



TS IEC 62804-1:2015

Photovoltaic (PV) Modules - Test Methods for the detection of potential-induced degradation

Part 1: Crystalline silicon
Confirmation of test results

Ref.: 5007790-3972-0001/225140

Applicant: Changzhou EGing Photovoltaic Technology Co., Ltd.
No. 18 Jinwu Road, 213213 Jintan City, China

Product: Crystalline silicon Photovoltaic (PV)-Modules

Type: A) EG-XXXM60-C
B) EG-XXXP60-C
C) EG-XXXM72-C
D) EG-XXXP72-C

XXX in the type replaces the power in watt and can be any number between:

200 – 310 for A)
200 – 280 for B)
240 – 350 for C)
235 – 335 for D)

Manufacturer: Changzhou EGing Photovoltaic Technology Co., Ltd.

Standard: TS IEC 62804-1:2015

Test conditions

Testing time: 96 h
Chamber temperature: 85°C
Relative Humidity: 85 %
Potential to ground: - 1000 V

Pass criteria

Power degradation: < 5%
Dry Insulation: > 40 MΩm²
Wet insulation: > 40 MΩm²





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Part 1: Crystalline silicone
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Summary of test results:

Maximum power degradation:	required	max. 5 %
	measured	max. 1.57 %

The measured degradation is below the allowed degradation.

Dry insulation resistance:	required	24,5 M Ω
	measured	>500 M Ω

The measured dry insulation resistance is above the limit.

Wet insulation resistance:	required	24,5 M Ω
	measured	>500 M Ω

The measured wet insulation resistance is above the limit.

Visual inspection: No findings

The relevant bill of materials is given in Annex 225140-1 and Annex 225140-2.

The complete test results are given in Test Report No.: 225140-ET2-1.

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute

Fachgebiet ET2 / Section ET2

Roland Herbert

Arnd Roth

63069 Offenbach, 2016-05-25



TÜV NORD CERT GmbH
herewith declares that

Changzhou EGing Photovoltaic Technology Co., Ltd.
No. 18, Jinwu Road, Yaotang Town
Jintan District, Jiangsu Province
213213, P.R. China

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



Description of product (details see Annex 2):

PV Modules with 6" Mono-crystalline Silicon Solar Cells

PV Modules with 5" Mono-crystalline Silicon Solar Cells

PV Modules with 6" Poly-crystalline Silicon Solar Cells

Tested according to: IEC 61701: 2011 Severity 6
Registered No.: 44 780 17 406749 - 119
Manufacturer: see Annex 1
Test Report No.: 492010893.001
File No.: SHV03038/17-02

Valid until: 2022-07-03



TÜV NORD CERT GmbH
Certification Body
Consumer Products

Essen, 2017-07-04

Please also pay attention to the information stated overleaf.

Anlage 1 zum Zertifikat Nr.: / Annex 1 to Certificate No.: 44 780 17 406749 - 119

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Aktenzeichen: / File reference: SHV03038/17-02

2017-07-04

Manufacturer:

Manufacturer : **Changzhou EGing Photovoltaic Technology Co., Ltd.**
No. 18, Jinwu Road, Yaotang Town
Jintan District, Jiangsu Province, 213213, P.R. China

Factory inspection report no.: 862010123.005

Remark:

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

A handwritten signature in blue ink, appearing to be "Rogger K...", written in a cursive style.

TÜV NORD CERT GmbH
Certification Body
Consumer Products

Description of product(s):

Module types: **PV Modules with 6" Mono-crystalline Silicon Solar Cells:**

72 cells: EG-xxxM72-C (xxx = 240-385, in increments of 5)

60 cells: EG-xxxM60-C (xxx = 200-320, in increments of 5)

54 cells: EG-xxxM54-C (xxx = 180-285, in increments of 5)

48 cells: EG-xxxM48-C (xxx = 155-255, in increments of 5)

Maximum system voltage: 1000V

Fuse rating: 15A

Application class: Class A

Electrical protection class: Class II

Module types: **PV Modules with 5" Mono-crystalline Silicon Solar Cells:**

72 cells: EGM-xxx (xxx = 140-220, in increments of 5)

