

Test Verification of Conformity

Verification Number: 230900421SHA-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 Appendix

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*-TH-0 (*=3K, 4K, 5K, 6K, 8K, 10K, 12K, 15K, 17K, 20K, 25K, 30K)

AF*-THP-0 (*=3K, 4K, 5K, 6K, 8K, 10K, 12K)

Brand Name: Afore

Relevant Standards/Directives: IEC 61683:1999

Verification Issuing Office

Name & Address:

Intertek Testing Services Shanghai

Building No.86, 1198 Qinzhou Road (North), Shanghai 200233, China

Date of Tests: 2023-09-13 to 2024-03-25
Test Report Number(s): 230900421SHA-001

Signature

Name: Max Jin

Position: General Manager

Date: 2024-03-25



This is an Appendix to Test Verification of Conformity Number: 230900421SHA-V1

Ratings:

Specifications table				
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	-800(Field adapt	battery 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	/ 60	
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~ +0.8)	
AC Load output (stand alone)				
Normal Voltage (VAC)			P+PE 230/400	
Frequency (Hz)			/ 60	
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
Others				
Ingress protection (IP)		IF	P65	
Protective class		Cla	ass I	
Temperature (℃)		-25℃ t	o +60°C	
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category		OVC III (AC Ma	ain), OVC II (PV)	



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Ratings:

nauiigs:	Specification	ns table		
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		Li-ion/Le	ad-acid	
Battery Normal Voltage Range (Vdc)	150	-800(Field adapt b	attery voltage ran	ge)
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)	- 0 0	50 /	60	
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	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5
Power (kVA)	12 / 0.0	10		22.07 10.0
Power factor(adjustable)		1.0(-0.8	~ +0.8)	
AC Load output (stand alone)				
Normal Voltage (VAC)		3P+N+PE/3P-		
Frequency (Hz)	44.0	50 /		24.0
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 12	15 15
Rated Apparent Power (kVA)	8	10 10	12	15
Max. cont. Apparent Power (kVA) Others	8	10	12	15
Ingress protection (IP)		IP6	\$ F	
. , ,				
Protective class		Clas		
Temperature (℃)		-25℃ to		
Inverter Isolation		Non-isolated (P	V - AC - BAT)	
Overvoltage category	OVC III (AC Main), OVC II (PV)			



This is an Appendix to Test Verification of Conformity Number: 230900421SHA-V1

Ratings:

Hatings:	Specifications	stable		
Model	ĀF17K-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		Li-ion/Le		
Battery Normal Voltage Range (Vdc)	150	-800(Field adapt b	attery voltage ran	ge)
Max charge/discharge Current(A)	50	50	60	60
Max charge/discharge Power(kW)	17	20	25	30
AC Grid (input and output)				
Normal AC Voltage (VAC)	3P+N+PE/3P+PE 230/400			
Frequency (Hz)		50 /	60	
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	25.5 / 18.7	30 / 22	37.5 / 27.5	45 / 33
(kVA)	25.57 10.7			43 / 33
Power factor(adjustable)		1.0(-0.8	S~ +0.8)	
AC Load output (stand alone)				
Normal Voltage (VAC)		3P+N+PE/3P		
Frequency (Hz)		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
Others				
Ingress protection (IP)		IP		
Protective class		Clas	ss I	
Temperature ($^{\circ}$ C)		-25℃ to	+60℃	
Inverter Isolation		Non-isolated (F	PV - AC - BAT)	
Overvoltage category	OVC III (AC Main), OVC II (PV)			



This is an Appendix to Test Verification of Conformity Number: 230900421SHA-V1

Ratings:

Specifications table				
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/Lea	ad-acid	
Battery Normal Voltage Range (Vdc)	80-	600(Field adapt ba	ttery voltage rang	e)
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)	50 / 60			
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	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6
Power (kVA)	4.0 / 0.0		The second	3 / 0.0
Power factor(adjustable)		1.0(-0.8 ²	~ +0.8)	
AC Load output (stand alone)				
Normal Voltage (VAC)		3P+N+PE/3P+		
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) Others	3	4	5	6
Ingress protection (IP)		IP6		
Protective class		Clas		
Temperature (°C)		-25℃ to	+60℃	
Inverter Isolation	Non-isolated (PV - AC - BAT)			
Overvoltage category	OVC III (AC Main), OVC II (PV)			



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Ratings:

Ratings:	Specifications table				
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			
	80-600	120-6	350		
Battery Normal Voltage Range (Vdc)	(Field adapt battery	(Field adapt batter			
	voltage range)	·	y voltage range)		
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)	3P+	N+PE/3P+PE 230/400)		
Frequency (Hz)		50 / 60			
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		
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)		50 / 60			
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		
Others					
Ingress protection (IP)		IP65			
Protective class		Class I			
	-25°C to +60°C				
Temperature ($^{\circ}$)		Non-isolated (PV - AC - BAT)			
Temperature (°C) Inverter Isolation	Non-	isolated (PV - AC - BA	T)		



This is an Appendix to Test Verification of Conformity Number: 230900421SHA-V1

Ratings:

Ratings:				
	Specification			,
Model	AF3K-TH-0	AF4K-TH-0	AF5K-TH-0	AF6K-TH-0
Battery (charge/discharge)				
Battery type		Li-ion/Le		
Battery Normal Voltage Range (Vdc)		-800(Field adapt ba	attery voltage ranç	ge)
Max charge/discharge Current(A)	30	30	30	30
Max charge/discharge Power(kW)	3 / 3.3	4 / 4.4	5 / 5.5	6 / 6.6
AC Grid (input and output)				
Normal AC Voltage (VAC)		3P+N+PE/3P-	⊦PE 230/400	
Frequency (Hz)		50 /	60	
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	6 / 4	7.5 / 5	9/6
Max. cont. Apparent input/output Power (kVA)	4.5 / 3	6 / 4	7.5 / 5	9/6
Power factor(adjustable)	_	1.0(-0.8	~ +0.8)	
AC Load output (stand alone)				
Normal Voltage (VAC)		3P+N+PE/3P-		
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
Others				
Ingress protection (IP)	IP65			
Protective class		Class	s I	
Temperature (°C)	-25°C to +60°C (Derating 45°C)			
Inverter Isolation	Non-isolated (AC - BAT)			
Overvoltage category		OVC III (A	C Main)	



