

# Certificate of Conformity

Certificate Number: CN-PVES-230621R1

On the basis of the tests undertaken, the samples of the below product have been found to comply with the requirements of the referenced standards at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture. The manufacturer shall ensure that the manufacturing process assures compliance of the production units with the examined products mentioned in this certificate.

Applicant: Afore New Energy Technology (Shanghai) Co., Ltd.

Building 7, No.333 Wanfang Rd, Minhang District, Shanghai. China.201112

Product: Hybrid Inverter

Ratings & Principle See appendix of Certificate of Conformity Characteristics:

**Model:** AF\*-SL-1(\*=1K, 1.5K, 2K, 2.5K, 3K, 3.6K)

AF\*-SL(\*=3K, 3.6K, 4K, 4.6K, 5K, 5.5K, 6K)

AF\*-SLP(\*=4K, 4.6K, 5K, 5.5K, 6K)

AF\*-ASL-1(\*=1K, 1.5K, 2K, 2.5K, 3K, 3.6K) AF\*-ASL(\*=3K, 3.6K, 4K, 4.6K, 5K, 5.5K, 6K)

Brand Name<s>: Afore

**Product Complies with:** EN 50549-1:2019 Requirements for the connection of generation equipment

in parallel with public distribution networks

**Certificate Issuing Office** 

Name & Address:

Intertek Testing Services Ltd. Shanghai

West Area, 2<sup>nd</sup> Floor, No. 707, Zhangyang Road

China (Shanghai) Pilot Free Trade Zone, Shanghai, P. R. China

Accredited by ACCREDIA in accordance with ISO/IEC 17065:2012

**Test Report No.<s>:** 2408B2667SHA-001

Additional information in Appendix.

Replaces certificate CN-PV-230621 dated 15 November 2023

**Signature** 

**Certification Manager: Qiao Qiao** 

Date: 05 November 2024

ACCREDIA 5

PRD N° 306B



This is an Appendix to Certificate of Conformity Number: CN-PVES-230621R1

#### **Ratings & Principal Characteristics:**

	Specif	ications table					
Model	AF1K-SL-1	AF1.5K-SL-1	AF2K-SL-1	AF2.5K-SL-1	AF3K-SL-1		
	AF1K-ASL-1	AF1.5K-ASL-	AF2K-ASL-1	AF2.5K-ASL-	AF3K-ASL-1		
Input							
Ppv Max (W)	1500	2300	3000	3800	4500		
Vmax PV (V)	550	550	550	550	550		
Isc PV (absolute Max.) (A)	26	26	26	26	26		
Number of MPP trackers	1	1	1	1	1		
Number of input strings	1	1	1	1	1		
Max. PV input range (A)	18.5	18.5	18.5	18.5	18.5		
MPPT Voltage Range (V)	80-500	80-500	80-500	80-500	80-500		
Vdc range @ full power (V)	80-500	90-500	120-500	150-500	170-500		
Battery (input and output)		100					
Battery type		Li	-ion / lead acid e	tc.			
Battery Nominal Voltage (V)			51.2				
Battery Voltage Range (V)	40-60						
Max. Charge/Discharge Current (A)	25	40	50	63	80		
Max. Charge/Discharge Power (W)	1000	1500	2000	2500	3000		
AC Grid (input and output)							
Nominal Voltage (V)	L/N/PE. 230Vac						
Nominal Frequency (Hz)			50	- 10			
Max. continuous Input/output Current (A)	5	7	10	12	14		
Nominal Power (W)	1000	1500	2000	2500	3000		
Max. Power (W)	1000	1500	2000	2500	3000		
Max. apparent Power (VA)	1000	1500	2000	2500	3000		
Power Factor	70	1(-	0.8~+0.8 adjusta	ble)			
AC Load output		· ·					
Nominal Output Voltage (V)		0 10	L/N/PE. 230Vac	<u> </u>			
Nominal Frequency (Hz)	50						
Max. continuous Input/output Current (A)	5	7	10	12	14		
Nominal Output Power(W)	1000	1500	2000	2500	3000		
Max. Output Power (W)	1000	1500	2000	2500	3000		
Max. apparent Power (VA)	1000	1500	2000	2500	3000		
Power Factor	1						
others							
Ingress protection (IP)	IP65 / IP66						
Temperature (°C)	-25°C to +60°C (Derating45°C)						
Inverter Isolation	Non-isolated(PV - AC - BAT)						
Firmware Version	1.01						
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This is an Appendix to Certificate of Conformity Number: CN-PVES-230621R1

#### **Ratings & Principal Characteristics:**

	Specifi	cations table				
	AF3.6K-SL-1	AF3K-SL	AF3.6K-SL		AF4.6K-SL	
Model	AF3.6K-ASL-	AF3K-ASL	AF3.6K-ASL	AF4K-SL		
	1					
Input						
Ppv Max (W)	5400	4500	5400	6000	6900	
Vmax PV (V)	550	550	550	550	550	
Isc PV (absolute Max.) (A)	26	26 x 2	26 x 2	26 x 2	26 x 2	
Number of MPP trackers	1	2	2	2	2	
Number of input strings	1	1/1	1/1	1/1	1/1	
Max. PV input range (A)	18.5	18.5 x 2	18.5 x 2	18.5 x 2	18.5 x 2	
MPPT Voltage Range (V)	80-500	80-500	80-500	80-500	80-500	
Vdc range @ full power (V)	210-500	90-500	110-500	120-500	130-500	
Battery (input and output)					*	
Battery type		102	i-ion / lead acid et	C.		
Battery Nominal Voltage (V)			51.2	: 70		
Battery Voltage Range (V)	40-60					
Max. Charge/Discharge Current (A)	80	80	80	80	80	
Max. Charge/Discharge Power (W)	3600	3000	3600	4000	4600	
AC Grid (input and output)						
Nominal Voltage (V)	L/N/PE. 230Vac					
Nominal Frequency (Hz)	50					
Max. continuous Input/output Current (A)	17	14	17	19	22	
Nominal Power (W)	3600	3000	3600	4000	4600	
Max. Power (W)	3600	3000	3600	4000	4600	
Max. apparent Power (VA)	3600	3000	3600	4000	4600	
Power Factor		1(-	0.8~+0.8 adjustab	ole)		
AC Load output						
Nominal Output Voltage (V)	L/N/PE. 230Vac					
Nominal Frequency (Hz)	50					
Max. continuous Input/output Current (A)	17	14	17	19	22	
Nominal Output Power(W)	3600	3000	3600	4000	4600	
Max. Output Power (W)	3600	3000	3600	4000	4600	
Max. apparent Power (VA)	3600	3000	3600	4000	4600	
Power Factor			1		1	
others						
Ingress protection (IP)	IP65 / IP66					
Temperature (°C)	-25°C to +60°C (Derating45°C)					
Inverter Isolation	Non-isolated(PV - AC – BAT)					
Firmware Version	1.01					



This is an Appendix to Certificate of Conformity Number: CN-PVES-230621R1

#### **Ratings & Principal Characteristics:**

Specifications table						
Model	AF5K-SL	AF5.5K-SL	AF6K-SL			
Input						
Ppv Max (W)	7500	8300	9000			
Vmax PV (V)	550	550	550			
Isc PV (absolute Max.) (A)	26 x 2	26 x 2	26 x 2			
Number of MPP trackers	2	2	2			
Number of input strings	1/1	1/1	1/1			
Max. PV input range (A)	18.5 x 2	18.5 x 2	18.5 x 2			
MPPT Voltage Range (V)	80-500	80-500	80-500			
Vdc range @ full power (V)	150-500	160-500	170-500			
Battery (input and output)						
Battery type		Li-i	on / lead acid e	etc.		
Battery Nominal Voltage (V)			51.2			
Battery Voltage Range (V)			40-60			
Max. Charge/Discharge Current (A)	80	80	80			
Max. Charge/Discharge Power (W)	4800	4800	4800			
AC Grid (input and output)						
Nominal Voltage (V)		_	_/N/PE. 230Va			
Nominal Frequency (Hz)		46	50			
Max. continuous Input/output	22	200	20	40		
Current (A)	23	26	28	//		
Nominal Power (W)	5000	5500	6000	All .		
Max. Power (W)	5000	5500	6000	///		
Max. apparent Power (VA)	5000	5500	6000	All .		
Power Factor	1(-0.8~+0.8 adjustable)					
AC Load output						
Nominal Output Voltage (V)	100		_/N/PE. 230Va			
Nominal Frequency (Hz)	10	0 //	50			
Max. continuous Input/output	23	26	28			
Current (A)	23	20	20			
Nominal Output Power(W)	5000	5500	6000			
Max. Output Power (W)	5000	5500	6000			
Max. apparent Power (VA)	5000	5500	6000			
Power Factor			1	<u>,                                      </u>		
others						
Ingress protection (IP)	IP65					
Temperature (°C)	-25°C to +60°C (Derating45°C)					
Inverter Isolation	Non-isolated(PV - AC - BAT)					
Firmware Version	1.01					



This is an Appendix to Certificate of Conformity Number: CN-PVES-230621R1

#### **Ratings & Principal Characteristics:**

Model	Specifications table						
PV input   PV input   RF4K-ASL   AF5K-ASL   AF5K-ASL   AF6K-ASL   AF6K-ASL				AF5K-SLP	AF5.5K-SLP	AF6K-SLP	
PyMax(W)		AF4K-ASL	AF4.6K-ASL	AF5K-ASL	AF5.5K-ASL	AF6K-ASL	
Virtual PV (VIdo) (absolute Max.)   550   260 x2   26 x2							
Sec PV (absolute Max.) (A)							
Number MPP trackers							
Number input strings							
Max. PV input current / strings (A)							
MPPT voltage range (Vdc)   80-500   80-500   80-500   80-500   80-500   Vdc range @ full power (Vdc)   120-500   130-500   150-500   160-500   170-500   Marcharge/discharge)							
Vdc range @ full power (Vdc)         120-500         130-500         150-500         160-500         170-500           Battery (charge/discharge)         Li-ion/Lead-acid           Battery (vpe         Li-ion/Lead-acid           Battery Normal Voltage (Range) (Vdc)         51.2V (40-60V)           Max charge/discharge Power(W)         4000         4600         5000         5500         6000           AC Grid (input and output)         Normal AC Voltage (VAC)         L/N/PE, 230Vac           Frequency (Hz)           Normal AC Current (A)         17.4         20         21.8         24         26.1           Max. cont. input/output current (A)         19         22         23         26         28           Rated Power(W)         4000         4600         5000         5500         6000           Max. cont. Power (VA)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Max. cont. Cadjustable)         1.0(-0.8~+0.8)         4.0         4.0         4.0         4.0         4.0         4.0         4.0         4.0         4.0         4.0							
Battery (charge/discharge)   Battery type							
Battery type		120-500	130-500	150-500	160-500	170-500	
Battery Normal Voltage (Range) (Vdc)				// 1			
Max charge/discharge Current(A)         120         120         120         120         120         120         120         Max charge/discharge Power(W)         4000         4600         5000         5500         6000           AC Grid (input and output)           L/N/PE, 230Vac           Frequency (Hz)           So           Normal AC Current (A)         17.4         20         21.8         24         26.1           Max. cont. input/output current (A)         19         22         23         26         28           Rated Power(W)         4000         4600         5000         5500         6000           Rated Power(W)         4000         4600         5000         5500         6000           Max. cont. Power (VA)         4000         4600         5000         5500         6000           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. durent (A)         17.4         20         21.8         24         26.1           Max. cont. durent (A)         19         22         23         26         28           Max. cont. current (A)					-		
Max charge/discharge Power(W)         4000         4600         5000         5500         6000           AC Grid (input and output)         L/N/PE, 230Vac           Frequency (Hz)           Normal AC Current (A)         17.4         20         21.8         24         26.1           Max. cont. input/output current (A)         19         22         23         26         28           Rated Power(W)         4000         4600         5000         5500         6000           Max. cont. rower (W)         4000         4600         5000         5500         6000           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Normal Voltage (VAC)         L/N/PE, 230Vac         Frequency (Hz)         50         21.8         24         26.1           Max. cont. Power (W)         4000         4600         5000         5500 </td <td></td> <td>400</td> <td></td> <td></td> <td>100</td> <td>100</td>		400			100	100	
Normal AC Voltage (VAC)							
Normal AC Voltage (VAC)	Max charge/discharge Power(W)	4000	4600	5000	5500	6000	
So				/NI/DE 000\/			
Normal AC Current (A)	<b>-</b> , , ,		-				
Max. cont. input/output current (A)         19         22         23         26         28           Rated Power(W)         4000         4600         5000         5500         6000           Rated Apparent Power (VA)         4000         4600         5000         5500         6000           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor (adjustable)         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)           AC Load output-(stand alone)         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)           Nominal Voltage (VAC)         L/N/PE, 230Vac         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)           Frequency (Hz)         50         50         1.0(-0.8~+0.8)						1	
Rated Power (W)							
Rated Apparent Power (VA)         4000         4600         5000         5500         6000           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor (adjustable)         1.0(-0.8~+0.8)							
Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor (adjustable)         1.0(-0.8~+0.8)         1.0(-0.8~+0.8)           AC Load output (stand alone)           Normal Voltage (VAC)         L/N/PE, 230Vac           Frequency (Hz)           Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class           Class I           Temperature (°C)         -25 °C to +60 °C (Derating 45 °C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)							
Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor (adjustable)         1.0(-0.8~ +0.8)         4000         4600         5000         5500         6000           AC Load output (stand alone)         L/N/PE, 230Vac           Frequency (Hz)         50           Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class I           Temperature (°C)         -25°C to +60°C (Derating 45°C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category							
Power factor (adjustable)							
AC Load output (stand alone)           Normal Voltage (VAC)         L/N/PE, 230Vac           Frequency (Hz)         50           Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (°C)         -25°C to +60°C (Derating 45°C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)		4000			5500	6000	
Normal Voltage (VAC)         L/N/PE, 230Vac           Frequency (Hz)         50           Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (°C)         -25 °C to +60 °C (Derating 45 °C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)			1	1.0( -0.8~ +0.8)	407		
Frequency (Hz)         50           Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (°C)         -25 °C to +60 °C (Derating 45 °C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)				/NI/DE 000\/			
Nominal Current(A)         17.4         20         21.8         24         26.1           Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (°C)         -25 °C to +60 °C (Derating 45 °C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)					40		
Max. cont. current (A)         19         22         23         26         28           Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (°C)         -25°C to +60°C (Derating 45°C)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)							
Max. cont. Power (W)         4000         4600         5000         5500         6000           Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (℃)         -25℃ to +60℃ (Derating 45℃)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)							
Max. cont. Apparent Power (VA)         4000         4600         5000         5500         6000           Power factor         1.0           Others           Ingress protection (IP)         IP65 / IP66           Protective class         Class I           Temperature (℃)         -25℃ to +60℃ (Derating 45℃)           Inverter Isolation         Non-isolated (PV - AC - BAT)           Overvoltage category         OVC III (AC Main), OVC II (PV)							
Power factor     1.0       Others     Ingress protection (IP)       Protective class     Class I       Temperature (°C)     -25°C to +60°C (Derating 45°C)       Inverter Isolation     Non-isolated (PV - AC - BAT)       Overvoltage category     OVC III (AC Main), OVC II (PV)							
Others         Ingress protection (IP)       IP65 / IP66         Protective class       Class I         Temperature (°C)       -25°C to +60°C (Derating 45°C)         Inverter Isolation       Non-isolated (PV - AC - BAT)         Overvoltage category       OVC III (AC Main), OVC II (PV)		4000	1 4000		3300	0000	
Protective class  Class I  Temperature (°C)  Inverter Isolation  Overvoltage category  Class I  -25°C to +60°C (Derating 45°C)  Non-isolated (PV - AC - BAT)  OVC III (AC Main), OVC II (PV)			- (Eco)				
Protective class  Class I  Temperature (°C)  Inverter Isolation  Overvoltage category  Class I  -25°C to +60°C (Derating 45°C)  Non-isolated (PV - AC - BAT)  OVC III (AC Main), OVC II (PV)	Ingress protection (IP)	IP65 / IP66					
Inverter Isolation Non-isolated (PV - AC - BAT)  Overvoltage category OVC III (AC Main), OVC II (PV)		Class I					
Inverter Isolation Non-isolated (PV - AC - BAT)  Overvoltage category OVC III (AC Main), OVC II (PV)	Temperature (°C)	-25°C to +60°C (Derating 45°C)					
Overvoltage category OVC III (AC Main), OVC II (PV)	. , ,						
		` '					