

# Certificate of Conformity


No. ESY 115067 0029 Rev. 00

<b>Holder of Certificate:</b>	<b>Xiamen Kehua Digital Energy Tech Co., Ltd.</b> Room 208-38, Hengye Building No. 100 Xiangxing Road Torch High-tech Zone (Xiangan) Industrial Zone 361115 Xiamen PEOPLE'S REPUBLIC OF CHINA
<b>Product:</b>	<b>Converter (PV Grid-tied Inverter)</b>
<b>Model(s):</b>	<b>SPI8K-B X2, SPI10K-B X2, SPI12K-B X2, SPI15K-B X2, SPI17K-B X2, SPI20K-B X2, SPI23K-B X2, SPI25K-B X2, SPI25K-B X2P</b>
<b>Parameters:</b>	See page 3-4
<b>Applicable standards:</b>	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](http://www.tuvsud.com/ps-cert)

**Test report no.:** 64290223036201

**Date,** 2022-07-05



( 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.

<b>Test requirement</b>	<p>The certification complies with the requirements of the following documents for Type A PGM installations:</p> <p>EN 50549-1:2019/AC:2019          Wymagania dla instalacji wytwórczych przeznaczonych do równoległego przyłączenia do publicznych sieci dystrybucyjnych -- Część 1: Przyłączanie do sieci dystrybucyjnej nN -- Instalacje wytwórcze aż do typu B włącznie  <i>(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)</i></p> <p>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)  <i>(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) )</i></p> <p>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.  <i>(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.)</i></p> <p>PTPiREE:2021          Warunki i procedury wykorzystania certyfikatów w procesie przyłączenia modułów wytwarzania energii do sieci elektroenergetycznych V1.2  <i>(EN: Conditions and procedures for the use of certificates in the process of connecting modules generation modules to the power grid V1.2)</i></p>
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	2027-06-22

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## Parameters:

Model	SPI8K-B X2	SPI10K-B X2	SPI12K-B X2
PV input rating			
Max. input power	10800 VA	13500 VA	16200 VA
Rated input voltage	600 Vd.c.		
Max. input voltage	1100 Vd.c.		
MPPT voltage range	180-1100 Vd.c.		
MPPT voltage range (full load)	300-850 Vd.c.	350-850 Vd.c.	400-850 Vd.c.
Max. input current	15.0/15.0 Ad.c.		
PV short circuit current	18.75/18.75 Ad.c.		
Grid output rating			
Rated output apparent power	8000 VA	10000 VA	12000 VA
Maximum output apparent power	8800 VA	11000 VA	13200 VA
Rated output voltage	230/400 Va.c., 3W+N+PE		
Rated output current	11.5 Aa.c.	14.4 Aa.c.	17.3 Aa.c.
Max. output current	12.7 Aa.c.	15.9 Aa.c.	19.1 Aa.c.
Rated output frequency	50 Hz		
Power factor	0.8 Leading ~ 0.8 Lagging		

Model	SPI15K-B X2	SPI17K-B X2	SPI20K-B X2
PV input rating			
Max. input power	20250 VA	22950 VA	27000 VA
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.	350-850 Vd.c.
Max. input current	30.0/15.0 Ad.c.	30.0/15.0 Ad.c.	30.0/30.0 Ad.c.
PV short circuit current	37.5/18.75 Ad.c.	37.5/18.75 Ad.c.	37.5/37.5 Ad.c.
Grid output rating			
Rated output apparent power	15000 VA	17000 VA	20000 VA
Maximum output apparent power	16500 VA	18700 VA	22000 VA
Rated output voltage	230/400 Va.c., 3W+N+PE		
Rated output current	21.6 Aa.c.	24.5 Aa.c.	28.9 Aa.c.
Max. output current	23.8 Aa.c.	27.0 Aa.c.	31.8 Aa.c.
Rated output frequency	50 Hz		
Power factor	0.8 Leading ~ 0.8 Lagging		

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Model	SPI23K-B X2	SPI25K-B X2	SPI25K-B X2P
<b>PV input rating</b>			
Max. input power	31050 VA	33750 VA	33750 VA
Rated input voltage	600 Vd.c.		
Max. input voltage	1100 Vd.c.		
MPPT voltage range	180-1100 Vd.c.		
MPPT voltage range (full load)	400-850 Vd.c.	450-850 Vd.c.	450-850 Vd.c.
Max. input current	30.0/30.0 Ad.c.	30.0/30.0 Ad.c.	40.0/20.0 Ad.c.
PV short circuit current	37.5/37.5 Ad.c.	37.5/37.5 Ad.c.	50.0/30.0 Ad.c.
<b>Grid output rating</b>			
Rated output apparent power	23000 VA	25000 VA	25000 VA
Maximum output apparent power	25300 VA	27500 VA	27500 VA
Rated output voltage	230/400 Va.c., 3W+N+PE		
Rated output current	33.2 Aa.c.	36.1 Aa.c.	36.1 Aa.c.
Max. output current	36.5 Aa.c.	39.7 Aa.c.	39.7 Aa.c.
Rated output frequency	50 Hz		
Power factor	0.8 Leading ~ 0.8 Lagging		

## 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