

SOFAR 25-50KTLX-G3

25 / 30 / 33 / 36 / 40 / 45 / 50 kW

THREE-PHASE THREE TO FOUR MPPTS



Product advantages

- Max. efficiency up to 98.80%
- Up to 4 MPPTs with DC overload capability (up to 150%)
- Type II SPD for both DC and AC side
- Prolonged AC overload capability (110%)
- Low start-up voltage, wide MPPT voltage range
- Compatible with 500 W+ modules
- I-V curve scanning function



Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3	SOFAR 40KTLX-G3	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3
Input (DC)							
Max. input voltage	1100V						
Rated input voltage	620V						
Start-up voltage	200V						
MPPT operating voltage range	180V-1000V						
Number of MPP trackers	3				4		
Number of DC inputs	2 for each MPPT						
Max. input MPPT current	3*40A				4*40A		
Max. input short circuit current	3*50A				4*50A		
Output (AC)							
Rated output power	25000W	30000W	33000W	36000W	40000W	45000W	50000W
Max. apparent power	28000VA	34000VA	37000VA	40000VA	44000VA	50000VA	55000VA
Max. output current	42.4A	51.5A	56A	60.6A	66.7A	75.8A	83.3A
Rated output voltage	3/N/PE, 230/400Vac						
Output voltage range	310Vac-480Vac						
Rated output frequency	50/60Hz						
Output frequency range	45Hz-55Hz/55Hz-65Hz						
Active power adjustable range	0~100%						
THDi	<3%						
Power factor	1 (adjustable +/-0.8)						
Efficiency							
Max. efficiency	98.6%				98.8%		
European efficiency	98.2%				98.2%		
Protection							
DC reverse polarity protection	Yes						
Anti-islanding protection	Yes						
Leakage current protection	Yes						
Ground fault monitoring	Yes						
PV-array string fault monitoring	Yes						
DC switch	Yes						
SPD	PV: type II, AC: type II						
General Data							
Ambient temperature range	-30℃~+60℃						
Self-consumption at night	<3W						
Topology	Transformerless						
Degree of protection	IP65						
Allowable relative humidity range	0~100%						
Max. operating altitude	4000m						
Cooling	Smart air cooling						
Dimension (W×H×D)	585×480×220mm						
Weight	36kg				37kg		
Display	LCD & Bluetooth +APP						
Communication	RS485/Wi-Fi						
Standard	IEC/EN 61000-6-1/2/3/4, IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC/EN 62109-1/2, G99, VDE-AR-N 4105, VDE V 0126-1-1, EN 50549-1, NRS 097-2-1, UNE 217002-2020						

*All specifications are subject to change without notice.

CERTIFICATE

of conformity with the following European Directives
Low Voltage Directive 2014/35/EU

This certifies that below described products of the applicant:

Shenzhen SOFARSOLAR Co., Ltd.

401, Building 4, AnTongDa Industrial Park, District 68, XingDong
Community, XinAn Street, BaoAn District,
Shenzhen, China.

comply to the essential requirements of the above mentioned European Directive and the following standards,
taking into account the German national deviations:

Product(s): Solar Grid-tied Inverter

Model type(s): SOFAR 25KTLX-G3, SOFAR 30KTLX-G3, SOFAR 30KTLX-G3-A,
SOFAR 33KTLX-G3, SOFAR 36KTLX-G3, SOFAR 40KTLX-G3,
SOFAR 45KTLX-G3, SOFAR 50KTLX-G3, SOFAR 40KTLX-G3-HV,
SOFAR 50KTLX-G3-HV

Standard(s): EN 62109-1:2010, EN 62109-2:2011

This certificate of conformity is based on the evaluation of samples of the product. It does not imply an
assessment of the production and it does not permit the use of a mark of conformity or of a safety mark of the
TÜV NORD CERT GmbH. The holder of this certificate may use this Certificate together with his EC-
Declaration of Conformity.

Registered no.: 44 799 21 406749 - 124R1

Report no.: 492011831.002

File no.: PVP07047/21B-01



TÜV NORD CERT GmbH
Certification Body
Balance of System (BOS) for Photovoltaics

Essen, 2021-11-08

TÜV NORD CERT GmbH

Langemarckstraße 20 45141 Essen

www.tuev-nord-cert.de

prodcert@tuev-nord.de

Please also pay attention to the information stated overleaf.



The CE marking may be affixed on the product if all relevant and effective Directives are complied with.





Dongguan BALUN Testing Technology Co., Ltd.

Room 104, 204, 205, Building 1, No. 6, Industrial South Road, Songshan Lake District, Dongguan, Guangdong, China

VERIFICATION OF CONFORMITY

Certificate No.: BL-DG2480068D02

Applicant: Shenzhen SOFARSOLAR Co., Ltd.

