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:	**ASW25K-LT-G3** **ASW27K-LT-G3** **ASW30K-LT-G3** **ASW33K-LT-G3** **ASW36K-LT-G3** **ASW40K-LT-G3**

Use in accordance with regulations:

Automatic disconnection device with three-phase mains surveillance in accordance with DANSK ENERGI:2019 for photovoltaic systems with a three-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 (≤1kV) 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:	**PVDK2204WDG0409-1**	**Certification Program:**	**NSOP-0032-DEU-ZE-V01**
Certificate number:	**U22-0732**	**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 DANSK ENERGI **Nr. PVDK2204WDG0409-1**

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			
Micro-generator Type	Photovoltaic inverter			
	ASW25K-LT-G3	**ASW27K-LT-G3**	**ASW30K-LT-G3**	**ASW33K-LT-G3**
Max. input DC voltage [V]	1100			
Input DC voltage range [V]	180-1100			
Max. Input DC current [A]	32,0 / 32,0 / 32,0	32,0 / 32,0 / 32,0	32,0 / 32,0 / 32,0	32,0 / 32,0 / 40,0
Output AC voltage [V]	3/N/PE, 230/400V, 50Hz			
Max. Output AC current [A]	39,9	43,0	47,8	52,6
Nominal Output power [kW]	25,0	27,0	30,0	33,0
Max. Output power [kVA]	25,0	27,0	30,0	33,0
	ASW36K-LT-G3	**ASW40K-LT-G3**		
Max. input DC voltage [V]	1100			
Input DC voltage range [V]	180-1100			
Max. Input DC current [A]	32,0 / 32,0 / 40,0	32,0 / 32,0 / 40,0		
Output AC voltage [V]	3/N/PE, 230/400V, 50Hz			
Max. Output AC current [A]	57,4	63,8		
Nominal Output power [kW]	36,0	40,0		
Max. Output power [kVA]	36,0	40,0		
Firmware version	Main DSP Software version: V610-03041-05 Slave DSP Software version: V610-60009-00 Safety package (Flash) version: V610-11007-02			
Measurement period:	2022-04-18 to 2022-11-30			
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	

Type Verification Test Report

Extract from test report according to DANSK ENERGI **Nr. PVDK2204WDG0409-1**

	Q fix	Q fix
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.