CERTIFICATE

Applicant: **FOXESS CO., LTD.**
No.939, Jinhai Third Road, New Airport Industry Area, Longwan District, Wenzhou, Zhejiang,
China

Product: **Photovoltaic Inverter with integrated automatic disconnection device between a generator and the public low-voltage grid**

Model: **R75, R100, R110**

Intended use:
PV-Grid-Tied inverter in accordance with EN 50549-1 with three-phase parallel coupling to the distribution network. The automatic disconnection device is an integral part of the aforementioned inverter.

Applied standards and guidelines:

SOP-9-1_15 GCC Certification Program, 09/21
Based on:
EN 50549-1:2019
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

The generating plant(s) are also considered to be compliant with the relevant Articles of Commission Regulation (EU) 2016/631 of 14 April 2016 establishing a network code on requirements for grid connection of generators (NC RfG), provided, that all settings as provided by the DSO and the responsible party are complied with.

The safety concept of an aforementioned representative products corresponds at the time of issue of this certificate to the valid safety specifications for the specified use in accordance with regulations.

Report No: 221026BWA119-EG-EU-001
Test report from Guangdong HuaChuang Technology Service Co., Ltd., A2LA accredited Cert #5200.02

Certificate No: 23-232-00

Date of issue: 2023-06-02

Raphael Rader
- Digitally signed | see http://ca.kiwa-deutschland.de for more details -

Raphael Rader
Certification Engineer

GRID CODE COMPLIANCE EN 50549-1

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Interface protection range:

Voltage values						
Threshold	Stage 1 [27 <]			Stage 2 [27 <<]		
	Operate voltage	Operate time		Operate voltage	Operate time	
Range	0,2-1,0 Un	0,1-100s		0,2-1,0 Un	0,1-5s	
Steps	0,01 Un	0,1 s		0,01 Un	0,05s	
Threshold	Stage 1 [59 >]		Stage 2 [59 >>]		Overvoltage 10 min mean protection	
	Operate voltage	Operate time	Operate voltage	Operate time	Operate voltage	Operate time
Range	1,0-1,2 Un	0,1-100s	1,0-1,3 Un	0,1-5s	1,0-1,15 Un	3s not adjustable
Steps	0,01 Un	0,1s	0,01 Un	0,05s	0,01 Un	--
Frequency values						
Threshold	Stage 1 [81 <]			Stage 2 [81 <<]		
	Operate frequency	Operate time		Operate frequency	Operate time	
Range	47,0-50,0Hz	0,1-100s		47,0-50,0Hz	0,1-5s	
Steps	0,1 Hz	0,1 s		0,1 Hz	0,05s	
Threshold	Stage 1 [81 >]			Stage 2 [81 >>]		
	Operate frequency	Operate time		Operate frequency	Operate time	
Range	50,0-52,0Hz	0,1-100s		50,0-52,0Hz	0,1-5s	
Steps	0,1 Hz	0,1 s		0,1 Hz	0,05s	
Note: The reset ratio is less than 2% of nominal value for voltage and 0,2Hz for frequency.						

The products fulfill the following requirements according to EN 50549-1:2019:

Requirements:EN 50549-1:2019	Assessment / Remark
4.4 Normal operating range	Pass
4.5 Immunity to disturbances	Pass
4.6 Active response to frequency deviation	Pass
4.7 Power response to voltage variations and voltage changes	Pass
4.8 EMC and power quality	Pass
4.9 Interface protection	Pass
4.10 Connection and starting to generate electrical power	Pass
4.11 Ceasing and reduction of active power on set point	Pass
4.12 Remote information exchange	Not applicable, to be considered at the plant level
4.13 Requirements regarding single fault tolerance of interface protection system and interface switch	Pass