Address: 11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, China.

Manufacture: Shenzhen SOFARSOLAR Co., Ltd.

Address: 11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, China.

Product: Solar Grid-tied Inverter

Brand name: **SOFAR**

Model name: SOFAR 20KTLX-G3, SOFAR 25KTLX-G3, SOFAR 30KTLX-G3, SOFAR 30KTLX-G3-A, SOFAR 33KTLX-G3, SOFAR 36KTLX-G3, SOFAR 40KTLX-G3, SOFAR 45KTLX-G3, SOFAR 50KTLX-G3, SOFAR 40KTLX-G3-HV, SOFAR 50KTLX-G3-HV

The submitted sample of the above product has been tested according with below Standard(s) used for showing compliance with the essential requirements in the **EMC directive (2014/30/EU)** :

Applied Standards:	Report No.:
EN IEC 61000-6-1:2019, EN IEC 61000-6-2:2019, EN 61000-6-3:2007+A1:2011+AC:2012, EN IEC 61000-6-4:2019	BL-DG2480068-402



Tel: +86 769 22212330

Email: qc@baluntek.com

Certificate of Conformity

By the product certificate number

No. 2621/0362-3-E1-C-CER

Issued to:

License holder: **Shenzhen SOFARSOLAR Co., Ltd.**
11/F., Gaoxinqi Technology Building, No.67 Area,
Xingdong Community, Xin'an Sub-district, Bao'an District,
Shenzhen City, Guangdong Province, P.R. China

Trademark:



Manufacturer:

Dongguan SOFAR SOLAR Co., Ltd.
1F – 6F, Building E, No.1 JinQi Road, Bihu Industrial Park.
Wulian Village, Fenggang Town, Dongguan City,
Guangdong Province, P.R. China.



It is certified that the product:

Type of generator: **Solar Grid-tied Inverter**

Models: **SOFAR 25KTLX-G3 / SOFAR 30KTLX-G3 / SOFAR 30KTLX-G3-A / SOFAR 33KTLX-G3 / SOFAR 36KTLX-G3 / SOFAR 40KTLX-G3 / SOFAR 45KTLX-G3 / SOFAR 50KTLX-G3 / SOFAR 40KTLX-G3-HV / SOFAR 50KTLX-G3-HV**

Technical Data:	Rated Active Power	See page 2
	Rated Voltage	See page 2
	Rated Frequency	50 Hz
	Firmware version	V000001
	Number of phases	See page 2
	Isolation transformer	NO

Is in compliance with standard:

- **EN 50549-1:2019**
Requirements for generating plants to be connected in parallel with distribution networks – Part 1: Connection to a LV Distribution Network - Generating Plants up to and including type B.

This certificate just covers PV inverters models certified below above-mentioned references to be installed in PV generating of type plants **B** to be connected to a LV distribution network.

The above-mentioned product is certified according to the standard EN 50549-1:2019 and is valid to be installed in PV generating of type plants B to be connected to a LV distribution network. The relation between this European Standard with the relevant Article of COMMISSION REGULATION (EU) 2016/631 (NC RfG) is considered as it is indicated in the annex H of the standard EN 50549-1:2019.

Requirements for interface protection according to the clause 4.9.3 of the above-mentioned standard have been checked verifying upper and lower thresholds of the voltage and frequency configuration ranges which are required in the certified standard. This ensures the compliance with interface protection settings which adjusted inside of these configuration ranges, as for example, interface protection settings needed in **Greece**.

The above-mentioned generating unit is certified according to the SGS internal procedure PE.T-ECPE-53 based on the requirements of the UNE-EN ISO / IEC 17065..

First issued on: 17th of January 2022.

This certificate is valid until: 17th of January 2027.

Madrid, 23rd of March 2022

Daniel Arranz Muñiz
Certification Manager



Full list of product references and nominal characteristics:

Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 30KTLX-G3-A	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V				
MPPT voltage range	180 V-1000 V				
AC Output					
Rated AC Output power	25 kW	30 kW	29.9 kW	33 kW	36 kW
Max. AC Output power	28 kVA	34 kVA	29.9 kVA	37 kVA	40 kVA
Nominal grid voltage	3/N/PE, 230V/400V				
Nominal output frequency	50Hz				

Model	SOFAR 40KTLX-G3	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3	SOFAR 40KTLX-G3-HV	SOFAR 50KTLX-G3-HV
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V			725 V	
MPPT voltage range	180 V~1000 V				
AC Output					
Rated AC Output power	40 kW	45 kW	50 kW	40 kW	50 kW
Max. AC Output power	44 kVA	50 kVA	55 kVA	44 kVA	55 kVA
Nominal grid voltage	3/N/PE, 230 V/400 V			3P/PE, 277 V/480 V	
Nominal output frequency	50 Hz				



Certificate of Conformity

By the product certificate number / Par le numéro du certificat du produit

No. 2621/0362-3-CER/E1

Issued to / Délivré à:

License holder /
Titulaire de la licence:

Shenzhen SOFARSOLAR Co., Ltd.

