

Certificate of Conformity

No. ESY 087538 0007 Rev. 00

Holder of Certificate: **Shenzhen Senergy Technology Co., Ltd.**

Block D, BC Park, No.18, Xiusha Rd.
Shatian Kengzi Sub-district
Pingshan District
518112 Shenzhen
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter
(Grid-Tied Solar Inverter)**

Model(s): **SE 5KTL-D3/G2, SE 6KTL-D3/G2,
SE 8KTL-D3/G2, SE 10KTL-D3/G2,
SE 10KTL-D3/G2P, SE 12KTL-D3/G2,
SE 15KTL-D3/G2, SE 15KTL-D3/G2P,
SE 17KTL-D3/G2, SE 20KTL-D3/G2,
SE 22KTL-D3/G2, SE 25KTL-D3/G2,
SE 30KTL-D3/G2**

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.: 64290233003801

Date, 2023-03-22



(Billy Qiu)

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

<p>Test requirement</p>	<p>The certification complies with the requirements of the following documents for Type A PGM installations:</p> <p>EN 50549-1:2019 Wymagania dla instalacji wytwórczych przeznaczonych do równoległego przyłączenia do publicznych sieci dystrybucyjnych -- Część 1: Przyłączenie 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>
<p>Type of certification programme</p>	<p>1(a) according to EN ISO/IEC 17067</p> <p>Based on Photovoltaics and Grid Integration Certification Program (Revision 6, Dated 5 Dec 2021) for Poland Grid Code</p>
<p>Manufacturer & Address of manufacturing site</p>	<p>Shanghai Sermatec Energy Technology Co., Ltd. Room 601-602, Block A, No.399, ZhongRen Road, JiaDing District, ShangHai, PEOPLE'S REPUBLIC OF CHINA</p>
<p>Software version</p>	<p>V145A00D00</p>
<p>Certificate expiry date</p>	<p>2028-03-21</p>

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Parameters:

Model Name	SE 5KTL-D3/G2	SE 6KTL-D3/G2	SE 8KTL-D3/G2	SE 10KTL-D3/G2	SE 10KTL-D3/G2P
PV input terminal parameters					
Max.Input Voltage	1100 V d.c.				
MPPT Voltage Range	160 V d.c. -1000 V d.c.				
MPPT Tracker number	1/1				1/2
Max.Input Current	15/15 A d.c.				15/30 A d.c.
Shorted Input Current	20/20 A d.c.				20/40 A d.c.
AC output terminal parameters					
Rated Output Voltage	3/N/PE~, 230/400 V a.c.				
Rated Output Current	7.2 A.a.c.	8.7 A.a.c.	11.6 A.a.c.	14.5 A.a.c.	14.5 A.a.c.
Max.Output Current	8.4 A a.c.	10.1 A a.c.	13.4 A a.c.	17.0 A a.c.	16.8 A a.c.
Rated.Output Power	5000 W	6000 W	8000 W	10000 W	10000 W
Maximum Output Power $P_{E_{max}}$	5500 W	6600 W	8800 W	11200 W	11000 W
Maximum Output Apparent Power $S_{E_{max}}$	5500 VA	6600 VA	8800 VA	11200 VA	11000 VA
Rated Output Frequency	50 Hz				
Power Factor	0.8 capacitive(over-excited) - 0.8 inductive(under-excited)				

Model Name	SE 12KTL-D3/G2	SE 15KTL-D3/G2	SE 15KTL-D3/G2P	SE 17KTL-D3/G2
PV input terminal parameters				
Max.Input Voltage	1100 V d.c.			
MPPT Voltage Range	160 V d.c.-1000 V d.c.			
MPPT Tracker number	1/2	1/2	2/2	2/2
Max.Input Current	15/30 A d.c.		30/30 A d.c.	
Shorted Input Current	20/40 A d.c.		40/40 A d.c.	
AC output terminal parameters				
Rated Output Voltage	3/N/PE~, 230/400 V a.c.			
Rated Output Current	17.4 A a.c.	21.7 A a.c.	21.7 A a.c.	24.6 A a.c.
Max.Output Current	20.2 A a.c.	25.3 A a.c.	25.3 A a.c.	28.6 A a.c.
Rated.Output Power	12000 W	15000 W	15000 W	17000 W
Maximum Output Power $P_{E_{max}}$	13200 W	16700 W	16500 W	18700 W
Maximum Output Apparent Power $S_{E_{max}}$	13200 VA	16700 VA	16500 VA	18700 VA
Rated Output Frequency	50 Hz			
Power Factor	0.8 capacitive(over-excited) - 0.8 inductive(under-excited)			

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Model Name	SE 20KTL-D3/G2	SE 22KTL-D3/G2	SE 25KTL-D3/G2	SE 30KTL-D3/G2
PV input terminal parameters				
Max.Input Voltage	1100 V d.c.			
MPPT Voltage Range	160 V d.c.-1000 V d.c.			
MPPT Tracker number	2/2	2/2	2/2	2/2
Max.Input Current	30/30 A d.c.			40/30 A d.c.
Shorted Input Current	40/40 A d.c.			50/37.5 A d.c.
AC output terminal parameters				
Rated Output Voltage	3/N/PE~, 230/400 V a.c.			
Rated Output Current	29.0 A a.c.	31.9 A a.c.	36.2 A a.c.	43.5 A a.c.
Max.Output Current	33.7 A a.c.	37.0 A a.c.	39.8 A a.c.	50.2 A a.c.
Rated.Output Power	20000W	22000W	25000W	30000W
Maximum Output Power P _{E_{max}}	22000 W	24200 W	27500 W	33000 W
Maximum Output Apparent Power S _{E_{max}}	22000 VA	24200 VA	27500 VA	33000 VA
Rated Output Frequency	50 Hz			
Power Factor	0.8 capacitive(over-excited) - 0.8 inductive(under-excited)			

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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)	Rate 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	Automatic connection to the network	Y	-	-	-	Pass