

CERTIFICATE

Issued to:
Applicant:
TCL Zhonghuan Energy Technology (Jiangsu) Co.,
Ltd.
No.20 Wenzhuang Road, Economic Development
Zone
214203 Yixing City Jiangsu, China

Licensee:
TCL Zhonghuan Energy Technology (Jiangsu) Co.,
Ltd.
No.20 Wenzhuang Road, Economic Development
Zone
214203 Yixing City Jiangsu, China

Product : Photovoltaic (PV) Module(s)
Trade name(s) : Huansheng Solar, SunPower, TCL, TCL Solar or TCL Zhonghuan
Type(s)/model(s) : PV module with mono c-Si cells

The product and any acceptable variation thereof as specified in the Annex to this certificate and the documents referred to therein.

DEKRA hereby declares that the above-mentioned product has been certified based on:

- an evaluation according to the standard(s) IEC 62716:2013 and EN 62716:2013
- a periodic surveillance
- a DEKRA certification agreement with the number 6060262

DEKRA hereby grants the right to use the DEKRA Seal certification mark with the following content:

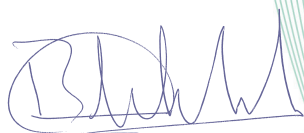
Category : Photovoltaic
Keyword : Ammonia Resistance
Keyword : Periodic Factory Inspection

The DEKRA Seal certification mark may be applied to the product or documentation as specified in this certificate for the duration and under the conditions of the DEKRA Seal certification agreement.

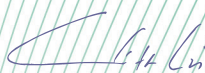
This certificate is issued on 17 March 2026 and expires at the latest on 19 July 2026.

Certificate number: 31-119928 REV.18

DEKRA Certification B.V.



B.T.M. Holtus
Managing Director



Cliff Lin
Certification Manager

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31-119928

SPECIFICATION OF THE CERTIFIED PRODUCT

Product data

Product	: Photovoltaic (PV) Module(s)
Trade name(s)	: Huansheng Solar, SunPower, TCL, TCL Solar or TCL Zhonghuan
Type(s)/model(s)	: HSM-BD48-GRxxx, HSM-BD54-DAxxx, HSM-BD54-GAxxx, HSM-BD54-GCxxx, HSM-BD54-GRxxx, HSM-BD60-DAxxx, HSM-BD60-GAxxx, HSM-BD60-GCxxx, HSM-BD66-GRxxx, HSM-BD72-GCxxx, HSM-BD72-GFxxx, HSM-BD78-GFxxx, HSM-BDxxx-GKF, HSM-BDxxx-WKF, HSM-DFB-NMxxx, HSM-DFB-NMxxx-1500, HSM-DFG-NMxxx, HSM-GFB-NMxxx, HSM-GFC-NMxxx, HSM-GFD-NMxxx, HSM-GFD-PMxxx, HSM-GFE-NMxxx, HSM-GFG-NMxxx, HSM-GHF-NMxxx, HSM-GHJ-NMxxx, HSM-GKA-NMxxx, HSM-GKA-PMxxx, HSM-GKG-NMxxx, HSM-GLF-NMxxx, HSM-GRA-NExxx, HSM-GRA-NMxxx, HSM-GRG-NMxxx, HSM-GRJ-NExxx, HSM-HRI-NExxx, HSM-ND48-DRxxx, HSM-ND48-GRxxx, HSM-ND48-HRxxx, HSM-ND48-LRxxx, HSM-ND48-WRxxx, HSM-ND54-DRxxx, HSM-ND54-GRxxx, HSM-ND54-HRxxx, HSM-ND54-LRxxx, HSM-ND54-WRxxx, HSM-ND66-GKxxx, HSM-ND66-GKxxx-Y, HSM-ND66-GRxxx, HSM-ND66-GRxxx-Y, HSM-ND66-WKxxx, HSM-ND66-WRxxx, HSM-ND72-GFxxx, HSM-ND72-WFxxx, HSM-ND78-GFxxx, HSM-ND78-WFxxx, HSM-TBxxx-GK, HSM-TBxxx-GKF, HSM-TDxxx-GK, HSM-TDxxx-GKF, HSM-TDxxx-GKF-U, HSM-TDxxx-WK, HSM-TDxxx-WKF, HSM-TDxxx-WKF-U, HSM-TGxxx-GSF, HSM-TGxxx-WSF, HSM-THxxx-GK, HSM-THxxx-GKF-U, HSM-THxxx-WK, HSM-THxxx-WKF-U, HSM-TYxxx-WKF, HSM-WFD-NMxxx, HSM-WFD-PMxxx, HSM-WFE-NMxxx, HSM-WHF-NMxxx, HSM-WKA-NMxxx, HSM-WKA-PMxxx, HSM-WKG-NMxxx, HSM-WLF-NMxxx and HSM-WRA-NMxxx