401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District. Shenzhen City, Guangdong Province, P.R. China.

Trademark / Marque
déposée:

Manufacturer /
Fabricant:

Dongguan SOFAR SOLAR Co., Ltd.

1F – 6F, Building E, No.1 JinQi Road, Bihu Industrial Park. Wulian Village, Fenggang Town, Dongguan City, Guangdong Province, P.R. China.

It is certified that the product / Il est certifié que le produit:

Type of generator / Type de génératrice **PV Inverter**

Models / Modèles: **SOFAR 25KTLX-G3 / SOFAR 30KTLX-G3 / SOFAR 30KTLX-G3-A / SOFAR 33KTLX-G3 / SOFAR 36KTLX-G3 / SOFAR 40KTLX-G3 / SOFAR 45KTLX-G3 / SOFAR 50KTLX-G3 / SOFAR 40KTLX-G3-HV / SOFAR 50KTLX-G3-HV**

Technical Data /
Données techniques:

Rated Active Power / Puissance active nominale

See page 2 / Voir page 2

Rated Voltage / Tension nominale

See page 2 / Voir page 2

Rated Frequency / Fréquence nominale

50 Hz

Firmware version / Version du firmware

V000001

Number of phases / Nombre de phases

See page 2 / Voir page 2

Isolation transformer / Transformateur d'isolement

NO / Non

Is in compliance with standard / Est conforme à la norme:

EN 50549-1:2019 "Requirements for generating plants to be connected in parallel with distribution networks" – Part 1: Connection to a LV Distribution Network - Generating Plants up to and including type B. / "Exigences relatives aux centrales de production à raccorder en parallèle aux réseaux de distribution" - Partie 1: Raccordement à un réseau de distribution BT - Centrales jusqu'au type B inclus.

This certificate just covers PV inverters models certified below above-mentioned references to be installed in PV generating of type plants B to be connected to a LV distribution network. / Ce certificat couvre uniquement les modèles d'onduleurs PV certifiés selon les références mentionnées ci-dessus, à installer dans des centrales PV de type B à connecter à un réseau de distribution BT.

The above-mentioned product is certified according to the standard EN 50549-1:2019 and is valid to be installed in PV generating of type plants B to be connected to a LV distribution network. The relation between this European Standard with the relevant Article of COMMISSION REGULATION (EU) 2016/631 (NC RfG) is considered as it is indicated in the annex H of the standard EN 50549-1:2019. / Le produit susmentionné est certifié conformément à la norme EN 50549-1 : 2019 et est valable pour être installé dans des centrales PV de type B à raccorder à un réseau de distribution MT. La relation entre cette norme européenne et l'article pertinent du RÈGLEMENT (UE) 2016/631 DE LA COMMISSION (NC RfG) est considérée comme indiquée dans l'annexe H de la norme EN 50549-1:2019.

The above-mentioned generating unit is certified according to the SGS internal procedure PE.T-ECPE-53 based on the requirements of the UNE-EN ISO / IEC 17065. / L'unité de production susmentionnée est certifiée conformément à la procédure interne de SGS PE.T-ECPE-53 basée sur les exigences de la norme UNE-EN ISO / IEC 17065.

First issued on: 17th January 2022. / Première émission le: 17 janvier 2022.

This certificate is valid until: 17th January 2027. / Ce certificat est valable jusqu'au: 17 janvier 2027..

Madrid, 20th June 2023

Daniel Arranz Muñiz
Certification Manager



Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 30KTLX-G3-A	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V				
MPPT voltage range	180 V-1000 V				
AC Output					
Rated AC Output power	25 kW	30 kW	29.9 kW	33 kW	36 kW
Max. AC Output power	28 kVA	34 kVA	29.9 kVA	37 kVA	40 kVA
Nominal grid voltage	3/N/PE, 230V/400V				
Nominal output frequency	50Hz				
Model	SOFAR 40KTLX-G3	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3	SOFAR 40KTLX-G3-HV	SOFAR 50KTLX-G3-HV
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V			725 V	
MPPT voltage range	180 V~1000 V				
AC Output					
Rated AC Output power	40 kW	45 kW	50 kW	40 kW	50 kW
Max. AC Output power	44 kVA	50 kVA	55 kVA	44 kVA	55 kVA
Nominal grid voltage	3/N/PE, 230 V/400 V			3P/PE, 277 V/480 V	
Nominal output frequency	50 Hz				



