Certificate

of Conformity

Registered No.:

COCPVP03014/21E-06

File reference	Test report No.	Date of issue
PVP03014/21E-01	TRPVP03014/21E/01	2021-06-22

On the basis of the tests undertaken, the samples of the below product(s) have been found to comply with the essential requirements of the referenced specifications at the time the tests were carried out:

Applicant:	**FOXESS CO., LTD.** Room A203, Building C, No 205, Binghai Six Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang Province
Manufacturer:	**FOXESS CO., LTD.** Room A203, Building C, No 205, Binghai Six Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang Province
Factory:	**FOXESS CO., LTD. WUXI BRANCH** No. 11, Lijing Road, Xinwu District, Wuxi City, Jiangsu Povince, China
Product:	Storage Inverter
Type designation:	AC1-4.6-E, AC1-3.7-E, AC1-3.0-E, AIO-AC1-4.6, AIO-AC1-3.7, AIO-AC1-3.0
Certification fundamental(s):	BOS-P-01 Rev. 00
Standard(s):	DIN VDE V 0124-100:2020-06 VDE-AR-N 4105:2018 See test report for detailed information.

This document is based on the evaluation of the samples of the above mentioned product(s). It does not imply an assessment of the mass-production of the product(s), and it does not permit the use of a TÜV NORD mark. The holder of this document may use it in connection with the related test report(s).

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E.6 Certificate of the network and system protection	
Manufacturer:	**FOXESS CO., LTD.** Room A203, Building C, No 205, Binghai Six Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang Province
Type of NS protection:	☐ Central NS protection ☒ Integrated NS protection: Assigned to power generation unit of type: AC1-4.6-E, AC1-3.7-E, AC1-3.0-E, AIO-AC1-4.6, AIO-AC1-3.7, AIO-AC1-3.0
Network connection rule:	VDE-AR-N 4105:2018 "Generators connected to the low-voltage distribution network" Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network
Test requirement:	DIN VDE V 0124-100 (VDE V 0124-100):2020-06 "Network integration of power generation systems - Low voltage" Test requirements for power generation units intended for connection to and parallel operation on the low-voltage network
Test report:	TRPVP03014/21E/01 issued on 2021-06-22
The network and system protection designated above meets the requirements of VDE-AR-N 4105. This NS protection certificate shall not be used in extracts.	

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E.7 Requirements for the test report for the NS protection						
Type of NS protection:	☐ Central NS protection ☒ Integrated NS protection: Assigned to power generation unit of type: AC1-4.6-E, AC1-3.7-E, AC1-3.0-E, AIO-AC1-4.6, AIO-AC1-3.7, AIO-AC1-3.0					
Software version:	V1.09					
Manufacturer:	**FOXESS CO., LTD.** Room A203, Building C, No 205, Binghai Six Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang Province					
Measurement period:	From 2021-03-13 to 2021-06-10					
-	Stirling generators, fuel cells			Inverter(s)		
	Synchronous and asynchronous generators with Pn ≤ 50 kW coupled directly or via inverters			Directly coupled synchronous and asynchronous generators with Pn > 50 kW		
Protective function	Set value	Tripping value	*Tripping time NS protection	Set value	Tripping value	*Tripping time NS protection
Rise-in-voltage protection U >>	1.15 * Un	N/A	N/A	1.25 * Un	286.5V	166.17ms
Rise-in-voltage protection U > *	1.10 * Un	N/A	N/A	1.10 * Un	-	497s
Voltage drop protection U <	0.8 * Un	N/A	N/A	0.8 * Un	184.4V	3086ms
Voltage drop protection U <<	N/A			0.45 * Un	104.75V	369.54ms
Frequency decrease protection f <	47.5Hz	N/A	N/A	47.5Hz	47.505Hz	131.92ms
Frequency increase protection f >	51.5Hz	N/A	N/A	51.5Hz	51.520Hz	156.20ms

* The tripping time includes the period from the limit value violation U/f until the tripping signal to the interface switch.

When planning the power generation system, the response time of the interface switch shall be added to the maximum time value obtained as indicated above.

The disconnection time (sum of tripping time of the NS protection plus response time of the interface switch) shall not exceed 200ms.

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☒ For integrated NS protection	
Assigned to power generation unit of type:	AC1-4.6-E, AC1-3.7-E, AC1-3.0-E, AIO-AC1-4.6, AIO-AC1-3.7, AIO-AC1-3.0
Type integrated interface switch:	Relay
Response time of interface switch for integrated NS protection:	≤ 10ms
☒ Verification of the entire functional chain "integrated NS protection – interface switch" has resulted in successful disconnection.	

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