CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

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 mentioned below with the mark as illustrated:

Description of product (details see Annex 2):

Crystalline Silicon Terrestrial Photovoltaic (PV) Modules

Valid from: 2024-08-13
Valid until: 2029-08-12

Certification program:	P12-VA-01 Rev. 17 09.20
Certification fundamental(s):	P12.4-AA-04 Rev. 00 (IEC 60068-2-68:1994 modified); 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.
Remark:	Dust and sand test method Lc1; Dust concentration: 5±0.5g/m³; Wind velocity: 20±2m/s; Test duration: 4 hours each side.
Registered No.:	44 780 24 406749 - 331
Manufacturer and factory(-ies):	See Annex 1
Test Report No.:	492013348.001
File No.:	PVP08052/24P-03

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Essen, 2024-08-13

Please also pay attention to the information stated overleaf.

TÜV NORD CERT GmbH Am TÜV 1 D-45307 Essen www.tuev-nord-cert.de
Fon +49 (0)201 825 5120 Fax +49 (0)201 825 3209 prodcert@tuev-nord.de

Manufacturer and factory(-ies):

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.:	862010358.007
Factory 2:	**Tongwei Solar (Yancheng) Co., Ltd.** No. 88, Jiuhuashan Road, Economic Development Zone, Yancheng City, Jiangsu Province, China
Factory inspection report no.:	862010763.001
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.:	862010782.001
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.:	862010863.001
Factory 5:	**Tongwei Solar (Chengdu) Co., LTD** No. 888, Linjiaci Road, Huangjia Subdistrict, Shuangliu District, Chengdu City, Sichuan Province, China
Factory inspection report no.:	862010864.001

Remark:

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

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Description of product(s):

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) Remark: 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

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 = 580-630, in increment of 5) 120 cells: TWMNH-60HDxxx (xxx = 530-570, in increment of 5) 108 cells: TWMNH-54HDxxx (xxx = 475-515, in increment of 5) 108 cells: TWMNH-54HCxxx (xxx = 475-515, in increment of 5) 96 cells: TWMNH-48HDxxx (xxx = 420-455, in increment of 5) 96 cells: TWMNH-48HCxxx (xxx = 420-455, in increment of 5)

TÜV NORD CERT GmbH
Certification Body
Consumer Products

	Remark: 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
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) Remark: 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
Module types:	**Double Glass PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:** 132 cells: TWMNF-66HDxxx (xxx = 665-725, in increment of 5) 120 cells: TWMNF-60HDxxx (xxx = 605-660, in increment of 5) 108 cells: TWMNF-54HDxxx (xxx = 545-590, 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) Remark: 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
Module types:	**Double Glass PV Modules with Half-cut 8" HJT Mono-crystalline Silicon Solar Cells:** 132 cells: TWMHF-66HDxxx (xxx = 660-735 in increment of 5) 120 cells: TWMHF-60HDxxx (xxx = 600-665, in increment of 5)

TÜV NORD CERT GmbH
Certification Body
Consumer Products

	Remark: 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

Remark:
For detailed product information, please refer to CDF (Constructional Data Form).

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Am TÜV 1 • D-45307 Essen • Fon +49 (0)201 825 5120 • Fax +49 (0)201 825 3209 • Email: prodcert@tuev-nord.de