Certificado de Conformidad

Por medio del certificado de producto número / By the product certificate number

N° 2621/0362-4-E1-A-CER/E1

Emitido a / Issued to:

Titular del certificado /
License holder:

Shenzhen SOFARSOLAR Co., Ltd.
401, Building 4, AnTongDa Industrial Park, District 68, XingDong
Community, XinAn Street, BaoAn District. Shenzhen City, Guangdong
Province, P.R. China



Marca / Trademark



Fábrica / Manufacturer

Dongguan SOFAR SOLAR Co., Ltd.
1F – 6F, Building E, No.1 JinQi Road, Bihu Industrial Park. Wulian Village,
Fenggang Town, Dongguan, P.R. China.

Se certifica que el producto: / It is certified that the product:

Tipo de aparato / Type of product: **Solar Grid-tied Inverter**

Modelos / Models:

**SOFAR 25KTLX-G3 / SOFAR 30KTLX-G3 / SOFAR 30KTLX-G3-A / SOFAR 33KTLX-G3 /
SOFAR 36KTLX-G3 / SOFAR 40KTLX-G3 / SOFAR 45KTLX-G3 /
SOFAR 50KTLX-G3 / SOFAR 40KTLX-G3-HV / SOFAR 50KTLX-G3-HV**

Datos técnicos /

Rated characteristics:

Potencia nominal / Rated Power

Ver página 2 / See page 2

Tensión nominal / Rated Voltage

Ver página 2 / See page 2

Frecuencia nominal / Rated Frequency

50 Hz

Versión Firmware / Firmware version

V000001

Número de fases / Number of phases

Ver página 2 / See page 2

Transformador de aislamiento / Isolation transformer

NO

Está en cumplimiento con la norma / Is in compliance with the standard:

- **UNE 217002: 2020** Inversores para conexión a la red de distribución. Ensayos de los requisitos de inyección de corriente continua a la red, generación de sobretensiones y sistema de detección de funcionamiento en isla

Está en cumplimiento con los requisitos de la norma y regulación / Is in compliance with the requirements of standard and regulation:

- **IEC 62116:2014** "Inversores fotovoltaicos conectados a la red de las compañías eléctricas. Procedimiento de ensayo para las medidas de prevención de formación de islas en la red"
- **Anexo I, apartado 2.3.6 y 5.3 de la Orden Ministerial TED/749/2020**, de 16 de julio, por la que se establecen los requisitos técnicos para la conexión a la red necesarios para la implementación de los códigos de red de conexión.

El equipo antes mencionado está certificado conforme con el procedimiento interno de SGS PE.T-ECPE-23 de acuerdo con los requisitos de la norma UNE-EN ISO/IEC 17065. / The above-mentioned generating unit is certified according to the SGS internal procedure PE.T-ECPE-23 based on the requirements of the UNE-EN ISO / IEC 17065.

Este certificado cancela y sustituye el certificado n° 2621/0362-4-E1-A-CER. / This certificate cancels and supersedes the certificate n° 2621/0362-4-E1-A-CER.

Este certificado se emite por vez primera: 16 de diciembre de 2021. / This certificate is first issued on 16th of December 2021.

Este certificado es válido hasta: 16 de diciembre de 2026. / This certificate is valid until the 16th of December 2026.

Madrid, 07 de abril de 2022


Daniel Arranz Muñiz
Certification Manager



Lista completa de referencias con las características nominales de los productos certificados /
Full list of product references and nominal characteristics:

Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 30KTLX-G3-A	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V				
MPPT voltage range	180 V-1000 V				
AC Output					
Rated AC Output power	25 kW	30 kW	29.9 kW	33 kW	36 kW
Max. AC Output power	28 kVA	34 kVA	29.9 kVA	37 kVA	40 kVA
Nominal grid voltage	3/N/PE, 230V/400V				
Nominal output frequency	50Hz				

Model	SOFAR 40KTLX-G3	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3	SOFAR 40KTLX-G3-HV	SOFAR 50KTLX-G3-HV
DC Input					
Max. DC voltage	1100 V				
Rated input voltage	620 V			725 V	
MPPT voltage range	180 V~1000 V				
AC Output					
Rated AC Output power	40 kW	45 kW	50 kW	40 kW	50 kW
Max. AC Output power	44 kVA	50 kVA	55 kVA	44 kVA	55 kVA
Nominal grid voltage	3/N/PE, 230 V/400 V			3P/PE, 277 V/480 V	
Nominal output frequency	50 Hz				





