

Certificate

No. ESY 075386 0340 Rev. 00

Prototype confirmation

Holder of Certificate: **Shenzhen Kstar New Energy Company Limited**
 The 9th Floor, R&D Building
 Kstar Industrial Park, Guangming Hi-tech Industrial Zone
 518107 Shenzhen, Guangdong Province
 PEOPLE'S REPUBLIC OF CHINA

Product: **Converter**
(Energy Storage Inverter & Hybrid Inverter)

Model(s): **Hybrid Inverter: KAC50DP2**
Energy Storage Inverter: KAC50D2

Parameters: See pages 2 to 3

Applicable standards: VDE-AR-N 4110:2023
 FGW TR8:2019

This Certificate 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.: 64290253079101

Date, 2026-05-15

Kennen Wang

(Kennen Wang)

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Parameters:

General and Input/output values	
Manufacturer	Shenzhen Kstar New Energy Company Limited
Type name	KAC50DP2
No. of phases	3 phases
Rated apparent power [kVA]	50.0
Rated active power [kW]	50.0
Maximum active power ($P_{E_{max}}$) [kW]	50.0
Rated AC-voltage [V_{AC}]	230/400, 3P+N+PE
Rated frequency [Hz]	50.0
Contribution to short circuit current (RMS) [A_{AC}]	80.0
PV Input values	
Min. MPPT voltage [V_{DC}]	250.0
Max. MPPT voltage [V_{DC}]	950.0
Max. PV input current [A_{DC}]	45.0*4
Max. peak power [kW]	100.0
Battery Input/output values	
Min. Battery voltage [V_{DC}]	150.0
Max. Battery voltage [V_{DC}]	900.0
Max. Charge/Discharge current [A_{DC}]	80.0*2/ 80.0*2
Max. Charge/Discharge power [kW]	50.0/ 50.0
Converter-Power section	
Manufacturer	Shenzhen Kstar New Energy Company Limited
Type name	KAC50DP2
Rated apparent power [kVA]	50.0
Generic type	MV/LV transformer is not included in the inverter
Pulse rated of inverter	15.6 kHz
Generic type of power control	PWM
Software version	DSP1: V010B000D000; DSP2: V010B000D000; ARM: V010B000D000; EMS: V020B030D000.

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General and Input/output values	
Manufacturer	Shenzhen Kstar New Energy Company Limited
Type name	KAC50D2
No. of phases	3 phases
Rated apparent power [kVA]	50.0
Rated active power [kW]	50.0
Maximum active power ($P_{E_{max}}$) [kW]	50.0
Rated AC-voltage [V_{AC}]	230/400, 3P+N+PE
Rated frequency [Hz]	50.0
Contribution to short circuit current (RMS) [A_{AC}]	80.0
Battery Input/output values	
Min. Battery voltage [V_{DC}]	150.0
Max. Battery voltage [V_{DC}]	900.0
Max. Charge/Discharge current [A_{DC}]	80.0*2/ 80.0*2
Max. Charge/Discharge power [kW]	50.0/ 50.0
Converter-Power section	
Manufacturer	Shenzhen Kstar New Energy Company Limited
Type name	KAC50D2
Rated apparent power [kVA]	50.0
Generic type	MV/LV transformer is not included in the inverter
Pulse rated of inverter	15.6 kHz
Generic type of power control	PWM
Software version	DSP1: V010B000D000; DSP2: V010B000D000; ARM: V010B000D000; EMS: V020B030D000.

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Prototype Confirmation			
Manufacturer	Shenzhen Kstar New Energy Company Limited		
Power generation unit type	Energy Storage Inverter & Hybrid Inverter, type 2		
Technical data	Rated active power:	KAC50DP2	50.0 kW
		KAC50D2	
	Rated voltage:	230/400 V _{AC} , 3P+N+PE	
	Nominal frequency:	50.0 Hz	
VDE application guide	VDE-AR-N 4110:2023-09 “TCR Medium-voltage” Technical requirements for the connection and operation of customer installations to the medium voltage network		
Certification program	FGW Technical guideline No 8 (Revision 9)		
The following data sheet and test data are evaluated according to clause 12 of VDE-AR-N 4110:2023-09 and clause 2.11 of FGW TR8:2019-02 for confirmation of regulation for prototypes: - Electrical data (See Page 2 to 3) - Schematic overview of the generation unit with all essential components (See page 4) - Operating ranges of the power generating unit * - Protection functions with setting ranges* - Active power control* - Reactive power control* - Dynamic reactive current feed-in* - The manufacturer has declared that the above models comply with the VDE-AR-N 4110:2023-09 standard. Remark: 1. “*”: For the detail, see the technical report 64.290.25.30791.01 for the full evaluation according to clause 12 of VDE-AR-N 4110:2023-09 and clause 2.11 of FGW TR8:2019-02. 2. The validity of this prototype confirmation is limited to 2 years from the date of issue until the certificate expiry date. Full verification of the requirements must be carried out as a Unit certificate before the certificate expiry date.			
Certificate expiry date	2028-05-13		

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Schematic set-up of the power generation unit

