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To / 致:		**From / 自:**	
Company / 公司:	Tongwei Co., Ltd.	Company / 公司:	TUV NORD (HANGZHOU) CO., LTD. / 杭州汉德质量认证服务有限公司
Contact / 联系人:	Mr. Wei Yang	Contact / 联系人:	Mrs. Serena.Wu/ 邬玉婷 女士
Email / 邮箱:	YANGW012@tongwei.com	Email / 邮箱:	sewu@tuv-nord.com

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

File No.: 项目号:	PVP03208/26P-001
License holder: 持证人:	**Tongwei Co., Ltd.** No. 588, Middle Section Tianfu Avenue, High-Tech Zone, Chengdu, China (Sichuan) Pilot Free Trade Zone
Certificate No.: 证书号:	44 780 24 406749 - 028R14M32
Product: 产品:	Crystalline Silicon Terrestrial Photovoltaic (PV) Modules 地面用晶体硅光伏组件

Herewith it is declared, that the above noted certificate(s) has (have) been cancelled since 2026-04-29.
特此声明，上述证书自 2026 年 4 月 29 日起被取消。

Reasons for cancellation of certificate(s):
取消原因：

☐ License holder applied for cancellation.
持证人申请取消。

☒ New certificate(s) (no: 44 780 24 406749 - 028R14M33) has (have) been issued to replace the cancelled one(s).
新证书（证书号：44 780 24 406749 - 028R14M33）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，且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: _____

TUV NORD (Hangzhou) Co., Ltd.
杭州汉德质量认证服务有限公司
Member of TÜV NORD Group
TÜV NORD 集团成员之一

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Website / 网站:
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www.tuev-nord-cert.de

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其他情况：_____

Please stop using the invalid certificate(s) from 2026-04-29. Meanwhile, please send back the original copies of above-mentioned certificate(s) to us.

请从 2026 年 4 月 29 日起停止使用无效证书，并将上述证书原件寄回给我司。

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。

Serena.Wu / 邬玉婷

Technical Support / 技术支持

Renewable Energy / 可再生能源

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

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Certificate

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TÜV NORD CERT GmbH
Type Tested
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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) (details see Annex 2):	**Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**
Trademark:	See Annex 1
Certification scheme:	P12.4-VA-01 Rev. 01 / 01.26 Certification scheme type: Type 5 acc. to ISO/IEC 17067:2013
Certification fundamental(s):	IEC 61215-1:2021 / EN IEC 61215-1:2021, IEC 61215-1-1:2021 / EN IEC 61215-1-1:2021, IEC 61215-2:2021 / EN IEC 61215-2:2021, IEC 61730-1:2023, IEC 61730-2:2023

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 24 406749 - 028R14M33
Report no.:	492013017.039
File no.:	PVP03039/26P-001

Valid from: 2026-04-29
Valid until: 2029-02-25

Essen, 2026-04-29

Certification Body - Consumer Products

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Please also pay attention to the information stated overleaf.

Scan the QR code or visit cis.tuv-nord.com.cn to verify the validity of the certificate

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Annex 1

to certificate registration no. 44 780 24 406749 - 028R14M33

Manufacturer:	**Tongwei Co., Ltd.** No. 588, Middle Section Tianfu Avenue, High-Tech Zone, Chengdu, China (Sichuan) Pilot Free Trade Zone
Trademark:	通威太阳能 TW SOLAR TW SOLAR
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.:	862010358.009
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 24 406749 - 028R14M33

Description of product(s):

Module types:	**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) 144 cells: TWMND-72HDxxx (xxx = 535-600, in increment of 5) 132 cells: TWMND-66HDxxx (xxx = 490-550, in increment of 5) 120 cells: TWMND-60HDxxx (xxx = 445-500, in increment of 5) 108 cells: TWMND-54HDxxx (xxx = 400-450, in increment of 5) 144 cells: TWMNG-72HDxxx (xxx = 580-615, in increment of 5) 120 cells: TWMNG-60HDxxx (xxx = 485-510, in increment of 5) 120 cells: TWMNG-60HCxxx (xxx = 485-510, in increment of 5) 108 cells: TWMNG-54HDxxx (xxx = 435-460, in increment of 5) 108 cells: TWMNG-54HCxxx (xxx = 435-460, in increment of 5) 132 cells: TWMNH-66HDxxx (xxx = 580-665, 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 = 420-480, in increment of 5) 96 cells: TWMNH-48HCxxx (xxx = 420-480, in increment of 5) 96 cells: TWMNH-48HExxx (xxx = 425-485, in increment of 5) 96 cells: TWMNH-48HWxxx (xxx = 425-490, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	30A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	80% ± 5% or 80%±10%, refer to CDF for details

