

Certificate of Conformity

No. ESY 076777 0085 Rev. 00

Holder of Certificate: **Shenzhen Sinexcel Electric Co., Ltd**

Building 6, BaiWangXin
High-tech Industrial Park, Nanshan District
518055 Shenzhen City
PEOPLE'S REPUBLIC OF CHINA

Product: **Converter
(Bi-directional Hybrid Energy Storage
Inverter)**

Model(s): **PWS2-29P-EX, PWS2-30P-EX**

Parameters: See page 3

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.: 64290233104301

Date, 2023-09-06



(Billy Qiu)

Certificate of Conformity

No. **ESY 076777 0085 Rev. 00**

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	<p>The certification complies with the requirements of the following documents for Type A PGM installations:</p> <p>EN 50549-1:2019/AC:2019 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</p> <p>RfG:2016 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)</p> <p>NC RfG:2018 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.</p> <p>PTPiREE:2021 Conditions and procedures for the use of certificates in the process of connecting modules generation modules to the power grid V1.2</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	Shenzhen Sinexcel Electric Co., Ltd. Building 6, BaiWangXin High-tech Industrial Park,Nanshan District 518055 Shenzhen City, PEOPLE'S REPUBLIC OF CHINA
Software version	V1.0
Certificate expiry date	2028-09-05

Certificate of Conformity

No. ESY 076777 0085 Rev. 00

Parameters:

Model	PWS2-30P-EX	PWS2-29P-EX
DC Link input rating		
DC Link input Voltage range	700~830 Vd.c.	
DC Link input maximum continuous current	65 Ad.c.	
DC Link input power	45 kW	
Battery input/output rating		
Battery type	Lead-acid/Lithium battery	
Rated voltage	600 Vd.c.	
Battery operating input voltage range	150~750 Vd.c.	
Battery input voltage range (full load)	350~750 Vd.c.	
Max. charging power	30 kW	
Max. charging current	90 Ad.c.	
Max. discharging power	30 kW	
Max. discharging current	90 Ad.c.	
Grid input rating		
Rated input active power	30 kW	29.9 kW
Rated input apparent power	33 kVA	29.9 kVA
Maximum input apparent power	33 kVA	29.9 kVA
Rated input frequency	50 Hz	
Rated input voltage	230/400 Va.c., 3/N/PE	
Rated input current	43.3 Aa.c.	43.2 Aa.c.
Max. continuous input current	47.6 Aa.c.	43.2 Aa.c.
Grid output rating		
Rated output active power	30 kW	29.9 kW
Rated output apparent power	33 kVA	29.9 kVA
Maximum output apparent power	33 kVA	29.9 kVA
Rated output frequency	50 Hz	
Rated output voltage	230/400Va.c., 3/N/PE	
Rated output current	43.3 Aa.c.	43.2 Aa.c.
Max. continuous output current	47.6 Aa.c.	43.2 Aa.c.
Power factor	0.9 inductive to 0.9 capacitive	

Certificate of Conformity

No. ESY 076777 0085 Rev. 00

Scope of assessment and results

Clause of NfG	Requirement	Type A	Type B	Type C	Type D	AssessmentResult
Article 13.1 (a)	Frequency range	Y	-	-	-	Pass
Article 13.1 (b)	Ability to withstand the 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