Maximum system voltage: 1000V

Fuse rating: 10A

Application class: Class A

Electrical protection class: Class II

Module types: **PV Modules with 6" Poly-crystalline Silicon Solar Cells:**

72 cells: EG-xxxP72-C (xxx = 235-350, in increments of 5)

60 cells: EG-xxxP60-C (xxx = 200-290, in increments of 5)

54 cells: EG-xxxP54-C (xxx = 175-260, in increments of 5)

48 cells: EG-xxxP48-C (xxx = 150-230, in increments of 5)

Maximum system voltage: 1000V

Fuse rating: 15A

Application class: Class A

Electrical protection class: Class II

Remark:

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



TÜV NORD CERT GmbH
Certification Body
Consumer Products

Aktenzeichen:

5007790-3972-0001

File number:

Typenstruktur und Bemessungsdaten für PV-Module
Type Structure and Ratings for PV-modules

Aufbau Construction		A)			
Typ(en) Type(s)		EG-XXXM72-C			
Typenstruktur Type structure		XXX im Typ ersetzt die Modul-Bemessungsleistung (P_{max}) XXX in the type replaces the rated output of the Module (P_{max})			
Bemessungsdaten Ratings					
Modul-Bemessungsleistung (P_{max}) Rated output of module (P_{max})		Wert zwischen / value between 320 W - 375 W			
Maximale Systemspannung (U_{sys}) Max. system voltage (U_{sys})		DC 1000 V			
Schutzklasse Class		II			
Anwendungsklasse Application Class		A			
Brandbeständigkeit Fire resistance		C			
Max. Rückstrombelastbarkeit Max. Reverse Current		15 A			
Mech. Bemessungsbelastbarkeit Mech. Designload		Frontseite/Frontside	2400 Pa	Rückseite/Rearside	2400 Pa
Sicherheitsfaktor Safety factor		Frontseite/Frontside	1,5	Rückseite/Rearside	1,5
Mech. Belastbarkeit (Prüflast) Mechanical Load (Test Load)		Frontseite/Frontside	3600 Pa	Rückseite/Rearside	3600 Pa
Weitere Informationen Further information		N/A			

Aufbau Construction		B)			
Typ(en) Type(s)		EG-XXXM60-C			
Typenstruktur Type structure		XXX im Typ ersetzt die Modul-Bemessungsleistung (P_{max}) XXX in the type replaces the rated output of the Module (P_{max})			
Bemessungsdaten Ratings					
Modul-Bemessungsleistung (P_{max}) Rated output of module (P_{max})		Wert zwischen / value between 265 W – 310 W			
Maximale Systemspannung (U_{sys}) Max. system voltage (U_{sys})		DC 1000 V			
Schutzklasse Class		II			
Anwendungsklasse Application Class		A			
Brandbeständigkeit Fire resistance		C			
Max. Rückstrombelastbarkeit Max. Reverse Current		15 A			
Mech. Bemessungsbelastbarkeit Mech. Designload		Frontseite/Frontside	2400 Pa	Rückseite/Rearside	2400 Pa
Sicherheitsfaktor Safety factor		Frontseite/Frontside	1,5	Rückseite/Rearside	1,5
Mech. Belastbarkeit (Prüflast) Mechanical Load (Test Load)		Frontseite/Frontside	3600 Pa	Rückseite/Rearside	3600 Pa
Weitere Informationen Further information		N/A			

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Certificate No. R 50254587

HUAWEI TECHNOLOGIES CO., LTD.

Certificate Holder:	Administration Building, Headquarters of Huawei Technologies Co., Ltd. Bantian, Longgang District, Shenzhen, 518129 Guangdong China (Mainland)
Certificate Number:	R 50254587
Order Number:	154027323
Certified Product:	PV-Inverter (Grid-connected PV Inverter) Model Designation: SUN2000-20KTL SUN2000-17KTL
Fulfilled Standards:	EN 62109-1:2010 IEC 62109-1:2010 IEC 62109-2:2011 EN 62109-2:2011 The standard(s) listed here reflect the status at the time of the release of this certificate. For more standards and/or upgrades please refer to the latest pages of the same certificate no.
Date of Issue:	2013-07-02

TÜV-Mark Approval

Type Approval

The Type Approval mark of TÜV Rheinland is usually awarded for components that are not ready for use and occasionally also for finished products.