CERTIFICATE OF PRODUCT CERTIFICATION

SOLAR PRODUCT CERTIFICATE

CERTIFICATE NO.: CQC23024395932

Valid from: Jul.13,2023

Valid until:long-term

**NAME AND REGISTERED
ADDRESS OF THE APPLICANT**

Shenzhen SOFARSOLAR Co., Ltd.
11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin' an Sub-district,
Bao' an District, Shenzhen City,China

**NAME AND REGISTERED
ADDRESS OF THE
MANUFACTURER**

Shenzhen SOFARSOLAR Co., Ltd.
11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin' an Sub-district,
Bao' an District, Shenzhen City,China

**NAME AND LOCATION
OF THE FACTORY**

Dongguan SOFAR SOLAR Co., Ltd.
1F - 6F, Building E, No. 1 JinQi Road, Bihu Industrial Park, Wulian Village, Fenggang Town,
Dongguan City.

**PRODUCT NAME, MODEL
AND SPECIFICATION**

Solar Grid-tied Inverter
See Appendix

**THE STANDARDS AND
TECHNICAL REQUIREMENTS
FOR THE PRODUCTS**

NB/T32004-2018

**TYPE OF CERTIFICATION
SCHEMES**

Type Testing of Product + Initial Factory Inspection + Follow up Factory Inspection

This is to certify that the above mentioned product(s) complies with the requirements of certification rules of CQC33-461239-2018.
The validity of the certificate is subject to positive result of the regular follow up inspection by issuing certification body.

The certificate information is available through the QR code below or CNCA's website: www.cnca.gov.cn



SIGNATURE:

谢肇煦

CHINA QUALITY CERTIFICATION CENTRE





CERTIFICATE OF PRODUCT CERTIFICATION

SOLAR PRODUCT CERTIFICATE

APPENDIX

Page 1 of 2

CERTIFICATE NO.: CQC23024395932

PAPER:

SOFAR 50KTLC-G3-HV

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*4; 交流输出:3/N/PE~, 480V, 50Hz, Max. 66. 2A*3, 额定交流输出功率 50kW;

SOFAR 50KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*4; 交流输出:3/N/PE~, 400V, 50Hz, Max. 83. 3A*3, 额定交流输出功率 50kW;

SOFAR 45KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*4; 交流输出:3/N/PE~, 400V, 50Hz, Max. 75. 8A*3, 额定交流输出功率 45kW;

SOFAR 40KTLC-G3-HV

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*3; 交流输出:3/N/PE~, 480V, 50Hz, Max. 53A*3, 额定交流输出功率 40kW;

SOFAR 40KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*4; 交流输出:3/N/PE~, 400V, 50Hz, Max. 66. 7A*3, 额定交流输出功率 40kW;

NOTE: This appendix is valid when used with the certificate.



CHINA QUALITY CERTIFICATION CENTRE



CERTIFICATE OF PRODUCT CERTIFICATION

SOLAR PRODUCT CERTIFICATE

APPENDIX

Page 2 of 2

CERTIFICATE NO.: CQC23024395932

PAPER:

SOFAR 36KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*3; 交流输出:3/N/PE~, 400V, 50Hz, Max. 60. 6A*3, 额定交流输出功率 36kW;

SOFAR 33KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*3; 交流输出:3/N/PE~, 400V, 50Hz, Max. 56A*3, 额定交流输出功率 33kW;

SOFAR 30KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*3; 交流输出:3/N/PE~, 400V, 50Hz, Max. 51. 5A*3, 额定交流输出功率 30kW;

SOFAR 25KTLC-G3

直流输入:MPPT 电压范围 180V-1000Vdc, 最大直流输入电压 1100Vdc, 最大输入电流 40A*3; 交流输出:3/N/PE~, 400V, 50Hz, Max. 42. 4A*3, 额定交流输出功率 25kW;

NOTE: This appendix is valid when used with the certificate.



CHINA QUALITY CERTIFICATION CENTRE

Certificate of The Network and System Protection Zertifikat für den Netz- und Anlagenschutz

Certificate No. (Zertifikats-Nr.): CN-PV-230178

On the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specification(s)/standard(s) at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture(s). The manufacturer(s) shall ensure that the manufacturing process assures compliance of the production units with the examined products mentioned in this certificate.

Anhand der durchgeführten Tests wurde festgestellt, dass die Probe (n) des nachstehenden Produkts zum Zeitpunkt der Durchführung der Tests den Anforderungen der angegebenen Spezifikation (n) / Norm (en) entsprachen. Dies bedeutet nicht, dass Intertek die Herstellung (en) überwacht oder kontrolliert hat. Der Hersteller stellt sicher, dass der Herstellungsprozess die Übereinstimmung der Produktionseinheiten mit den in diesem Zertifikat genannten geprüften Produkten sicherstellt.

