



# CERTIFICATE

**TÜV NORD CERT GmbH**

herewith declares that

**AE Alternative Energy GmbH**

Messerschmittring 54  
86343 Königsbrunn  
Germany

is authorized to provide the product mentioned below with the mark as illustrated:

**Description of product (details see Annex 2):**

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

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



Valid from: 2021-08-27

Valid until: 2022-10-19

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 21 406749 - 184

Manufacturer: see Annex 1

Test Report No.: 492011792.001

File No.: PVP04009/21P



Essen, 2021-08-27

*Roger Alba*  
**TÜV NORD CERT GmbH**  
**Certification Body**  
**Consumer Products**

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: **44 780 21 406749 - 184**

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Aktenzeichen: / File reference: **PVP04009/21P**

**2021-08-27**

**Manufacturer:**

Manufacturer:

**ALTERNATIVE ENERGY (AE) SOLAR CO., LTD.**

No. 26, Jingyi Road, Hongze Economic Development Zone,  
Huai'an City, Jiangsu Province, P.R. China

Factory inspection report no.: **862010358.004**

**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: AExxxSMA-78 (xxx = 445-480, in increment of 5)  
432 cells: AExxxSMB-78 (xxx = 445-480, in increment of 5)  
432 cells: AExxxSMB-78E (xxx = 445-480, in increment of 5)  
432 cells: AExxxSMB-78F (xxx = 445-480, in increment of 5)  
432 cells: AExxxBMA-78 (xxx = 445-480, in increment of 5)  
432 cells: AExxxBMB-78 (xxx = 445-480, in increment of 5)  
432 cells: AExxxBMB-78E (xxx = 445-480, in increment of 5)  
432 cells: AExxxBMB-78F (xxx = 445-480, in increment of 5)  
408 cells: AExxxSMA-72 (xxx = 395-455, in increment of 5)  
408 cells: AExxxSMB-72 (xxx = 420-455, in increment of 5)  
408 cells: AExxxSMB-72E (xxx = 420-455, in increment of 5)  
408 cells: AExxxSMB-72F (xxx = 420-455, in increment of 5)  
408 cells: AExxxSMC-72 (xxx = 460-500, in increment of 5)  
408 cells: AExxxSMC-72E (xxx = 460-500, in increment of 5)  
408 cells: AExxxSMC-72F (xxx = 460-500, in increment of 5)  
408 cells: AExxxBMC-72 (xxx = 460-500, in increment of 5)  
408 cells: AExxxBMC-72E (xxx = 460-500, in increment of 5)  
408 cells: AExxxBMC-72F (xxx = 460-500, in increment of 5)  
408 cells: AExxxSMA-72E (xxx = 395-435, in increment of 5)  
408 cells: AExxxSMA-72F (xxx = 395-435, in increment of 5)  
408 cells: AExxxBMA-72 (xxx = 395-455, in increment of 5)  
408 cells: AExxxBMB-72 (xxx = 420-455, in increment of 5)  
408 cells: AExxxBMB-72E (xxx = 420-455, in increment of 5)  
408 cells: AExxxBMB-72F (xxx = 420-455, in increment of 5)  
408 cells: AExxxBMA-72E (xxx = 395-435, in increment of 5)  
408 cells: AExxxBMA-72F (xxx = 395-435, in increment of 5)  
360 cells: AExxxSMA-66 (xxx = 370-400, in increment of 5)  
360 cells: AExxxSMB-66 (xxx = 370-400, in increment of 5)  
360 cells: AExxxSMB-66E (xxx = 370-400, in increment of 5)  
360 cells: AExxxSMB-66F (xxx = 370-400, in increment of 5)  
360 cells: AExxxBMA-66 (xxx = 370-400, in increment of 5)  
360 cells: AExxxBMB-66 (xxx = 370-400, in increment of 5)  
360 cells: AExxxBMB-66E (xxx = 370-400, in increment of 5)  
360 cells: AExxxBMB-66F (xxx = 370-400, in increment of 5)  
340 cells: AExxxSMA-60 (xxx = 325-380, in increment of 5)  
340 cells: AExxxSMB-60 (xxx = 350-380, in increment of 5)

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340 cells: AExxxSMB-60E (xxx = 350-380, in increment of 5)  
340 cells: AExxxSMB-60F (xxx = 350-380, in increment of 5)  
340 cells: AExxxSMC-60 (xxx = 380-415, in increment of 5)  
340 cells: AExxxSMC-60E (xxx = 380-415, in increment of 5)  
340 cells: AExxxSMC-60F (xxx = 380-415, in increment of 5)  
340 cells: AExxxBMC-60 (xxx = 380-415, in increment of 5)  
340 cells: AExxxBMC-60E (xxx = 380-415, in increment of 5)  
340 cells: AExxxBMC-60F (xxx = 380-415, in increment of 5)  
340 cells: AExxxSMA-60E (xxx = 325-360, in increment of 5)  
340 cells: AExxxSMA-60F (xxx = 325-360, in increment of 5)  
340 cells: AExxxBMA-60 (xxx = 325-380, in increment of 5)  
340 cells: AExxxBMB-60 (xxx = 350-380, in increment of 5)  
340 cells: AExxxBMB-60E (xxx = 350-380, in increment of 5)  
340 cells: AExxxBMB-60F (xxx = 350-380, in increment of 5)  
340 cells: AExxxBMA-60E (xxx = 325-360, in increment of 5)  
340 cells: AExxxBMA-60F (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 test report for details
Design load (positive / negative):	2400Pa / 2400Pa or 3600Pa / 1600Pa, refer to test report for details
Safety factors:	1.5
Fire safety class:	Class C according to ANSI/UL 1703-2018 (as per ANSI/UL 790-2018)



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Module types:

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

408 cells: AExxxSME-68 (xxx = 635-655, in increment of 5)  
408 cells: AExxxBME-68 (xxx = 635-655, in increment of 5)  
414 cells: AExxxSME-69 (xxx = 645-655, in increment of 5)  
414 cells: AExxxBME-69 (xxx = 645-655, in increment of 5)  
390 cells: AExxxSME-65 (xxx = 605-625, in increment of 5)  
390 cells: AExxxBME-65 (xxx = 605-625, in increment of 5)  
340 cells: AExxxSME-57 (xxx = 530-545, in increment of 5)  
340 cells: AExxxBME-57 (xxx = 530-545, in increment of 5)  
345 cells: AExxxSME-58 (xxx = 535-550, in increment of 5)  
345 cells: AExxxBME-58 (xxx = 535-550, in increment of 5)  
325 cells: AExxxSME-54 (xxx = 505-520, in increment of 5)  
325 cells: AExxxBME-54 (xxx = 505-520, in increment of 5)

Maximum system voltage:

1500V

Fuse rating:

30A or 25A, refer to test report for details

Electrical protection class:

Class II

Pollution degree:

1

Material group:

III or II or I, refer to test report for details

Design load (positive / negative):

3600Pa / 1600Pa, refer to test report 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 test report.



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