

CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

Zhejiang Ganghang Solar Technology Co., Ltd.
Room 503, 10th Building, Kuamao Twon,
Hangzhou City,
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: 2022-12-16

Valid until: 2027-10-19

Certification program: P12-VA-01 Rev. 17 09.20
Certification fundamental(s): IEC / EN 61215-1:2016;
IEC / EN 61215-1-1:2016;
IEC 61215-2:2016 / EN 61215-2:2017 + AC:2017 + AC:2018;
IEC 61730-1:2016 / EN IEC 61730-1:2018 + AC:2018;
IEC 61730-2:2016 / EN IEC 61730-2:2018 + AC:2018.
Registered No.: 44 780 22 406749 - 261
Manufacturer: see Annex 1
Test Report No.: 492012253.001
File No.: PVP11116/22P



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Essen, 2022-12-16

Please also pay attention to the information stated overleaf.

Manufacturer:

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

Factory inspection report no.: 862010358.006

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:

PV Modules with Segmented 6" PERC Mono-crystalline Silicon Solar Cells:

432 cells: THxxxPM5-78S (xxx = 445-480, in increment of 5)
432 cells: THxxxPM5-78SA (xxx = 445-480, in increment of 5)
432 cells: THxxxPM5-78SAF (xxx = 445-480, in increment of 5)
432 cells: THxxxPM5-78SAS (xxx = 445-480, in increment of 5)
432 cells: THxxxPMB5-78S (xxx = 445-480, in increment of 5)
432 cells: THxxxPMB5-78SA (xxx = 445-480, in increment of 5)
432 cells: THxxxPMB5-78SAF (xxx = 445-480, in increment of 5)
432 cells: THxxxPMB5-78SAS (xxx = 445-480, in increment of 5)
408 cells: THxxxPM5-72S (xxx = 395-455, in increment of 5)
408 cells: THxxxPM5-72SA (xxx = 420-455, in increment of 5)
408 cells: THxxxPM5-72SAF (xxx = 420-455, in increment of 5)
408 cells: THxxxPM5-72SAS (xxx = 420-455, in increment of 5)
408 cells: THxxxPM5-72SB (xxx = 460-500, in increment of 5)
408 cells: THxxxPM5-72SBF (xxx = 460-500, in increment of 5)
408 cells: THxxxPM5-72SBS (xxx = 460-500, in increment of 5)
408 cells: THxxxPMB5-72SB (xxx = 460-505, in increment of 5)
408 cells: THxxxPMB5-72SBF (xxx = 460-500, in increment of 5)
408 cells: THxxxPMB5-72SBS (xxx = 460-505, in increment of 5)
408 cells: THxxxPM5-72SF (xxx = 395-435, in increment of 5)
408 cells: THxxxPM5-72SS (xxx = 395-435, in increment of 5)
408 cells: THxxxPMB5-72S (xxx = 395-455, in increment of 5)
408 cells: THxxxPMB5-72SA (xxx = 420-455, in increment of 5)
408 cells: THxxxPMB5-72SAF (xxx = 420-455, in increment of 5)
408 cells: THxxxPMB5-72SAS (xxx = 420-455, in increment of 5)
408 cells: THxxxPMB5-72SF (xxx = 395-435, in increment of 5)
408 cells: THxxxPMB5-72SS (xxx = 395-435, in increment of 5)
360 cells: THxxxPM5-66S (xxx = 370-400, in increment of 5)
360 cells: THxxxPM5-66SA (xxx = 370-400, in increment of 5)
360 cells: THxxxPM5-66SAF (xxx = 370-400, in increment of 5)
360 cells: THxxxPM5-66SAS (xxx = 370-400, in increment of 5)
360 cells: THxxxPMB5-66S (xxx = 370-400, in increment of 5)
360 cells: THxxxPMB5-66SA (xxx = 370-400, in increment of 5)
360 cells: THxxxPMB5-66SAF (xxx = 370-400, in increment of 5)
360 cells: THxxxPMB5-66SAS (xxx = 370-400, in increment of 5)
340 cells: THxxxPM5-60S (xxx = 325-380, in increment of 5)
340 cells: THxxxPM5-60SA (xxx = 350-380, in increment of 5)