Applicant:
(Antragsteller)

Shenzhen SOFARSOLAR Co., Ltd.
11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin'an Sub-district,
Bao'an District, Shenzhen City, China

Type of NS protection:
(Typ NA-Schutz)

Integrierter NA-Schutz (Integrated NS protection)

**Assigned to power
generation unit of type:**
(Zugeordnet zu
Erzeugungseinheit Typ)

SOFAR 25KTLX-G3
Bemessungsspannung (Rated voltage) 3/N/PE, 380V/400V
Bemessungsfrequenz (Nominal frequency) 50/60 Hz

Firmware version:
(Firmwareversion)

V000001

Brandname:
(Markenname)



Network connection rule:
(Netzanschlussregel)

VDE-AR-N 4105:2018-11

Erzeugungsanlagen am Niederspannungsnetz - Technische Mindestanforderungen für Anschluss und Parallelbetrieb von Erzeugungsanlagen am Niederspannungsnetz
(Generators connected to the low-voltage distribution network - Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network)

DIN VDE V 0124-100 (VDE V 0124-100):2020-06

Netzintegration von Erzeugungsanlagen – Niederspannung -Prüfanforderungen an Erzeugungseinheiten vorgesehen zum Anschluss und Parallelbetrieb am Niederspannungsnetz
(Network integration of power generation systems – Low voltage - Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network)

Test Report No.:
(Prüfbericht-Nr.)

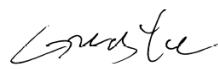
230302181GZU-001 Revision 1

Certificate Issuing Office:
(Stelle des ausgestellten
Zertifikats)

Intertek Testing Services Ltd. Shanghai
West Area, 2nd Floor, No. 707, Zhangyang Road
China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China
Accredited by ACCREDIA in accordance with ISO/IEC 17065:2012

The network and system protection designated above meets the requirements of VDE-AR-N 4105: 2018.
Der oben bezeichnete Netz- und Anlagenschutz erfüllt die Anforderungen der VDE-AR-N 4105: 2018.

Signature: (Unterschrift)



Certification Manager: Grady Ye

Date (Datum): 18 April 2023



PRD N° 306B

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.
Dieses Zertifikat ist ausschließlich für den Kunden von Intertek bestimmt und wird gemäß der Vereinbarung zwischen Intertek und seinem Kunden zur Verfügung gestellt. Die Verantwortung und Haftung von Intertek ist auf die Vertragsbedingungen beschränkt. Intertek übernimmt keine Haftung gegenüber anderen Parteien als dem Kunden gemäß der Vereinbarung für Verluste, Kosten oder Schäden, die durch die Verwendung dieses Zertifikats entstehen. Nur der Kunde ist berechtigt, das Kopieren oder Verteilen dieses Zertifikats zuzulassen. Jede Verwendung des Intertek-Namens oder einer seiner Marken für den Verkauf oder die Werbung für das getestete Material, Produkt oder die getestete Dienstleistung muss zuerst von Intertek schriftlich genehmigt werden.

APPENDIX (ANHANG)

Annex to Certificate No. (Anhang zur Zertifikatsnummer): CN-PV-230178

E.7 of (von) VDE-AR-N 4105:2018-11

Requirements for the test report for the NS protection (Anforderungen an den Prüfbericht zum NA-Schutz)

Extract of the test report for NS protection (Auszug aus dem Prüfbericht für den NA-Schutz) “Determination of electrical properties” („Bestimmung der elektrischen Eigenschaften“)					No. (Nr.): 230302181GZU-001 Revision 1 (consecutive no. (laufende Nr.))	
Test report NS protection (Prüfbericht NA-Schutz)						
Type of NS Protection: (Typ NA-Schutz)	Integrierter NA-Schutz (Integrated NS protection)			Further manufacturer indications (weitere Herstellerangaben)		
Software Version:	V000001					
Manufacturer: (Hersteller)	Shenzhen SOFARSOLAR Co., Ltd. 11/F., Gaoxinqi Technology Building, No.67 Area, Xingdong Community, Xin’an Sub-district, Bao’an District, Shenzhen City, China					
Measurement Period: (Messzeitraum)	2023-3-2~2023-3-7					
	Stirling generators, fuel cells (Stirlinggeneratoren, Brennstoffzellen)			Inverter(s) (Umrichter)		
	Synchronous and asynchronous generators with $P_n \leq 50$ kW coupled directly or via inverters (direkt oder über Umrichter gekoppelte Synchron- und Asynchrongeneratoren mit $P_n \leq 50$ kW)			Directly coupled synchronous and asynchronous generators with $P_n > 50$ kW (direkt gekoppelte Synchron- und Asynchrongeneratoren mit $P_n > 50$ kW)		
Protective function (Schutzfunktion)	Set value (Einstellwert)	Tripping value (Auslösewert)	Tripping time NS protection * (Auslösezeit NA-Schutz*)	Set value (Einstellwert)	Tripping value (Auslösewert)	Tripping time NS protection * (Auslösezeit NA-Schutz*)
Rise-in-voltage protection (Spannungssteigerungsschutz) $U >>$	1,15* U_n	--- U_n	---ms	1,15* U_n	$1,257 \cdot U_n$	87,8 ms
Rise-in-voltage protection (Spannungssteigerungsschutz) $U >$	1,10* U_n	--- U_n	---ms	1,10* U_n	$1,10 \cdot U_n$	500,6 s
Voltage drop protection (Spannungsrückgangsschutz) $U <$	0,8* U_n	--- U_n	---ms	0,8* U_n	$0,807 \cdot U_n$	3060 ms
Voltage drop protection (Spannungsrückgangsschutz) $U <<$	Not applicable (entfällt)			0,45* U_n	$0,451 \cdot U_n$	348 ms
Frequency decrease protection (Frequenzrückgangsschutz) $f <$	47,5 Hz	---Hz	---ms	47,5 Hz	47,5 Hz	87,4 ms
Frequency increase protection (Frequenzsteigerungsschutz) $f >$	51,5 Hz	---Hz	---ms	51,5 Hz	51,51 Hz	86,8 ms

