

# **Certificate of Conformity**

Certificate Number: CN-PV-230410

On the basis of the tests undertaken, the sample<s> of the below product have been found to comply with the requirements of the referenced specification<s>/standard<s> at the time the tests were carried out. It does not imply that Intertek has performed any surveillance or control of the manufacture(s). The manufacture(s) 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 Characteristics:	See appendix of Certificate of Conformity
Model:	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 <s>:</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
Test Report No. <s>:</s>	Accredited by ACCREDIA in accordance with ISO/IEC 17065:2012 230500901SHA-001

Additional information in Appendix.

Signature

Certification Manager: Qiao Qiao Date: 20 July 2023



PRD Nº 306B



#### This is an Appendix to Certificate of Conformity Number: CN-PV-230410

### **Ratings & Principle Characteristics:**

	Specifi	cations table			
Model	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH
Input					
Ppv Max (kW)	5	6	7.5	9	12
Vmax PV (V)	1000	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2	30*2
Number of MPP trackers	2	2	2	2	2
Number of input strings	1/1	1/1	1/1	1/1	1/1
Max. PV input range (A)	20*2	20*2	20*2	20*2	20*2
MPPT Voltage Range (V)	150-850	150-850	150-850	150-850	150-850
Vdc range @ full power (V)	200-850	200-850	200-850	250-850	300-850
Battery (input and output)					1
Battery type		Li-	ion / lead acid e	etc.	
Battery Voltage Range (V)	1	150-800 (Field	adapt battery	voltage range)	
Max. Charge/Discharge Current (A)	30	30	30	30	30
Max. Charge/Discharge Power (kW)	3	4	5	6	8
AC Grid (input and output)			I		
Nominal Voltage (V)	L	3P+N	+PE/3P+PE 23	0/400	
Nominal Frequency (Hz)			50		
Max. continuous Input/output	0/50	405/7	40/05	40/405	00/405
Current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 / 10.5	20 / 13.5
Nominal Power (kW)	3	4	5	6	8
Max. Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9/6.6	12/8.8
Max. apparent Power (kVA)	4.5/3.3	6 / 4.4	7.5 / 5.5	9/6.6	12/8.8
Power Factor	10.	1(-0	.8~+0.8 adjusta	able)	L
AC Load output					
Nominal Output Voltage (V)		3P+N	+PE/3P+PE 23	0/400	
Nominal Frequency (Hz)		0	50		
Max. continuous Input/output	5.0	-	0.5	40.5	40.5
Current (A)	5.3	7	8.5	10.5	13.5
Nominal Output Power(kW)	3	4	5	6	8
Max. Output Power (kW)	3	4	5	6	8
Max. apparent Power (kVA)	3	4	5	6	8
Power Factor			1		L
others					
Ingress protection (IP)			IP65		
Temperature (°C)		-25°C to	o +60°C (Derati	ng45°C)	
Inverter Isolation	Non-isolated				
Firmware Version			1.01		