The components are by themselves not ready for use, but intended to be incorporated into finished products.

Certificate Type:

The tests focus on the safety of each component. The Type Approval is a voluntary test, which helps TÜV Rheinland to confirm that a product meets the relevant safety requirements.

After type examination the manufacture of products, which have received this test mark, is regularly monitored. The certification is valid as long as the test specifications are up to date and the certificate has not been terminated, neither by the customer nor by TÜV Rheinland. The validity of the certificate expires if changes are made to the product.

Certified products may be labelled with a test mark.

More information can be found here.

Further Information

- More information about this product
- Request more information on HUAWEI TECHNOLOGIES CO., LTD.
- All product certificates of HUAWEI TECHNOLOGIES CO., LTD.

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C E R T I F I C A T E



of Conformity
Low Voltage Directive 2014/35/EU

Registration No.: AN 50392939 0001

Report No.: 15059394 007

Holder: HUAWEI TECHNOLOGIES CO., LTD.
Administration Building,
Headquarters of Huawei
Technologies Co., Ltd., Bantian
Longgang District, Shenzhen 518129
P. R. China

Product: PV-Inverter
(Grid-connected PV Inverter)

Identification: Type name : SUN2000-28KTL SUN2000-24.5KTL SUN2000-23KTL
SUN2000-20KTL SUN2000-17KTL SUN2000-15KTL
SUN2000-12KTL SUN2000-10KTL SUN2000-8KTL
Serial No. : Engineering Samples
Remark : Issued in conjunction with TÜV Rheinland
license R 50254587 0011-0014.

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. Technical Report and documentation are at the Licence Holder's disposal. This is to certify that the tested sample is in conformity with Annex I of Council Directive 2014/35/EU, referred to as the Low Voltage Directive. This certificate does not imply assessment of the series-production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex IV of the Directive.

Certification Body



Date 09.11.2017


Weichun Li

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may be used if all relevant and effective EC Directives are complied with. CE

C E R T I F I C A T E
of Conformity



Registration No.: AK 50296639 0001

Report No.: 15069213 001

Holder: **HUAWEI TECHNOLOGIES CO., LTD.**
Administration Building,
Headquarters of Huawei
Technologies Co., Ltd., Bantian
Longgang District, Shenzhen 518129
P.R. China

Product: **PV-Inverter**
(Grid-Connected PV Inverter)

Identification: Type Designation : SUN2000-xKTL
(x=8, 10, 12, 15, 17, 20, 23, 28)
Serial Number : Engineering Sample
Firmware Version : V100R001
Remark : This certificate applies to the requirements for interconnection to Philippine utility, refer to test report 15069213 001 for details.

Tested acc. to: IEC 61727:2004
IEC 62116:2014

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.



Date 03.11.2014


Weichun Li

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg



A P P R O V A L S ®

Certificate of Suitability

Certificate No.: SAA192066

Certificate Holder: Huawei Technologies Co., Ltd.
Administration Building,
Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District,
Shenzhen 518129
P.R. China

Class Description: Non-Declared
Product Description: Solar Inverter
Trade Name: HUAWEI
Model No.: SUN2000-20KTL-M0
Markings: Input: MPPT Range: 160-950Vdc, Max 1080Vdc, 22A/22A,
Isc: 30A/30A
Output: 230/400V~ 3N+PE, 50Hz 20kVA, Max 22kVA 33.5A
-25°C to +60°C, Class I, IP65
Standard: IEC 62109-1 Ed. 1.0
IEC 62109-2 Ed. 1.0
AS/NZS 4777.2:2015
Conditions: Nil
Certification Mark: SAA192066 or RCM
Date First Registered: 15 August 2019
Date of Expiry: 15 August 2024

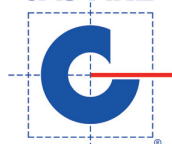
For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd as accredited by JAS-ANZ under ISO/IEC 17065 certifies in accordance with the SAA Approvals Electrical Product Safety Certification Scheme that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.

For SAA Contact Details and to verify this Certificate go to:
www.saaapprovals.com.au

JAS-ANZ



www.jas-anz.org/register



Issued: 15-08-19 192066/1