CERTIFICATE

Xiamen Kehua Digital Energy Tech Co., Ltd.

Room 208-38, Hengye Building, No. 100 Xiangxing Road, Torch High-tech Zone (Xiangan) Industrial Zone, Xiamen, China.

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

Description of product(s) (details see Annex 2):

PV Grid-tied Inverter

It is certified by **TÜV NORD CERT GmbH** that the product(s) described above has(have) been assessed according to the certification program mentioned below and found in compliance with the requirements of below specified certification fundamental(s). This certification is based on evaluation results as documented in test report(s) referenced below and production site(s) audit results as documented in factory inspection report(s) referenced in Annex 1. This certificate is valid in conjunction with these quoted report(s).

Certification program:	P33-VA-01 Rev. 02 / 04.20	
Certification fundamental(s):	IEC 62109-1:2010, IEC 62109-2:2011	
Registered no.:	44 780 22 406749 - 130M1	
Manufacturer and factory(-ies):	See Annex 1	
Report no.:	492012074.002	Valid from: 2023-11-30
File no.:	PVP05054/23B-04	Valid until: 2027-06-22

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Certification Body
Balance of System (BOS) for Photovoltaics

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Please also pay attention to the information stated overleaf.

ANNEX

to Certificate registration no. 44 780 22 406749 - 130M1

Manufacturer:

Xiamen Kehua Digital Energy Tech Co., Ltd.
Room 208-38, Hengye Building, No. 100 Xiangxing Road, Torch High-tech Zone (Xiangan) Industrial Zone, Xiamen, China.

Factory:

ZHANGZHOU KEHUA ELECTRIC TECHNOLOGY CO., LTD.
NO.11, JINXING ROAD, XIANGCHENG DISTRICT, ZHANGZHOU CITY, FUJIAN PROVINCE, CHINA.
Factory inspection report no.: 862010484.004

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

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Description of product(s):

PV Grid-tied Inverter			
Model or Type designation	**SPI8K-B X2**	**SPI10K-B X2**	**SPI12K-B X2**
PV input parameters:			
Max. Input PV Voltage [Vd.c.]	1100		
MPPT Voltage Range [Vd.c.]	180-1100		
Max. PV Input Current [Ad.c.]	2*15	2*15	2*15
PV Short-circuit current [Ad.c.]	2*18.75	2*18.75	2*18.75
AC output (Grid Side) parameters:			
Rated Output Voltage [Va.c.]	400Vac, 3W+N+PE		
Rated Output Frequency [Hz]	50/ 60		
Rated Output Power [W]	8000	10000	12000
Max. Apparent Power [VA]	8800	11000	13200
Max. Output Current [Aa.c.]	12.7	15.9	19.1
Power Factor cosφ [λ]	>0.99(±0.8)		
Battery charge/discharge parameters (charge from PV, discharge to Grid) (Optional):			
Charge/discharge Voltage Range [Vd.c.]	650-900		
Max. charge/discharge Current [Ad.c.]	12	15	18
Others:			
Protective Class	Class I		
Inverter Topology	Non-isolated		

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Operation Temperature Range	-35~60°C		
Ingress Protection	IP66		
Weight	16kg	16kg	17kg
Dimension (W*H*D)	460*182*420mm		
Overvoltage-Category	DC(PV) II, AC(Main) III		
Hardware version	V3		
Software version	V3		
PV Grid-tied Inverter			
Model or Type designation	**SPI15K-B X2**	**SPI17K-B X2**	**SPI20K-B X2**
PV input parameters:			
Max. Input PV Voltage [Vd.c.]	1100		
MPPT Voltage Range [Vd.c.]	180-1100		
Max. PV Input Current [Ad.c.]	30+15	30+15	2*30
PV Short-circuit current [Ad.c.]	37.5+18.75	37.5+18.75	2*37.5
AC output (Grid Side) parameters:			
Rated Output Voltage [Va.c.]	400Vac, 3W+N+PE		
Rated Output Frequency [Hz]	50/ 60		
Rated Output Power [W]	15000	17000	20000
Max. Apparent Power [VA]	16500	18700	22000
Max. Output Current [Aa.c.]	23.8	27	31.8
Power Factor cosφ [λ]	>0.99(±0.8)		

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Battery charge/discharge parameters (charge from PV, discharge to Grid) (Optional):			
Charge/discharge Voltage Range [Vd.c.]	650-900		
Max. charge/discharge Current [Ad.c.]	23	26	30
Others:			
Protective Class	Class I		
Inverter Topology	Non-isolated		
Operation Temperature Range	-35~60°C		
Ingress Protection	IP66		
Weight	17kg		
Dimension (W*H*D)	460*182*420mm		
Overvoltage-Category	DC(PV) II, AC(Main) III		
Hardware version	V3		
Software version	V3		
PV Grid-tied Inverter			
Model or Type designation	**SPI23K-B X2**	**SPI25K-B X2P**	**SPI25K-B X2**
PV input parameters:			
Max. Input PV Voltage [Vd.c.]	1100		
MPPT Voltage Range [Vd.c.]	180-1100		
Max. PV Input Current [Ad.c.]	2*30	40+20	2*30
PV Short-circuit current [Ad.c.]	2*37.5	50+25	2*37.5
AC output (Grid Side) parameters:			

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Rated Output Voltage [Va.c.]	400Vac, 3W+N+PE		
Rated Output Frequency [Hz]	50/ 60		
Rated Output Power [W]	23000	25000	25000
Max. Apparent Power [VA]	25300	27500	27500
Max. Output Current [Aa.c.]	36.5	39.7	39.7
Power Factor cosφ [λ]	>0.99(±0.8)		
Battery charge/discharge parameters (charge from PV, discharge to Grid) (Optional):			
Charge/discharge Voltage Range [Vd.c.]	650-900		
Max. charge/discharge Current [Ad.c.]	35	38	38
Others:			
Protective Class	Class I		
Inverter Topology	Non-isolated		
Operation Temperature Range	-35~60°C		
Ingress Protection	IP66		
Weight	17kg		
Dimension (W*H*D)	460*182*420mm		
Overvoltage-Category	DC(PV) II, AC(Main) III		
Hardware version	V3		
Software version	V3		

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

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