Product data – type HSM-BD48-GRxxx

Maximum system voltage	: 1500V
Design	: PV module with mono c-Si cells (double-glass module)
Description	: xxx=455-480, in steps of 5, 96 cells

Product data – type HSM-BD54-DAxxx

Maximum system voltage	: 1500V
Design	: PV module with mono c-Si cells (double-glass module)
Description	: xxx=440-480, in steps of 5, 108 cells

Product data – type HSM-BD54-GAxxx

Maximum system voltage	: 1500V
Design	: PV module with mono c-Si cells (double-glass module)
Description	: xxx=440-480, in steps of 5, 108 cells

Product data – type HSM-BD54-GCxxx

Maximum system voltage	: 1500V
Design	: PV module with mono c-Si cells (backsheet module)
Description	: xxx=465-495, in steps of 5, 108 cells

Product data – type HSM-BD54-GRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=510-540, in steps of 5, 108 cells

Product data – type HSM-BD60-DAxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=490-520, in steps of 5, 120 cells

Product data – type HSM-BD60-GAxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=490-520, in steps of 5, 120 cells

Product data – type HSM-BD60-GCxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=520-550, in steps of 5, 120 cells

Product data – type HSM-BD66-GRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=620-675, in steps of 5, 132 cells

Product data – type HSM-BD72-GCxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=620-665, in steps of 5, 144 cells

Product data – type HSM-BD72-GFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=600-635, in steps of 5, 144 cells

Product data – type HSM-BD78-GFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=650-690, in steps of 5, 156 cells

Product data – type HSM-BDxxx-GKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=510-550, in steps of 5, 345 cells

Product data – type HSM-BDxxx-WKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)

Description : xxx=515-555, in steps of 5, 345 cells

Product data – type HSM-DFB-NMxxx

Maximum system voltage : 1000V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=430-460, in steps of 5, 174 cells
xxx=428, 174 cells

Product data – type HSM-DFB-NMxxx-1500

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=430-460, in steps of 5, 174 cells
xxx=428, 174 cells

Product data – type HSM-DFG-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=485-520, in steps of 5, 192 cells

Product data – type HSM-GFB-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=435-475, in steps of 5, 174 cells

Product data – type HSM-GFC-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=520-560, in steps of 5, 210 cells

Product data – type HSM-GFD-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=560-615, in steps of 5, 222 cells

Product data – type HSM-GFD-PMxxx

Design : PV module with mono c-Si cells (double-glass module)
Maximum system voltage : 1500V
Description : xxx=530-570, in steps of 5, 222 cells

Product data – type HSM-GFE-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=605-660, in steps of 5, 240 cells

Product data – type HSM-GFG-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=485-520 in steps of 5, 192 cells

Product data – type HSM-GHF-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=580-670, in steps of 5, 198 cells

Product data – type HSM-GHJ-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=550-610, in steps of 5, 180 cells

Product data – type HSM-GKA-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=670-745, in steps of 5, 204 cells

Product data – type HSM-GKA-PMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=650-685, in steps of 5, 204 cells

Product data – type HSM-GKG-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=640-680, in steps of 5, 192 cells

Product data – type HSM-GLF-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=680-755, in steps of 5, 198 cells

Product data – type HSM-GRA-NExxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=620-680, in steps of 5, 204 cells

Product data – type HSM-GRA-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=585-645, in steps of 5, 204 cells

Product data – type HSM-GRG-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=560-605, in steps of 5, 192 cells

Product data – type HSM-GRJ-NExxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)

Description : xxx=550-605, in steps of 5, 180 cells

Product data – type HSM-HRI-NExxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=440-490, in steps of 5, 150 cells

Product data – type HSM-ND48-DRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=430-460, in steps of 5, 96 cells

Product data – type HSM-ND48-GRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=430-460, in steps of 5, 96 cells

Product data – type HSM-ND48-HRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=430-460, in steps of 5, 96 cells

Product data – type HSM-ND48-LRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=435-460, in steps of 5, 96 cells

Product data – type HSM-ND48-WRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=435-460, in steps of 5, 96 cells

Product data – type HSM-ND54-DRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=480-515, in steps of 5, 108 cells

Product data – type HSM-ND54-GRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=485-515, in steps of 5, 108 cells

Product data – type HSM-ND54-HRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=480-515, in steps of 5, 108 cells

Product data – type HSM-ND54-LRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=490-520, in steps of 5, 108 cells

Product data – type HSM-ND54-WRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=490-520, in steps of 5, 108 cells

Product data – type HSM-ND66-GKxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=685-750, in steps of 5, 132 cells