This is an Appendix to Test Verification of Conformity Number: 230900421SHA-V1

Ratings:

Ratings: Specifications table					
Model	AF8K-TH-0	AF10K-TH-0	AF12K-TH-0	AF15K-TH-0	
Battery (charge/discharge)					
Battery type		Li-ion/Le	ead-acid		
				150-800(Field	
Battery Normal Voltage Range (Vdc)	80-800(Fiel	d adapt battery vol	tage range)	adapt battery	
				voltage range)	
Max charge/discharge Current(A)	30	30	30	50	
Max charge/discharge Power(kW)	8 / 8.8	10 / 11	12 / 13.2	15 / 16.5	
AC Grid (input and output)					
Normal AC Voltage (VAC)		3P+N+PE/3P			
Frequency (Hz)	/	50 /	⁷ 60		
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	15 / 10	18 / 12	22.5 / 15	
Max. cont. Apparent input/output Power (kVA)	12/8	15 / 10	18 / 12	22.5 / 15	
Power factor(adjustable)		1.0(-0.8	3~ +0.8)		
AC Load output (stand alone)					
Normal Voltage (VAC)		3P+N+PE/3P			
Frequency (Hz)		50 /			
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)	<u>8</u> 8	10 10	12 12	15 15	
Max. cont. Apparent Power (kVA)	ŏ	10	12	15	
Others	\				
Ingress protection (IP)	IP65				
Protective class	Class I				
Temperature ($^{\circ}$ C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (AC - BAT)				
Overvoltage category	OVC III (AC Main)				



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Ratings:

Specifications table					
Model	AF17K-TH-0	AF20K-TH-0	AF25K-TH-0	AF30K-TH-0	
Battery (charge/discharge)					
Battery type		Li-ion/Lea	ad-acid		
Battery Normal Voltage Range (Vdc)	150-	800(Field adapt ba	attery voltage rang	je)	
Max charge/discharge Current(A)	50	50	60	60	
Max charge/discharge Power(kW)	17 / 18.7	20 / 22	25 / 27.5	30 / 33	
AC Grid (input and output)					
Normal AC Voltage (VAC)	//	3P+N+PE/3P+	PE 230/400		
Frequency (Hz)		50 / (60		
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 / 17	30 / 20	37.5 / 25	45 / 30	
Max. cont. Apparent input/output Power (kVA)	25.5 / 17	30 / 20	37.5 / 25	45 / 30	
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)		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	
Others					
Ingress protection (IP)		IP6			
Protective class	Class I				
Temperature ($^{\circ}$ C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (AC - BAT)				
Overvoltage category		OVC III (A	C Main)		



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Ratings:

Specifications table					
Model	AF3K-THP-0	AF4K-THP-0	AF5K-THP-0	AF6K-THP-0	
Battery (charge/discharge)					
Battery type		Li-ion/Le	ad-acid		
Battery Normal Voltage Range (Vdc)	80-	600(Field adapt ba	attery voltage rang	je)	
Max charge/discharge Current(A)	50	50	50	50	
Max charge/discharge Power(kW)	3 / 3.3	4 / 4.4	5 / 5.5	6 / 6.6	
AC Grid (input and output)					
Normal AC Voltage (VAC)	// 1	3P+N+PE/3P	+PE 230/400		
Frequency (Hz)	_	50 /	60		
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	6 / 4	7.5 / 5	9/6	
Max. cont. Apparent input/output Power (kVA)	4.5 / 3	6 / 4	7.5 / 5	9 / 6	
Power factor(adjustable))	1.0(-0.8	~ +0.8)		
AC Load output (stand alone)					
Normal Voltage (VAC)		3P+N+PE/3P			
Frequency (Hz)		50 /		1	
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	
Others					
Ingress protection (IP)	IP65				
Protective class	Class I				
Temperature (°C)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (AC - BAT)				
Overvoltage category	- 0	OVC III (A	C Main)		



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Ratings:

Specifications table					
Model	AF8K-THP-0	AF10K-THP-0	AF12K-THP-0		
Battery (charge/discharge)					
Battery type		Li-ion/Lead-acid			
Battery Normal Voltage Range (Vdc)	80-600 120-650 (Field adapt battery voltage range) (Field adapt battery voltage range				
Max charge/discharge Current(A)	50	50	50		
Max charge/discharge Power(kW)	8 / 8.8	10 / 11	12 / 13.2		
AC Grid (input and output)					
Normal AC Voltage (VAC)	3P-	+N+PE/3P+PE 230/400)		
Frequency (Hz)	50 / 60				
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	15 / 10	18 / 12		
Max. cont. Apparent input/output Power (kVA)	12 / 8	15 / 10	18 / 12		
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)	50 / 60				
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		



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Ratings:

Specifications table							
Model	AF8K-THP-0	AF10K-THP-0	AF12K-THP-0				
Others							
Ingress protection (IP)		IP65					
Protective class		Class I					
Temperature (°C)		-25°C to +60°C					
Inverter Isolation		Non-isolated (AC - BAT)					
Overvoltage category		OVC III (AC Main)					

Signature

Name: Max Jin

Position: General Manager

Date: 2024-03-25