ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

DAkkS Deutsche Akkreditierungsstelle D-ZE-11321-01-00

TÜV SÜD Product Service

Certificate of Conformity

No. ESY 115067 0030 Rev. 00

Holder of Certificate: **Xiamen Kehua Digital Energy Tech Co., Ltd.**
Room 208-38, Hengye Building
No. 100 Xiangxing Road
Torch High-tech Zone
(Xiangan) Industrial Zone
361115 Xiamen
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter (PV Grid-tied Inverter)**

Model(s): **SPI30K-B X2, SPI33K-B X2, SPI36K-B X2, SPI36K-B X2P, SPI40K-B X2, SPI40K-B X2P**

Parameters: See page 3-4

Applicable standards:
EN 50549-1:2019/AC:2019
RfG:2016
NC RfG:2018
PTPiREE:2021

This Certificate of Conformity confirms the compliance with the above listed standards on a voluntary basis. It refers only to the sample submitted to TÜV SÜD Product Service GmbH and does not certify the quality or safety of the serial products. It was issued according to TÜV SÜD Product Service certification program Photovoltaics and Grid Integration. For details see: www.tuvsud.com/ps-cert

Test report no.: 64290223036301

Date, 2022-06-29

(Billy Qiu)

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Technical Certifier (Billy Qiu) appointed by Certification Body TÜV SÜD Product Service GmbH performed assessment of the products listed in this certification in the place: Ridlerstraße 65, 80339 Munich, Germany.

Test requirement	The certification complies with the requirements of the following documents for Type A PGM installations: EN 50549-1:2019/AC:2019 Wymagania dla instalacji wytwórczych przeznaczonych do równoległego przyłączania do publicznych sieci dystrybucyjnych -- Część 1: Przyłączanie do sieci dystrybucyjnej nN -- Instalacje wytwórcze aż do typu B włącznie *(EN: 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)* RfG:2016 Rozporządzenie Komisji (UE) 2016/631 z dnia 14 kwietnia 2016 r. ustanawiające kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (Dz.U. UE L 112/1 z 27.4.2016) *(EN: Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for the connection of generating units to the Network (OJ EU L 112/1 of 27.4.2016))* NC RfG:2018 Wymogi Ogólnego Stosowania wynikające z rozporządzenia komisji UE 2016/631 z dnia 14 kwietnia 2016 r. ustanawiającego kodeks sieci dotyczący wymogów w zakresie przyłączenia jednostek wytwórczych do sieci (NC RfG, 2018) - zatwierdzone Decyzją Prezesa Urzędu Regulacji Energetyki DRE.WOSE.7128.550.2.2018.ZJ z dnia 2 stycznia 2019 r. *(EN: General applicability requirements resulting from EU commission regulation 2016/631 of of 14 April 2016 establishing a network code concerning the requirements for with regard to the connection of generating units to the grid (NC RfG-2018)- approved by the Decision of the President of the Energy Regulatory Office DRE.WOSE.7128.550.2.2018.ZJ dated 2 January 2019.)* PTPiREE:2021 Warunki i procedury wykorzystania certyfikatów w procesie przyłączenia modułów wytwarzania energii do sieci elektroenergetycznych V1.2 *(EN: Conditions and procedures for the use of certificates in the process of connecting modules generation modules to the power grid V1.2)*
Type of certification programme	1(a) according to EN ISO/IEC 17067 Based on Photovoltaics and Grid Integration Certification Program (Revision 6, Dated 5 Dec 2021) for Poland Grid Code
Manufacturer & Address of manufacturing site	Xiamen Kehua Digital Energy Tech Co., Ltd. Room 208-38, Hengye Building, No. 100 Xiangxing Road Torch High-tech Zone, (Xiangan) Industrial Zone 361115 Xiamen, PEOPLE'S REPUBLIC OF CHINA
Software version	V3.00
Certificate expiry date	2027-06-28

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Parameters:

Model	SPI30K-B X2	SPI33K-B X2	SPI36K-B X2
PV input rating			
Max. input power	40500 W	44550 W	48600 W
Rated input voltage	600 Vd.c.		
Max. input voltage	1100 Vd.c.		
MPPT voltage range	180-1100 Vd.c.		
MPPT voltage range (full load)	350-850 Vd.c.	400-850 Vd.c.	450-850 Vd.c.
Max. input current	30.0*3 Ad.c.		
PV short circuit current	37.5*3 Ad.c.		
Grid output rating			
Maximum continuous output power	30000 W	33000 W	36000 W
Maximum continuous output apparent power	33000 VA	36300 VA	39600 VA
Rated output voltage	230/400 Va.c., 3W+N+PE		
Max. output current	47.6 Aa.c.	52.4 Aa.c.	57.2 Aa.c.
Rated output frequency	50 Hz		
Power factor	0.8 Leading ~ 0.8 Lagging		

Model	SPI36K-B X2P	SPI40K-B X2	SPI40K-B X2P
PV input rating			
Max. input power	48600 W	54000 W	54000 W
Rated input voltage	600 Vd.c.		
Max. input voltage	1100 Vd.c.		
MPPT voltage range	180-1100 Vd.c.		
MPPT voltage range (full load)	450-850 Vd.c.	500-850 Vd.c.	500-850 Vd.c.
Max. input current	40.0/20.0/20.0 Ad.c.	30.0*3 Ad.c.	40.0/20.0/20.0 Ad.c.
PV short circuit current	50.0/25.0/25.0 Ad.c.	37.5*3 Ad.c.	50.0/25.0/25.0 Ad.c.
Grid output rating			
Maximum continuous output power	36000 W	40000 W	40000 W
Maximum continuous output apparent power	39600 VA	40000 VA	40000 VA
Rated output voltage	230/400 Va.c., 3W+N+PE		
Max. output current	57.2 Aa.c.	57.7 Aa.c.	57.7 Aa.c.
Rated output frequency	50 Hz		
Power factor	0.8 Leading ~ 0.8 Lagging		

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Scope of assessment and results

Clause of RfG	Requirement	Type A	Type B	Type C	Type D	Assessment Result
Article 13.1 (a)	Frequency range	Y	-	-	-	Pass
Article 13.1 (b)	Ability to withstand the frequency of change of frequency (RoCoF)	Y	-	-	-	Pass
Article 13.2	Limited frequency sensitive mode — overfrequency (LFSM-O)	Y	-	-	-	Pass
Article 13.4 & 13.5	Maximum power capability reduction with falling frequency	Y	-	-	-	Pass
Article 13.6	Remote ceasing active power	Y	-	-	-	Pass
Article 13.7 & 14.4	Automatic connection to the network	Y	-	-	-	Pass

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