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340 cells: THxxxPM5-60SAF (xxx = 350-380, in increment of 5)
340 cells: THxxxPM5-60SAS (xxx = 350-380, in increment of 5)
340 cells: THxxxPM5-60SB (xxx = 380-415, in increment of 5)
340 cells: THxxxPM5-60SBF (xxx = 380-415, in increment of 5)
340 cells: THxxxPM5-60SBS (xxx = 380-415, in increment of 5)
340 cells: THxxxPMB5-60SB (xxx = 380-420, in increment of 5)
340 cells: THxxxPMB5-60SBF (xxx = 380-415, in increment of 5)
340 cells: THxxxPMB5-60SBS (xxx = 380-420, in increment of 5)
340 cells: THxxxPM5-60SF (xxx = 325-360, in increment of 5)
340 cells: THxxxPM5-60SS (xxx = 325-360, in increment of 5)
340 cells: THxxxPMB5-60S (xxx = 325-380, in increment of 5)
340 cells: THxxxPMB5-60SA (xxx = 350-380, in increment of 5)
340 cells: THxxxPMB5-60SAF (xxx = 350-380, in increment of 5)
340 cells: THxxxPMB5-60SAS (xxx = 350-380, in increment of 5)
340 cells: THxxxPMB5-60SF (xxx = 325-360, in increment of 5)
340 cells: THxxxPMB5-60SS (xxx = 325-360, in increment of 5)

Maximum system voltage: 1500V
Fuse rating: 20A
Electrical protection class: Class II
Pollution degree: 1
Material group: III or II or I, refer to CDF for details
Design load (positive / negative): 2400Pa / 2400Pa or 3600Pa / 1600Pa, refer to CDF for details
Safety factors: 1.5
Fire safety class: Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Module types: **PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells:**

414 cells: THxxxPM6-69SC (xxx = 645-655, in increment of 5)
414 cells: THxxxPMB6-69SC (xxx = 645-670, in increment of 5)
408 cells: THxxxPM6-68SC (xxx = 635-655, in increment of 5)
408 cells: THxxxPMB6-68SC (xxx = 635-660, in increment of 5)
390 cells: THxxxPM6-65SC (xxx = 605-625, in increment of 5)
390 cells: THxxxPMB6-65SC (xxx = 605-630, in increment of 5)
345 cells: THxxxPM6-58SC (xxx = 535-550, in increment of 5)
345 cells: THxxxPMB6-58SC (xxx = 535-555, in increment of 5)
340 cells: THxxxPM6-57SC (xxx = 530-545, in increment of 5)
340 cells: THxxxPMB6-57SC (xxx = 530-550, in increment of 5)
325 cells: THxxxPM6-54SC (xxx = 505-520, in increment of 5)



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325 cells: THxxxPMB6-54SC (xxx = 505-525, in increment of 5)
320 cells: THxxxPMB7-46SC (xxx = 425-445, in increment of 5)
320 cells: THxxxPMB7-46SCS (xxx = 425-445, in increment of 5)
320 cells: THxxxPMB7-46SCF (xxx = 420-440, in increment of 5)
305 cells: THxxxPMB7-44SC (xxx = 405-425, in increment of 5)
305 cells: THxxxPMB7-44SCS (xxx = 405-425, in increment of 5)
305 cells: THxxxPMB7-44SCF (xxx = 400-420, in increment of 5)

Maximum system voltage: 1500V
Fuse rating: 30A or 25A, refer to CDF for details
Electrical protection class: Class II
Pollution degree: 1
Material group: III or II or I, refer to CDF for details
Design load (positive / negative): 3600Pa / 1600Pa, refer to CDF for details
Safety factors: 1.5
Fire safety class: Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)

Remark:

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



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