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Dieses Zertifikat ist ausschließlich für den Kunden von Intertek bestimmt und wird gemäß der Vereinbarung zwischen Intertek und seinem Kunden zur Verfügung gestellt. Die Verantwortung und Haftung von Intertek ist auf die Vertragsbedingungen beschränkt. Intertek übernimmt keine Haftung gegenüber anderen Parteien als dem Kunden gemäß der Vereinbarung für Verluste, Kosten oder Schäden, die durch die Verwendung dieses Zertifikats entstehen. Nur der Kunde ist berechtigt, das Kopieren oder Verteilen dieses Zertifikats zuzulassen. Jede Verwendung des Intertek-Namens oder einer seiner Marken für den Verkauf oder die Werbung für das getestete Material, Produkt oder die getestete Dienstleistung muss zuerst von Intertek schriftlich genehmigt werden.

APPENDIX (ANHANG)

Annex to Certificate No. (Anhang zur Zertifikatsnummer): CN-PV-230178

- * The tripping time includes the period from the limit value violation U/f until the tripping signal to the interface switch.
- * Die Auslösezeit umfasst den Zeitraum von der Grenzwertverletzung U/f bis zum Auslösesignal an den Kuppelschalter.

When planning the power generation system, the response time of the interface switch shall be added to the maximum time value obtained as indicated above.

The disconnection time (sum of tripping time of the NS protection plus response time of the interface switch) shall not exceed 200 ms.

Bei der Planung der Erzeugungsanlage ist die Eigenzeit des Kuppelschalters zum höchsten oben ermittelten Zeitwert zu addieren.

Die Abschaltzeit (Summe der Auslösezeit NA-Schutz zzgl. Eigenzeit des Kuppelschalters) darf 200 ms nicht überschreiten.

☐ **For integrated NS protection (Bei integriertem NA-Schutz)**

Assigned to power generation unit of type zugeordnet zu Erzeugungseinheit Typ	SOFAR 25KTLX-G3
Type integrated interface switch Typ integrierter Kuppelschalter	(Hongfa) HF167F/12-HF ⁴⁾ (ZETTLER) AZSR190-1AE-12D ⁴⁾ (CHUROD) AZSR190-1AE-12D ⁴⁾
Response time of interface switch for integrated NS protection Eigenzeit des Kuppelschalters bei integriertem NA-Schutz	Max.20ms
Verification of the entire functional chain "integrated NS protection – interface switch" has resulted in successful disconnection. Die Überprüfung der Gesamtwirkungskette „integrierter NA-Schutz – Kuppelschalter“ führte zu einer erfolgreichen Abschaltung.	

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

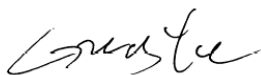
Dieses Zertifikat ist ausschließlich für den Kunden von Intertek bestimmt und wird gemäß der Vereinbarung zwischen Intertek und seinem Kunden zur Verfügung gestellt. Die Verantwortung und Haftung von Intertek ist auf die Vertragsbedingungen beschränkt. Intertek übernimmt keine Haftung gegenüber anderen Parteien als dem Kunden gemäß der Vereinbarung für Verluste, Kosten oder Schäden, die durch die Verwendung dieses Zertifikats entstehen. Nur der Kunde ist berechtigt, das Kopieren oder Verteilen dieses Zertifikats zuzulassen. Jede Verwendung des Intertek-Namens oder einer seiner Marken für den Verkauf oder die Werbung für das getestete Material, Produkt oder die getestete Dienstleistung muss zuerst von Intertek schriftlich genehmigt werden.

