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VERITAS**

Certificate of compliance

Applicant: AISWEI Technology (Shanghai) Co., Ltd.
Room 905B, 757 Mengzi Road, Huangpu District, 200023 Shanghai,
P.R.China

Product: Photovoltaic (PV) inverter

Model: ASW3000-S-G2
ASW3680-S-G2
ASW4000-S-G2
ASW5000-S-G2
ASW6000-S-G2

Use in accordance with regulations:

Automatic disconnection device with single-phase mains surveillance in accordance with DANSK ENERGI:2019 for photovoltaic systems with a single-phase parallel coupling via an inverter in the public mains supply. The automatic disconnection device is an integral part of the aforementioned inverter.

Applied rules and standards:

DANSK ENERGI:2019

Technical requirements for connection of power-generating plants to the low-voltage grid ($\leq 1\text{kV}$) Type A

- 4.1 Tolerance of Frequency and voltage deviations
- 4.2 Start-up and reconnection of a power-generating plant
- 4.3 Active power control
- 4.4 Reactive power control
- 4.5 Protection
- 4.6 Power Quality

DIN V VDE V 0126-1-1:2006-02 (4.1 Functional safety)

Automatic disconnection device between a generator and the public low-voltage grid

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

Report number: PVDK2211WDG0029-1

Certification Program: NSOP-0032-DEU-ZE-V01

Certificate number: U22-0733

Date of issue: 2022-12-07

Certification body

Alf Assenkamp

Certification body Bureau Veritas Consumer Products Services Germany GmbH accreditation to DIN EN ISO/IEC 17065

A partial representation of the certificate requires the written approval of Bureau Veritas Consumer Products Services Germany GmbH

Type Verification Test Report

Extract from test report according to DANKS ENERGI

Nr. PVDK2211WDG0029-1

Type Approval and declaration of compliance with the requirements of DANKS ENERGI

Manufacturer / applicant:	AISWEI Technology(Shanghai) Co., Ltd. Room 905B, 757 Mengzi Road, Huangpu District, 200023 Shanghai, P.R.China
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Micro-generator Type	Photovoltaic inverter			
	ASW3000-S-G2	ASW3680-S-G2	ASW4000-S-G2	ASW5000-S-G2
Max. input DC voltage [V]	600			
Input DC voltage range [V]	60-560			
Max. Input DC current [A]	2*16			
Output AC voltage [V]	L/N/PE, 230V, 50Hz			
Max. Output AC current [A]	15,0	16,0	20,0	25,0
Nominal Output power [W]	3000	3680	4000	5000
Max. Output power [VA]	3000	3680	4000	5000

	ASW6000-S-G2			
Max. input DC voltage [V]	600			
Input DC voltage range [V]	60-560			
Max. Input DC current [A]	2*16			
Output AC voltage [V]	L/N/PE, 230V, 50Hz			
Max. Output AC current [A]	30,0			
Nominal Output power [W]	6000			
Max. Output power [VA]	6000			

Firmware version	Main DSP Software version: V610-01055-03 Slave DSP Software version: V610-01056-03 Safety package (Flash) version: V610-10010-03
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Measurement period:	2022-06-23 to 2022-11-30
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Description of the structure of the power generation unit:
The power generation unit is equipped with a PV and line-side EMC filter. The power generation unit has no galvanic isolation between DC input and AC output. Output switch-off is performed with single-fault tolerance based on two series-connected relays in line and neutral. This enables a safe disconnection of the power generation unit from the network in case of error.

Setting of the parameter values for DK1 and DK2:		
	Settings for DK1	Setting for DK2
	LFSM-O	
Threshold frequency [Hz]	50,2	50,5
Droop [% of Pn]	5% (40% Pn/Hz)	4% (50% Pn/Hz)
Intentional Delay	500ms	500ms
	Reactive Power	
	Q fix	Q fix



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Annex to the DANKS ENERGI certificate of compliance No. U22-0733

Type Verification Test Report

Extract from test report according to DANSK ENERGI

Nr. PVDK2211WDG0029-1

Active/disabled [On/Off]	On	On
Q setpoint [VAR]	0	0
	cos ϕ fix	
Active/disabled [On/Off]	Off	Off
PF setpoint [PF]	1	1
	Settings for DK1	Setting for DK2
	cos ϕ (P)	
Active/disabled [On/Off]	Off	Off
Cos ϕ (P) P1 [% of P _n]	0	0
Cos ϕ (P) PF1 [PF]	1	1
Cos ϕ (P) P2 [% of P _n]	50	50
Cos ϕ (P) PF2 [PF]	1	1
Cos ϕ (P) P3 [% of P _n]	100	100
Cos ϕ (P) PF3 [PF]	0,9 inductive	0,9 inductive
Cos ϕ (P) Lockin [% of U _n]	105	105
Cos ϕ (P) Lockout [% of U _n]	100	100
	Connection and Reconnection	
Gradient [% of P _n /min]	20	20
Observation time [seconds]	180	180
U _{min} [% of U _n]	85	85
U _{max} [% of U _n]	110	110
f _{min} [Hz]	47,5	47,5
f _{max} [Hz]	50,2	50,5
	System Protection	
f> [s]	0,2	0,2
f> [Hz]	51,5	51,5
f< [s]	0,2	0,2
f< [Hz]	47,5	47,5
U> [s]	60	60
U> [% of U _n]	110	110
U>> [s]	0,2	0,2
U>> [% of U _n]	115	115
U< [s]	50	50
U< [% of U _n]	85	85
	Loss of Mains Detection	
U<< [s]	0,2	0,2
U<< [% of U _n]	80	80

Note.

The settings of the interface protection are password protected adjustable.

In case the above stated generators are used with an external protection device, the protection settings of the inverters are to be adjusted according to the manufacturer's declaration.