Essen, 2026-04-29

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Annex 2

to certificate registration no. 44 780 24 406749 - 028R14M33

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) 120 cells: TWMNF-60HDxxx (xxx = 605-685, in increment of 5) 108 cells: TWMNF-54HDxxx (xxx = 545-615, in increment of 5) 110 cells: TWMNF-55HDxxx (xxx = 530-565, in increment of 5) 100 cells: TWMNF-50HDxxx (xxx = 480-510, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	80% ± 5%

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) 144 cells: TWMPD-72HDxxx (xxx = 525-565, in increment of 5) 132 cells: TWMPD-66HDxxx (xxx = 480-520, in increment of 5) 120 cells: TWMPD-60HDxxx (xxx = 440-470, in increment of 5) 108 cells: TWMPD-54HDxxx (xxx = 395-425, 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 = 575-585, in increment of 5) 120 cells: TWMPH-60HDxxx (xxx = 525-530, in increment of 5) 96 cells: TWMPH-48HDxxx (xxx = 420-425, in increment of 5) 96 cells: TWMPH-48HCxxx (xxx = 420-425, in increment of 5) xxx indicates rated output power generated from front side under STC

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Maximum system voltage:	1500V
Maximum overcurrent protection rating:	30A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	70% ± 5% or 70% ± 10%, refer to CDF for details
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) 120 cells: TWMPF-60HDxxx (xxx = 580-620, in increment of 5) 108 cells: TWMPF-54HDxxx (xxx = 520-560, in increment of 5) 110 cells: TWMPF-55HDxxx (xxx = 530-565, in increment of 5) 100 cells: TWMPF-50HDxxx (xxx = 480-510, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	70% ± 5%

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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 = 660-740 in increment of 5) 120 cells: TWMHF-60HDxxx (xxx = 600-670, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	85% ± 5%

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) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	3600Pa / 1600Pa, refer to CDF for details
Safety factors:	1.5

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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
Isc bifaciality coefficient (φIsc):	70% ± 5%
Module types:	**Double Glass PV Modules with 1/3 cut 7" TOPCon Mono-crystalline Silicon Solar Cells:** 198 cells: TWMNH-66TDxxx (xxx = 615-670, in increment of 5) 180 cells: TWMNH-60TDxxx (xxx = 560-610, in increment of 5) 162 cells: TWMNH-54TDxxx (xxx = 505-545, in increment of 5) 144 cells: TWMNH-48TDxxx (xxx = 450-485, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	85% ± 5%
Module types:	**Double Glass PV Modules with 1/4 cut 7" TOPCon Mono-crystalline Silicon Solar Cells:** 264 cells: TWMNH-66QDxxx (xxx = 615-670, in increment of 5) 240 cells: TWMNH-60QDxxx (xxx = 560-610, in increment of 5) 216 cells: TWMNH-54QDxxx (xxx = 505-545, in increment of 5) 204 cells: TWMNH-51QDxxx (xxx = 475-515, in increment of 5) 192 cells: TWMNH-48QDxxx (xxx = 450-485, in increment of 5) 192 cells: TWMNH-48QExxx (xxx = 450-495, in increment of 5) 192 cells: TWMNH-48QWxxx (xxx = 450-495, in increment of 5) xxx indicates rated output power generated from front side under STC

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Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	85% ± 5% refer to CDF for details
Module types:	**Double Glass PV Modules with 1/4 cut 8" TOPCon Mono-crystalline Silicon Solar Cells:** 264 cells: TWMNF-66QDxxx (xxx = 700-770, in increment of 5) xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	85% ± 5% refer to CDF for details
Module types:	**Double Glass PV Modules with 1/3 cut 8"HJT Mono-crystalline Silicon Solar Cells:** 198 cells: TWMHF-66TDxxx (xxx = 720-770, in increment of 5)

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	xxx indicates rated output power generated from front side under STC
Maximum system voltage:	1500V
Maximum overcurrent protection rating:	35A
Electrical protection class:	Class II
Pollution degree:	1
98th percentile module operating temperature (T_{98}):	70°C
Design load (positive / negative):	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
Isc bifaciality coefficient (φIsc):	85% ± 5% refer to CDF for details

Remark:
For detailed product information, please refer to CDF (Constructional Data Form) with the same file no.
Isc bifaciality coefficient (φIsc) = Isc_{rear}/Isc_{front}, as defined in IEC TS 60904-1-2.
The tolerance of Isc bifaciality coefficient (φIsc) is claimed by client.

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