this certificate.

Annex 1

to certificate registration no. 44 780 23 406749 - 333R9A2M21

Manufacturer:	Tongwei Co., Ltd. No. 588, Middle Section Tianfu Avenue, High-Tech Zone, Chengdu, China (Sichuan) Pilot Free Trade Zone
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.:	862010358.008
Factory 2:	Tongwei Solar (Yancheng) Co., Ltd. No. 88, Jiuhuashan Road, Economic Development Zone, Yancheng City, Jiangsu Province, China
Factory inspection report no.:	862010763.003
Factory 3:	Tongwei Solar (Sichuan) Co., Ltd. No.888, Jilin East Road, Huai Kou Street, Jintang County, Chengdu City, Sichuan Province
Factory inspection report no.:	862010782.003
Factory 4:	Tongwei Solar (Nantong) Co., LTD No. 8, Bonded 10 Road, Economic Development Zone, Nantong City, Jiangsu Province, P. R. China
Factory inspection report no.:	862010863.003
Factory 5:	Tongwei Solar (Chengdu) Co., LTD No. 888, Linjiaci Road, Huangjia Subdistrict, Shuangliu District, Chengdu City, Sichuan Province, China
Factory inspection report no.:	862010864.003

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



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Annex 2

to certificate registration no. 44 780 23 406749 - 333R9A2M21

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
Maximum overcurrent protection rating:	20A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C

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) 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
Maximum overcurrent protection rating:	20A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C

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Annex 2

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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 = 525-550, 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

Maximum overcurrent protection rating:

30A

Electrical protection class:

Class II

98th percentile module operating temperature (T₉₈):

70°C

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)

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Maximum system voltage:	1500V
Maximum overcurrent protection rating:	30A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C

Module types:

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.

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

156 cells: TWMND-78HDxxx (xxx = 580-650, in increment of 5)
 156 cells: TWxxxMBGT-156-D (xxx = 580-650, in increment of 5)
 144 cells: TWMND-72HDxxx (xxx = 535-605, in increment of 5)
 144 cells: TWxxxMBGT-144-D (xxx = 535-605, in increment of 5)
 132 cells: TWMND-66HDxxx (xxx = 490-555, in increment of 5)
 132 cells: TWxxxMBGT-132-D (xxx = 490-555, in increment of 5)
 120 cells: TWMND-60HDxxx (xxx = 445-505, in increment of 5)
 120 cells: TWxxxMBGT-120-D (xxx = 445-505, in increment of 5)
 108 cells: TWMND-54HDxxx (xxx = 400-450, in increment of 5)
 108 cells: TWxxxMBGT-108-D (xxx = 400-450, 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)



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Maximum system voltage:	1500V
Maximum overcurrent protection rating:	30A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C

132 cells: TWMNH-66HDxxx (xxx = 580-655, in increment of 5)
 120 cells: TWMNH-60HDxxx (xxx = 530-595, in increment of 5)
 108 cells: TWMNH-54HDxxx (xxx = 475-535, in increment of 5)
 108 cells: TWMNH-54HCxxx (xxx = 475-535, in increment of 5)
 96 cells: TWMNH-48HDxxx (xxx = 420-475, in increment of 5)
 96 cells: TWMNH-48HCxxx (xxx = 420-475, in increment of 5)
 96 cells: TWMNH-48HExxx (xxx = 425-470, in increment of 5)
 96 cells: TWMNH-48HWxxx (xxx = 425-475, in increment of 5)
 Remark: xxx indicates output power from the front side only.

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: TWxxxMBIP-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: TWxxxMBIP-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: TWxxxMBIP-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: TWxxxMBIP-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: TWxxxMBIP-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
Maximum overcurrent protection rating:	35A

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Electrical protection class: Class II
98th percentile module operating temperature (T₉₈): 70°C

Module types: **Double Glass PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:**
132 cells: TWMNF-66HDxxx (xxx = 665-755, in increment of 5)
132 cells: TWxxxMBIT-132-D (xxx = 665-755, in increment of 5)
120 cells: TWMNF-60HDxxx (xxx = 605-685, in increment of 5)
120 cells: TWxxxMBIT-120-D (xxx = 605-685, in increment of 5)
108 cells: TWMNF-54HDxxx (xxx = 545-615, in increment of 5)
108 cells: TWxxxMBIT-108-D (xxx = 545-615, 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
Maximum overcurrent protection rating: 35A
Electrical protection class: Class II
98th percentile module operating temperature (T₉₈): 70°C

Module types: **Double Glass PV Modules with Half-cut 8" HJT Mono-crystalline Silicon Solar Cells:**
132 cells: TWMHF-66HDxxx (xxx = 670-740, in increment of 5)
120 cells: TWMHF-60HDxxx (xxx = 605-670, in increment of 5)
Remark: xxx indicates output power from the front side only.

Maximum system voltage: 1500V
Maximum overcurrent protection rating: 35A
Electrical protection class: Class II
98th percentile module operating temperature (T₉₈): 70°C

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Module types:	Double Glass PV Modules with Half-cut 7" TBC Mono-crystalline Silicon Solar Cells: 132 cells: TWMBH-66HDxxx (xxx = 635-670, in increment of 5) 120 cells: TWMBH-60HDxxx (xxx = 580-610, in increment of 5) 108 cells: TWMBH-54HDxxx (xxx = 520-545, in increment of 5) 96 cells: TWMBH-48HDxxx (xxx = 460-485, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C
Module types:	Double Glass PV Modules with 1/3 cut 7" TOPCon Mono-crystalline Silicon Solar Cells: 132 cells: TWMNH-66TDxxx (xxx = 615-670, in increment of 5) 120 cells: TWMNH-60TDxxx (xxx = 560-610, in increment of 5) 108 cells: TWMNH-54TDxxx (xxx = 505-545, in increment of 5) 96 cells: TWMNH-48TDxxx (xxx = 450-485, in increment of 5) Remark: xxx indicates output power from the front side only.
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
98 th percentile module operating temperature (T ₉₈):	70°C
Module types:	Double Glass PV Modules with 1/4 cut 7" TOPCon Mono-crystalline Silicon Solar Cells: 132 cells: TWMNH-66QDxxx (xxx = 615-670, in increment of 5) 120 cells: TWMNH-60QDxxx (xxx = 560-610, in increment of 5) 108 cells: TWMNH-54QDxxx (xxx = 505-545, in increment of 5) 96 cells: TWMNH-48QDxxx (xxx = 450-485, in increment of 5) Remark: xxx indicates output power from the front side only.



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Maximum system voltage: 1500V

Maximum overcurrent protection rating: 35A

Electrical protection class: Class II

98th percentile module operating temperature (T_{98}): 70°C

Remark:

For detailed product information, please refer to CDF (Constructional Data Form) with the same file no.

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