

Test Verification of Conformity

Verification Number: 240300431SHA-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 mark directives are verified, including any 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: See Appendix

Brand Name: Afore

Relevant Standards/Directives: IEC/EN 62109-1:2010

IEC/EN 62109-2:2011

EN 62477-1:2012+A11:2014+A1:2017+A12:2021

the Low Voltage Directive 2014/35/EU Intertek Testing Services Shanghai

Verification Issuing Office

Name & Address:

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

Date of Tests: 2023-06-11 to 2023-08-03 & 2024-03-10 to 2024-03-18
Test Report Number(s): 230601221SHA-001/002 and 240300431SHA-001

Signature

Name: Max Jin

Position: General Manager

Date: 2024-03-18

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APPENDIX: Test Verification of Conformity

This is an Appendix to Test Verification of Conformity Number: 240300431SHA-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/Le	ead-acid			
Battery Normal Voltage (Range) (Vdc)	150)-800(Field adapt b	oattery voltage ran	ge)		
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)		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	3~ + 0.8)			
AC Load output (stand alone)						
Normal Voltage (VAC)		3P+N+PE/3P	+PE 230/400			
Frequency (Hz)		5	0			
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			
Others						
Ingress protection (IP)		IP				
Protective class		Cla				
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)					



Specifications table					
ModelAF3K-THAF4K-THAF5K-THAF6K-TH					
Firmware Version	1.01				
Software Version		V()1	_	

Specifications 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)	000 000			333 333	
Battery type		l i-ion/l e	ead-acid		
Battery Normal Voltage (Range) (Vdc)	150	0-800(Field adapt l		ide)	
Max charge/discharge Current(A)	30	30	30	50	
Max charge/discharge Power(kW)	8	10	12	15	
AC Grid (input and output)		1.0	12	1.0	
Normal AC Voltage (VAC)		3P+N+PF/3P	P+PE 230/400		
Frequency (Hz)			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	
Power factor(adjustable)		1.0(-0.8	3~ +0.8)	1	
AC Load output (stand alone)		,	,		
Normal Voltage (VAC)		3P+N+PE/3P	P+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)		IP	65		
Protective class		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		V	01		



	Specifications table				
Model	AF3K-THP AF4K-THP AF5K-THP AF6K-THP				
PV input	7.1. 0.1. 11.1.	7.11.11.11.11	7.11 017 1111	7.11 011 1111	
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/Le	ead-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	3~ + 0.8)		
AC Load output (stand alone)					
Normal Voltage (VAC)		3P+N+PE/3P	+PE 230/400		
Frequency (Hz)		5			
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		
Others					
Ingress protection (IP)		IP(
Protective class		Cla			
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		1.0			
Software Version	V01				



	Specifications table				
Model	AF8K-THP	AF10K-THP	AF12K-THP		
PV input	74 014 1111	711 1011 1111	70 1210 1111		
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)		333 333			
Battery type		Li-ion/Lead-acid			
Battery Normal Voltage (Range) (Vdc)	80-600(Field adapt battery voltage range)	120-650(Field adapt b	attery 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			
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			
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)		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		Li-ion/Le	ead-acid			
Battery Normal Voltage (Range) (Vdc)	150)-800(Field adapt b	oattery voltage ran	ige)		
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)		5	0			
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		
Power factor(adjustable)		1.0(-0.8	3~ +0.8)			
AC Load output (stand alone)						
Normal Voltage (VAC)		3P+N+PE/3P	+PE 230/400			
Frequency (Hz)		5	0			
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)		IP				
Protective class		Cla				
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		1.0				
Software Version	V01					



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		Li-ion/Le				
Battery Normal Voltage Range (Vdc)	150	0-600(Field adapt b	pattery voltage ran	ige)		
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/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		
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/3F	P 133/230			
Frequency (Hz)		5	0			
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						
Ingress protection (IP)	IP65					
Protective class	Class I					
Temperature (°C)	-25°C to +60°C (Derating 45°C)					
Inverter Isolation		Non-isolated (F	PV - AC - BAT)			
Overvoltage category		OVC III (AC Ma	in), OVC II (PV)			
Firmware		1.0	01			
Software Version		V	01			
	1.7.					



Specifications table						
Model	AF3K-THC AF4K-THC 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/Le				
Battery Normal Voltage Range (Vdc)	80	-600(Field adapt b	attery voltage ran	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+PE/3F	P 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		
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	3~ +0.8)	•		
AC Load output (stand alone)						
Normal Voltage (VAC)		3P+PE/3F	P 133/230			
Frequency (Hz)		5	0			
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						
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- AF12K- AF15K- AF17K-				
Wodei	AFON-THA	THA	THA	THA	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 Max. PV input current (A)	1/2 20+32	2/2 32*2	2/2 32*2	2/2 40*2	2/2 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)	200 000	200 000	200 000	000 000	000 000
Battery type		L	_i-ion/Lead-aci	d	
Battery Normal Voltage Range (Vdc)				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
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)		3F	P+PE/3P 133/2	30	
Frequency (Hz)			50		
Nominal Current (A)	20.1	25.1	30.1	37.6	42.7
Max. cont. current (A)	27	30	32 12	40	48 17
Max. cont. Power (kW) Rated Apparent Power (kVA)	8 8	10 10	12	15 15	17
Max. cont. Apparent Power (kVA)	8	10	12	15	17
Others	Ü	10	12	10	17
Ingress protection (IP)			IP65		
Protective class			Class I		
Temperature (℃)	-25°C to +60°C (Derating 45°C)				
Inverter Isolation	Non-isolated (PV - AC - BAT)				
Overvoltage category		OVC III	(AC Main), OV	C II (PV)	
Firmware	1.01				
Software Version	V01				



Signature

Name: Max Jin

Position: General Manager

Cleans

Date: 2024-03-18