Certificate of Conformity

Certificate Number: CN-PV-210246

On the basis of the tests undertaken, the samples of the below product have been found to comply with the requirements of the referenced specifications /standards at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture. The manufacturer shall ensure that the manufacturing process assures compliance of the production units with the examined products mentioned in this certificate.

Applicant Name & Address:	Shenzhen SOFARSOLAR Co., Ltd. 401, Building 4, AnTongDa Industrial Park, District 68, XingDong Community, XinAn Street, BaoAn District, Shenzhen, China
Product Description:	Solar Grid-tied Inverter
Ratings & Principle Characteristics:	See Annex to Certificate of Conformity
Models/Type References:	SOFAR 25KTLX-G3, SOFAR 30KTLX-G3, SOFAR 30KTLX-G3-A SOFAR 33KTLX-G3, SOFAR 36KTLX-G3, SOFAR 40KTLX-G3, SOFAR 45KTLX-G3, SOFAR 50KTLX-G3, SOFAR 40KTLX-G3-HV SOFAR 50KTLX-G3-HV
Brand Name:	
Specification/Standard:	France_UTE_C_15_712-1: July 2013 DIN V VDE V 0126-1-1:2013.08 Automatic disconnecting device Compliant with VFR 2019
Certificate Issuing Office Name & Address:	Intertek Testing Services Ltd. Shanghai West Area, 2nd Floor, No. 707, Zhangyang Road China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China Accredited by China National Accreditation Service for Conformity Assessment (CNAS C058-P) in accordance with ISO/IEC 17065:2012
Test Report Number:	210819145GZU-001, 210819145GZU-002
Certification procedure:	SMS-PV-OP-19
Product certification scheme type:	Type test
Additional information in Appendix.	



Signature

Certification Manager: Grady Ye
Date: 25 October 2021



中国认可
国际互认
产品
PRODUCT
CNAS C058-P

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-210246

Model	SOFAR 25KTLX-G3	SOFAR 30KTLX-G3	SOFAR 30KTLX-G3-A
Max. DC input Voltage	1100Vdc		
Operating MPPT voltage range	180Vdc – 1000Vdc		
Max. Input current	40A*3		
PV Isc	50A*3		
Nominal AC output voltage	3/N/PE 230Vac/400Vac		
Nominal AC output Frequency	50Hz		
Max. AC output current	42.4A	51.5A	45.3A
Nominal Output power	25000W	30000W	29900W
Max.Output Power	28000VA	34000VA	29900VA
Power factor	1(adjustable +/-0.8)		
Safety level	Class I		
Ingress Protection	IP 65		
Operation Ambient Temperature	-30°C - 60°C		
Software version	V000001		

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-210246

Model	SOFAR 33KTLX-G3	SOFAR 36KTLX-G3	SOFAR 40KTLX-G3
Max. DC input Voltage	1100Vdc		
Operating MPPT voltage range	180Vdc – 1000Vdc		
Max. Input current	40A*3		40A*4
PV Isc	50A*3		50A*4
Nominal AC output voltage	3/N/PE 230Vac/400Vac		
Nominal AC output Frequency	50Hz		
Max. AC output current	56A	60.6A	66.7A
Nominal Output power	33000W	36000W	40000W
Max.Output Power	37000VA	40000VA	44000VA
Power factor	1(adjustable +/-0.8)		
Safety level	Class I		
Ingress Protection	IP 65		
Operation Ambient Temperature	-30°C - 60°C		
Software version	V000001		

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

APPENDIX: Certificate of Conformity

This is an Appendix to Certificate of Conformity Number: CN-PV-210246

Model	SOFAR 45KTLX-G3	SOFAR 50KTLX-G3	SOFAR 40KTLX-G3-HV	SOFAR 50KTLX-G3-HV
Max. DC input Voltage	1100Vdc			
Operating MPPT voltage range	180Vdc – 1000Vdc			
Max. Input current	40A*4		40A*3	40A*4
PV Isc	50A*4		50A*3	50A*4
Nominal AC output voltage	3/N/PE 230Vac/400Vac		3/N/PE 277Vac/480Vac	
Nominal AC output Frequency	50Hz			
Max. AC output current	75.8A	83.3A	53.0A	66.2A
Nominal Output power	45000W	50000W	40000W	50000W
Max.Output Power	50000VA	55000VA	44000VA	55000VA
Power factor	1(adjustable +/-0.8)			
Safety level	Class I			
Ingress Protection	IP 65			
Operation Ambient Temperature	-30℃ - 60℃			
Software version	V000001			

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.