Product data – type HSM-ND66-GKxxx-Y

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=685-750, in steps of 5, 132 cells

Product data – type HSM-ND66-GRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=595-670, in steps of 5, 132 cells

Product data – type HSM-ND66-GRxxx-Y

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=595-670, in steps of 5, 132 cells

Product data – type HSM-ND66-WKxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=690-725, in steps of 5, 132 cells

Product data – type HSM-ND66-WRxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=595-630, in steps of 5, 132 cells

Product data – type HSM-ND72-GFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=570-605, in steps of 5, 144 cells

Product data – type HSM-ND72-WFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=580-605, in steps of 5, 144 cells

Product data – type HSM-ND78-GFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=615-645, in steps of 5, 156 cells

Product data – type HSM-ND78-WFxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=625-655, in steps of 5, 156 cells

Product data – type HSM-TBxxx-GK

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=575-610, in steps of 5, 378 cells

Product data – type HSM-TBxxx-GKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=480-505, in steps of 5, 315 cells

Product data – type HSM-TDxxx-GK

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=625-670, in steps of 5, 414 cells

Product data – type HSM-TDxxx-GKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=510-555, in steps of 5, 345 cells

Product data – type HSM-TDxxx-GKF-U

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=510-555, in steps of 5, 345 cells

Product data – type HSM-TDxxx-WK

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=635-675, in steps of 5, 414 cells

Product data – type HSM-TDxxx-WKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=515-560, in steps of 5, 345 cells

Product data – type HSM-TDxxx-WKF-U

Maximum system voltage : 1500V

Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=515-560, in steps of 5, 345 cells

Product data – type HSM-TGxxx-GSF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=530-585, in steps of 5, 330 cells

Product data – type HSM-TGxxx-WSF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=530-585, in steps of 5, 330 cells

Product data – type HSM-THxxx-GK

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=630-670, in steps of 5, 408 cells

Product data – type HSM-THxxx-GKF-U

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (double-glass module)
Description : xxx=530-555, in steps of 5, 340 cells

Product data – type HSM-THxxx-WK

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=635-675, in steps of 5, 408 cells

Product data – type HSM-THxxx-WKF-U

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=515-560, in steps of 5, 340 cells

Product data – type HSM-TYxxx-WKF

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=385-420, in steps of 5, 260 cells

Product data – type HSM-WFD-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=570-605, in steps of 5, 222 cells

Product data – type HSM-WFD-PMxxx

Design : PV module with mono c-Si cells (backsheet module)
Maximum system voltage : 1500V
Description : xxx=540-570, in steps of 5, 222 cells

Product data – type HSM-WFE-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=620-650, in steps of 5, 240 cells

Product data – type HSM-WHF-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=595-615, in steps of 5, 198 cells

Product data – type HSM-WKA-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=690-730, in steps of 5, 204 cells

Product data – type HSM-WKA-PMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=655-690, in steps of 5, 204 cells

Product data – type HSM-WKG-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=645-685, in steps of 5, 192 cells

Product data – type HSM-WLF-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=690-720, in steps of 5, 198 cells

Product data – type HSM-WRA-NMxxx

Maximum system voltage : 1500V
Design : PV module with mono c-Si cells (backsheet module)
Description : xxx=600-625, in steps of 5, 204 cells

TESTS**Test requirements**

IEC 62716:2013
EN 62716:2013

Test result

The test results are documented in DEKRA test file 625724500.

Additional information

This certificate replaces certificate No. 31-119928 REV.17 which we hereby declare invalid.

The list of components is laid down in test report 6257245B.50.

Conclusion

The examination has confirmed that all requirements were met.

Factory locations

Huansheng New Energy (Jiangsu) Co., Ltd.

No. 28, Tengfei Road, Qiting Street

214203 Yixing City Jiangsu, China

Huansheng New Energy (Tianjin) Co., Ltd.

No. 750, Shenzhou Avenue, South District of Future Science and Technology City, Binhai High Tech Zone

300462 Tianjin, China

Huansheng New Energy (Inner Mongolia) Co., Ltd.

No.15 Baolier Street, Saihan District

010010 Hohhot City Nei Mongol, China

Trade name(s): Huansheng Solar stands for  环晟光伏
HUANSHENG SOLAR

TCL Solar stands for **TCL** SOLAR

TCL stands for **TCL**

SunPower stands for **SUNPOWER**

TCL Zhonghuan stands for **TCL** 中环

Unique Identifier

The DEKRA Seal has been updated with a modern look. Both the new and old designs of the seal are shown on this certificate, and you may use either version. We strongly encourage you to use the new version for a clearer and more contemporary representation of your certification.

New DEKRA Seal certification mark design:



Old DEKRA Seal certification mark design:

