

Test Verification of Conformity

Verification Number: 2404B0472SHA-V1

On the basis of the referenced test report(s), sample(s) tested of the below product have been found to comply with the standards harmonized with the directives listed on this verification at the time the tests were carried out. Other standards and Directives may be relevant to the product. This verification is part of the full test report(s) and should be read in conjunction with it <them>.

Once compliance with all product relevant e.g. risk assessment and production control, the manufacturer may indicate compliance by signing a Declaration of Conformity themselves and applying the mark to products identical to the tested sample(s).

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

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

Product Description: Hybrid inverter

Ratings & Principle See specifications table

Characteristics:

Models/Type References: AF*-TH (*=3K, 4K, 5K, 6K, 8K, 10K, 12K, 15K, 17K, 20K, 25K, 30K)

AF*-THP (*=3K, 4K, 5K, 6K, 8K, 10K, 12K)

AF*-THA (*=3K, 4K, 5K, 6K, 8K, 10K, 12K, 15K, 17K)

AF*-THC (*=3K, 4K, 5K, 6K)

Brand Name: Afore

Relevant Standards/Directives: EN IEC 61000-6-1:2019; EN IEC 61000-6-3:2021;

EN IEC 61000-6-2:2019; EN IEC 61000-6-4:2019;

EN IEC 61000-3-2:2019+A1:2021; EN 61000-3-3:2013+A1:2019+A2:2021; EN IEC 61000-3-11:2019; EN 61000-3-12:2011; EN 62920:2017+A1:2021;

the EMC Directive 2014/30/EU

Verification Issuing Office Intertek Testing Services Shanghai

Name & Address: Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China

Date of Tests: 2023-06-30 to 2023-07-01, 2024-03-14 to 2024-03-16

Test Report Number(s): 2404B0472SHA-001

Signature

Name: Max Jin

Position: General Manager

Date: 2024-05-15

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APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 2404B0472SHA-V1

Model	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	
PV input					
P pv Max(kW)	5	6	7.5	9	
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000	
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2	
Number MPP trackers	2	2	2	2	
Number input strings	1/1	1/1	1/1	1/1	
Max. PV input current (A)	20*2	20*2	20*2	20*2	
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850	
Vdc range @ full power (Vdc)	200-850	200-850	200-850	250-850	
Battery (charge/discharge)					
Battery type		Li-ion/L	ead-acid		
Battery Normal Voltage (Range) (Vdc)	150	0-800(Field adapt l	oattery voltage rai	nge)	
Max charge/discharge Current(A)	30	30	30	30	
Max charge/discharge Power(kW)	3	4	5	6	
AC Grid (input and output)					
Normal AC Voltage (VAC)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)	50				
Normal AC Current (A)	4.4	5.8	7.3	8.7	
Max. cont. input/output current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 / 10.5	
Rated Power (kW)	3	4	5	6	
Rated Apparent Power (kVA)	3	4	5	6	

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Model	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	
Max. cont. Apparent input/output Power (KVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	
Power factor(adjustable)		1.0(-0.	8~ +0.8)	I	
AC Load output (stand alone)					
Normal Voltage (VAC)		3P+N+PE/3F	P+PE 230/400		
Frequency (Hz)	50				
Nominal Current (A)	4.4	5.8	7.3	8.7	
Max. cont. current (A)	5.3	7	8.5	10.5	
Max. cont. Power (kW)	3	4	5	6	
Rated Apparent Power (kVA)	3	4	5	6	
Max. cont. Apparent Power (kVA)	3	4	5	6	
Power factor	- 0	1	0		
Others					
Ingress protection (IP)		IF	P65		
Protective class		Cla	ass 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)				
Firmware Version	1.01				
Software Version		V	01		



Model	AF8K-TH	AF10K-TH	AF12K-TH	AF15K-TH
PV input				
P pv Max(kW)	12	15	18	22.5
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30+48
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/2
Max. PV input current (A)	20*2	20*2	20*2	20+32
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850
Vdc range @ full power (Vdc)	300-850	500-850	500-850	500-850
Battery (charge/discharge)				
Battery type	U	Li-ion/L	ead-acid	
Battery Normal Voltage (Range) (Vdc)	150	-800(Field adapt l	oattery voltage rar	nge)
Max charge/discharge Current(A)	30	30	30	50
Max charge/discharge Power(kW)	8	10	12	15
AC Grid (input and output)				
Normal AC Voltage (VAC)		3P+N+PE/3P	+PE 230/400	
Frequency (Hz)		// _5	0	
Normal AC Current (A)	11.6	14.5	17.4	21.8
Max. cont. input/output current (A)	20 / 13.5	26 / 17	32 / 21.5	40.5 / 27
Rated Power (kW)	8	10	12	15
Rated Apparent Power (kVA)	8	10	12	15
Max. cont. input/output Power (kW)	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5
Max. cont. Apparent input/output Power (kVA)	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5



Model	AF8K-TH	AF10K-TH	AF12K-TH	AF15K-TH	
Power factor(adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand alone)					
Normal Voltage (VAC)	3P+N+PE/3P+PE 230/400				
Frequency (Hz)		5	0		
Nominal Current (A)	11.6	14.5	17.4	21.8	
Max. cont. current (A)	13.5	17	21.5	27	
Max. cont. Power (kW)	8	10	12	15	
Rated Apparent Power (kVA)	8	10	12	15	
Max. cont. Apparent Power (kVA)	8	10	12	15	
Power factor		1.	.0		
Others					
Ingress protection (IP)	- 0 0	IP	65		
Protective class	- 0	Cla	ss 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)				
Firmware Version	1.01				
Software Version	2 . (V	01		



Model	AF3K-THP	AF4K-THP	AF5K-THP	AF6K-THP
PV input				
P pv Max(kW)	5	6	7.5	9
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1
Max. PV input current (A)	20*2	20*2	20*2	20*2
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850
Vdc range @ full power (Vdc)	200-850	200-850	200-850	250-850
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	80-	-600(Field adapt b	attery voltage rang	ge)
Max charge/discharge Current(A)	50	50	50	50
Max charge/discharge Power(kW)	3	4	5	6
AC Grid (input and output)				
Normal AC Voltage (VAC)		3P+N+PE/3P	+PE 230/400	
Frequency (Hz)		5	0	
Normal AC Current (A)	4.4	5.8	7.3	8.7
Max. cont. input/output current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 / 10.5
Rated Power (kW)	3	4	5	6
Rated Apparent Power (kVA)	3	4	5	6
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Max. cont. Apparent input/output Power (KVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Power factor(adjustable)		1.0(-0.8	8~ +0.8)	



Model	AF3K-THP	AF4K-THP	AF5K-THP	AF6K-THP		
AC Load output (stand alone)						
Normal Voltage (VAC)		3P+N+PE/3P+PE 230/400				
Frequency (Hz)		į	50			
Nominal Current (A)	4.4	5.8	7.3	8.7		
Max. cont. current (A)	5.3	7	8.5	10.5		
Max. cont. Power (kW)	3	4	5	6		
Rated Apparent Power (kVA)	3	4	5	6		
Max. cont. Apparent Power (kVA)	3	4	5	6		
Power factor		1	0	I		
Others						
Ingress protection (IP)	U	IF	265			
Protective class	- 0 0	Cla	ass I			
Temperature (°C)	- 0	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV-AC-BAT)					
Overvoltage category	OVC III (AC Main), OVC II (PV)					
Firmware Version	1.01					
Software Version		V	01			



Model	AF8K-THP	AF10K-THP	AF12K-THP	
PV input				
P pv Max(kW)	12	15	18	
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	
Number MPP trackers	2	2	2	
Number input strings	1/1	1/1	1/1	
Max. PV input current (A)	20*2	20*2	20*2	
MPPT voltage range (Vdc)	150-850	150-850	150-850	
Vdc range @ full power (Vdc)	300-850	500-850	500-850	
Battery (charge/discharge)				
Battery type	Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	80-600(Field adapt battery voltage range) 120-650(Field adapt battery voltage ra			
Max charge/discharge Current(A)	50	50	50	
Max charge/discharge Power(kW)	8	10	12	
AC Grid (input and output)				
Normal AC Voltage (VAC)	3F	P+N+PE/3P+PE 230/400		
Frequency (Hz)		50		
Normal AC Current (A)	11.6	14.5	17.4	
Max. cont. input/output current (A)	20 / 13.5	26 / 17	32 / 21.5	
Rated Power (kW)	8	10	12	
Rated Apparent Power (kVA)	8	10	12	
Max. cont. input/output Power (kW)	12 / 8.8	15 / 11	18 / 13.2	
Max. cont. Apparent input/output Power (kVA)	12 / 8.8	15 / 11	18 / 13.2	



Model	AF8K-THP	AF10K-THP	AF12K-THP		
Power factor(adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand alone)					
Normal Voltage (VAC)	3	3P+N+PE/3P+PE 230/400			
Frequency (Hz)	50				
Nominal Current (A)	11.6	14.5	17.4		
Max. cont. current (A)	13.5	17	21.5		
Max. cont. Power (kW)	8	10	12		
Rated Apparent Power (kVA)	8	10	12		
Max. cont. Apparent Power (kVA)	8	10	12		
Power factor		1.0			
Others					
Ingress protection (IP)	_ 0 _	IP65			
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)				
Firmware Version	1.01				
Software Version		V01			



Specifications table				
Model	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
PV input				
P pv Max(kW)	25.5	30	37.5	45
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	48*2	48*2	60*2	60*2
Number MPP trackers	2	2	2	2
Number input strings	2/2	2/2	2/2	2/2
Max. PV input current (A)	32*2	32*2	40*2	40*2
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850
Vdc range @ full power (Vdc)	500-850	500-850	500-850	500-850
Battery (charge/discharge)				
Battery type	- 0 0	Li-ion/L	ead-acid	
Battery Normal Voltage (Range) (Vdc)	150	0-800(Field adapt	battery voltage rar	nge)
Max charge/discharge Current(A)	50	50	60	60
Max charge/discharge Power(kW)	17	20	25	30
AC Grid (input and output)			20	
Normal AC Voltage (VAC)		3P+N+PE/3F	P+PE 230/400	
Frequency (Hz)	2 . (5	50	
Normal AC Current (A)	24.7	29	36.3	43.5
Max. cont. input/output current (A)	45 / 30	48 / 32	60 / 40	72 / 48
Rated Power (kW)	17	20	25	30
Rated Apparent Power (kVA)	17	20	25	30
Max. cont. input/output Power (kW)	25.5 / 18.7	30 / 22	37.5 / 27.5	45 / 33
Max. cont. Apparent input/output Power (kVA)	25.5 / 18.7	30 / 22	37.5 / 27.5	45 / 33



Specifications table					
Model	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH	
Power factor(adjustable)	1.0(-0.8~ +0.8)				
AC Load output (stand alone)					
Normal Voltage (VAC)		3P+N+PE/3P	2+PE 230/400		
Frequency (Hz)		5	50		
Nominal Current(A)	24.7	29	36.3	43.5	
Max. cont. current (A)	30	32	40	48	
Max. cont. Power (kW)	17	20	25	30	
Rated Apparent Power (kVA)	17	20	25	30	
Max. cont. Apparent Power (kVA)	17	20	25	30	
Power factor		1	.0		
Others					
Ingress protection (IP)	- 0	IP	65		
Protective class		Cla	iss 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)				
Firmware	1.01				
Software Version		V	01		



Specifications table				
Model	AF3K-THA	AF4K-THA	AF5K-THA	AF6K-THA
PV input				
P pv Max(kW)	5	6	7.5	9
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2
Number MPP trackers	2	2	2	2
Number input strings	1/1	1/1	1/1	1/1
Max. PV input current (A)	20*2	20*2	20*2	20*2
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850
Vdc range @ full power (Vdc)	200-850	200-850	200-850	200-850
Battery (charge/discharge)				
Battery type	- 0 0	Li-ion/L	ead-acid	
Battery Normal Voltage Range (Vdc)	150	0-600(Field adapt l	oattery voltage rai	nge)
Max charge/discharge Current(A)	30	30	30	30
Max charge/discharge Power(kW)	3	4	5	6
AC Grid (input and output)				
Normal AC Voltage (VAC)		3P+PE/3F	133/230	
Frequency (Hz)	50			
Normal AC Current (A)	7.6	10.1	12.6	15.1
Max. cont. input/output current (A)	16 / 10.5	20 / 13.5	26 / 17	32 / 21.5
Rated Power (kW)	3	4	5	6
Rated Apparent Power (kVA)	3	4	5	6
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6



Specifications table						
Model	AF3K-THA AF4K-THA AF5K-THA AF6K-THA					
Max. cont. Apparent input/output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6		
Power factor(adjustable)	1.0(-0.8~ +0.8)					
AC Load output (stand alone)						
Normal Voltage (VAC)	-00	3P+PE/3F	P 133/230			
Frequency (Hz)	50					
Nominal Current (A)	7.6	10.1	12.6	15.1		
Max. cont. current (A)	10.5	13.5	17	21.5		
Max. cont. Power (kW)	3	4	5	6		
Rated Apparent Power (kVA)	3	4	5	6		
Max. cont. Apparent Power (kVA)	3	4	5	6		
Others	- 0		- 0			
Ingress protection (IP)		IP	65			
Protective class		Cla	ass I			
Temperature ($^{\circ}\mathbb{C}$)		-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV - AC - BAT)					
Overvoltage category	OVC III (AC Main), OVC II (PV)					
Firmware	1.01					
Software Version		V	01			



Specifications table						
Model	AF3K-THC AF4K-THC AF5K-T		AF5K-THC	AF6K-THC		
PV input						
P pv Max(kW)	5	6	7.5	9		
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000		
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2		
Number MPP trackers	2	2	2	2		
Number input strings	1/1	1/1	1/1	1/1		
Max. PV input current (A)	20*2	20*2	20*2	20*2		
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850		
Vdc range @ full power (Vdc)	200-850	200-850	200-850	200-850		
Battery (charge/discharge)						
Battery type	Li-ion/Lead-acid					
Battery Normal Voltage Range (Vdc)	80-600(Field adapt battery voltage range)					
Max charge/discharge Current(A)	50	50	50	50		
Max charge/discharge Power(kW)	3	4	5	6		
AC Grid (input and output)		2,000,000	20			
Normal AC Voltage (VAC)	3P+PE/3P 133/230					
Frequency (Hz)	50					
Normal AC Current (A)	7.6	10.1	12.6	15.1		
Max. cont. input/output current (A)	16 / 10.5	20 / 13.5	26 / 17	32 / 21.5		
Rated Power (kW)	3	4	5	6		
Rated Apparent Power (kVA)	3	4	5	6		
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6		



Specifications table							
Model	AF3K-THC	AF4K-THC	AF5K-THC	AF6K-THC			
Max. cont. Apparent input/output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6			
Power factor(adjustable)	1.0(-0.8~ +0.8)						
AC Load output (stand alone)							
Normal Voltage (VAC)	3P+PE/3P 133/230						
Frequency (Hz)	50						
Nominal Current (A)	7.6	10.1	12.6	15.1			
Max. cont. current (A)	10.5	13.5	17	21.5			
Max. cont. Power (kW)	3	4	5	6			
Rated Apparent Power (kVA)	3	4	5	6			
Max. cont. Apparent Power (kVA)	3	4	5	6			
Others	- 0		- 0				
Ingress protection (IP)	IP65						
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)						
Firmware	1.01						
Software Version	V01						



	Specifications table					
Model	AF8K-THA	AF10K-THA	AF12K-THA	AF15K-THA	AF17K-THA	
PV input						
P pv Max(kW)	12	15	18	22.5	25.5	
Vmax PV (Vdc) (absolute Max.)	1000	1000	1000	1000	1000	
Isc PV (absolute Max.) (A)	30+48	48*2	48*2	60*2	60*2	
Number MPP trackers	2	2	2	2	2	
Number input strings	1/2	2/2	2/2	2/2	2/2	
Max. PV input current (A)	20+32	32*2	32*2	40*2	40*2	
MPPT voltage range (Vdc)	150-850	150-850	150-850	150-850	150-850	
Vdc range @ full power (Vdc)	200-850	200-850	250-850	300-850	300-850	
Battery (charge/discharge)						
Battery type	Li-ion/Lead-acid					
Battery Normal Voltage Range (Vdc)	150-600(Field adapt battery voltage range)					
Max charge/discharge Current(A)	50	50	50	60	60	
Max charge/discharge Power(kW)	8	10	12	15	17	
AC Grid (input and output)						
Normal AC Voltage (VAC)	3P+PE/3P 133/230					
Frequency (Hz)	50					
Normal AC Current (A)	20.1	25.1	30.1	37.6	42.7	
Max. cont. input/output current (A)	40.5 / 27	45 / 30	48 / 32	60 / 40	72 / 48	
Rated Power (kW)	8	10	12	15	17	
Rated Apparent Power (kVA)	8	10	12	15	17	
Max. cont. input/output Power (kW)	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	



Specifications table							
Model	AF8K-THA	AF10K-THA	AF12K-THA	AF15K-THA	AF17K-THA		
Max. cont. Apparent input/output Power (kVA)	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7		
Power factor(adjustable)	1.0(-0.8~ +0.8)						
AC Load output (stand alone)							
Normal Voltage (VAC)	3P+PE/3P 133/230						
Frequency (Hz)	50						
Nominal Current (A)	20.1	25.1	30.1	37.6	42.7		
Max. cont. current (A)	27	30	32	40	48		
Max. cont. Power (kW)	8	10	12	15	17		
Rated Apparent Power (kVA)	8	10	12	15	17		
Max. cont. Apparent Power (kVA)	8	10	12	15	17		
Others	- 0	-					
Ingress protection (IP)	IP65						
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)						
Firmware	1.01						
Software Version	V01						