

CERTIFICATE

TÜV NORD CERT GmbH
herewith declares that

TommaTech GmbH
Zeppelinstrasse 14 – 85748
Garching b.München,
GERMANY

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: 2024-12-27
Valid until: 2026-06-15

Certification program:	P12-VA-01 Rev. 17 09.20
Certification fundamental(s):	P12.4-AA-04 Rev. 00 (IEC 60068-2-68:1994 modified)
Remark:	Test Method Lc1; Dust concentration: $5\pm 0.5\text{g/m}^3$; Wind velocity: $20\pm 2\text{m/s}$; Test duration: 4 hours each side.
Registered No.:	44 780 24 406749 - 510
Manufacturer and factory(-ies):	See Annex 1
Test Report No.:	492013558.001
File No.	PVP11181/24P-07



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Essen, 2024-12-27

Please also pay attention to the information stated overleaf.

Description of product(s):

Module types:	Double Glass PV Modules with Segmented 8" PERC Mono-crystalline Silicon Solar Cells: 414 cells: TTxxx-69PMBSH (xxx=635-670, in increment of 5) 408 cells: TTxxx-68PMBSH (xxx=625-660, in increment of 5) 390 cells: TTxxx-65PMBSH (xxx=600-630, in increment of 5) 345 cells: TTxxx-58PMBSH (xxx=530-555, in increment of 5) 340 cells: TTxxx-57PMBSH (xxx=520-550, in increment of 5) 325 cells: TTxxx-54PMBSH (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

Module types:	Double Glass PV Modules with Half-cut 7" PERC Mono-crystalline Silicon Solar Cells: 156 cells: TTxxx-156PMB10 (xxx = 570-615, in increment of 5) 144 cells: TTxxx-144PMB10 (xxx = 525-565, in increment of 5) 132 cells: TTxxx-132PMB10 (xxx = 480-520, in increment of 5) 120 cells: TTxxx-120PMB10 (xxx = 440-470, in increment of 5) 108 cells: TTxxx-108PMB10 (xxx = 395-425, in increment of 5) 144 cells: TTxxx-144PMB10R (xxx = 560-590, in increment of 5) 108 cells: TTxxx-108PMB10R (xxx = 420-440, in increment of 5) 108 cells: TTxxx-108PMBFB10R (xxx = 420-440, in increment of 5) 132 cells: TTxxx-132PMB12R (xxx = 575-590, in increment of 5) 120 cells: TTxxx-120PMB12R (xxx = 525-535, in increment of 5) 96 cells: TTxxx-96PMB12R (xxx = 420-430, in increment of 5) 96 cells: TTxxx-96PMBFB12R (xxx = 420-430, 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

Module types:	Double Glass PV Modules with Half-cut 7" TOPCon Mono-crystalline Silicon Solar Cells: 156 cells: TTxxx-156TNB10 (xxx = 580-650, in increment of 5) 144 cells: TTxxx-144TNB10 (xxx = 535-605, in increment of 5)
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132 cells: TTxxx-132TNB10 (xxx = 490-555, in increment of 5)
120 cells: TTxxx-120TNB10 (xxx = 445-505, in increment of 5)
108 cells: TTxxx-108TNB10 (xxx = 400-450, in increment of 5)
144 cells: TTxxx-144TNB10R (xxx = 580-620, in increments of 5)
120 cells: TTxxx-120TNB10R (xxx = 485-515, in increments of 5)
108 cells: TTxxx-108TNB10R (xxx = 435-465, in increments of 5)
108 cells: TTxxx-108TNBFB10R (xxx = 435-465, in increments of 5)
132 cells: TTxxx-132TNB12R (xxx = 580-630, in increment of 5)
120 cells: TTxxx-120TNB12R (xxx = 530-570, in increment of 5)
108 cells: TTxxx-108TNB12R (xxx = 475-515, in increment of 5)
108 cells: TTxxx-108TNBFB12R (xxx = 475-515, in increment of 5)
96 cells: TTxxx-96TNB12R (xxx = 420-455, in increment of 5)
96 cells: TTxxx-96TNBFB12R (xxx = 420-455, 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

Module types:

Double Glass PV Modules with Half-cut 8" PERC Mono-crystalline Silicon Solar Cells:

132 cells: TTxxx-132PMB12 (xxx = 635-685, in increment of 5)
120 cells: TTxxx-120PMB12 (xxx = 580-620, in increment of 5)
108 cells: TTxxx-108PMB12 (xxx = 520-560, in increment of 5)
110 cells: TTxxx-110PMB12 (xxx = 530-570, in increment of 5)
100 cells: TTxxx-100PMB12 (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

Module types:

Double Glass PV Modules with Half-cut 8" TOPCon Mono-crystalline Silicon Solar Cells:

132 cells: TTxxx-132TNB12 (xxx = 665-725, in increment of 5)
120 cells: TTxxx-120TNB12 (xxx = 605-660, in increment of 5)
108 cells: TTxxx-108TNB12 (xxx = 545-590, in increment of 5)
110 cells: TTxxx-110TNB12 (xxx = 530-570, in increment of 5)
100 cells: TTxxx-100TNB12 (xxx = 480-515, in increment of 5)



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

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: TTxxx-132HJB10 (xxx = 670-740, in increment of 5)

120 cells: TTxxx-120HJB10 (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

Remark:

For detailed product information, please refer to test report.



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