#### This is an Appendix to Certificate of Conformity Number: CN-PV-230410

#### **Ratings & Principle Characteristics:**

	Specifi	cations table			
Model	AF10K-TH	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH
Input					
Ppv Max (kW)	15	18	22.5	25.5	30
Vmax PV (V)	1000	1000	1000	1000	1000
Isc PV (absolute Max.) (A)	30*2	30*2	30+48	48*2	48*2
Number of MPP trackers	2	2	2	2	2
Number of input strings	1/1	1/1	1/2	2/2	2/2
Max. PV input range (A)	20*2	20*2	20+32	32*2	32*2
MPPT Voltage Range (V)	150-850	150-850	150-850	150-850	150-850
Vdc range @ full power (V)	500-850	500-850	500-850	500-850	500-850
Battery (input and output)					1
Battery type	1	Li-	ion / lead acid e	etc.	
Battery Voltage Range (V)		150-800 (Field	adapt battery	voltage range)	
Max. Charge/Discharge Current (A)	30	30	50	50	50
Max. Charge/Discharge Power (kW)	10	12	15	17	20
AC Grid (input and output)			I		
Nominal Voltage (V)	1 C	3P+N	+PE/3P+PE 23	0/400	
Nominal Frequency (Hz)			50		
Max. continuous Input/output	00/47	00/045	10 5 / 07	45 / 00	40.400
Current (A)	26 / 17	32 / 21.5	40.5 / 27	45 / 30	48 / 32
Nominal Power (kW)	10	12	15	17	20
Max. Power (kW)	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22
Max. apparent Power (kVA)	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22
Power Factor		1(-0	.8~+0.8 adjusta	able)	L
AC Load output					
Nominal Output Voltage (V)		3P+N	+PE/3P+PE 23	0/400	
Nominal Frequency (Hz)		0.000	50		
Max. continuous Input/output	47	04.5	07	20	20
Current (A)	17	21.5	27	30	32
Nominal Output Power(kW)	10	12	15	17	20
Max. Output Power (kW)	10	12	15	17	20
Max. apparent Power (kVA)	10	12	15	17	20
Power Factor		ł	1	ł	L
others					
Ingress protection (IP)			IP65		
Temperature (°C)		-25°C to	+60°C (Derati	ng45°C)	
Inverter Isolation			Non-isolated		
Firmware Version	1.01				



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### **Ratings & Principle Characteristics:**

	Specifi	cations table			
Model	AF25K-TH	AF30K-TH			
Input					
Ppv Max (kW)	37.5	45			
Vmax PV (V)	1000	1000			
Isc PV (absolute Max.) (A)	60*2	60*2			
Number of MPP trackers	2	2			
Number of input strings	2/2	2/2			
Max. PV input range (A)	40*2	40*2			
MPPT Voltage Range (V)	150-850	150-850			
Vdc range @ full power (V)	500-850	500-850			
Battery (input and output)					
Battery type	1	Li-i	ion / lead acid	etc.	
Battery Voltage Range (V)		150-800 (Field	adapt battery	/ voltage range)	
Max. Charge/Discharge Current (A)	60	60			
Max. Charge/Discharge Power (kW)	25	30		- Ch	
AC Grid (input and output)			I		
Nominal Voltage (V)	V	3P+N	+PE/3P+PE 2	230/400	
Nominal Frequency (Hz)			50		
Max. continuous Input/output					
Current (A)	60 / 40	72 / 48			
Nominal Power (kW)	25	30		111	
Max. Power (kW)	37.5 / 27.5	45 / 33	11		
Max. apparent Power (kVA)	37.5 / 27.5	45 / 33	10		
Power Factor		1(-0	.8~+0.8 adjus	table)	
AC Load output					
Nominal Output Voltage (V)		3P+N	+PE/3P+PE 2	30/400	
Nominal Frequency (Hz)		A (15)	50		
Max. continuous Input/output	10	40			
Current (A)	40	48			
Nominal Output Power(kW)	25	30			
Max. Output Power (kW)	25	30			
Max. apparent Power (kVA)	25	30			
Power Factor		1	1	1 1	
others					
Ingress protection (IP)			IP65		
Temperature (°C)		-25°C to	+60°C (Dera	ting45°C)	
Inverter Isolation	Non-isolated				
Firmware Version			1.01		



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#### **Ratings & Principle Characteristics:**

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/Le	ead-acid			
Battery Normal Voltage (Range) (Vdc)	8	0-600(Field adapt b		ne)		
Max charge/discharge Current(A)	50	50	50	50		
Max charge/discharge Power(kW)	3	4	5	6		
AC Grid (input and output)			U	<u> </u>		
Normal AC Voltage (VAC)		3P+N+PE/3P	P+PE 230/400			
Frequency (Hz)			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)			
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)	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	V1.01					
Software Version			01			



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#### **Ratings & Principle Characteristics:**

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			
Battery Normal Voltage (Range) (Vdc)	80-600(Field adapt battery voltage range)	120-650(Field adapt ba	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	V1.01				
Software Version		V01			



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#### **Ratings & Principle Characteristics:**

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	ead-acid			
Battery Normal Voltage Range (Vdc)	150	0-600(Field adapt I	pattery voltage rar	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/3I	P 133/230			
Frequency (Hz)	0	5	0			
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	8~ +0.8)			
AC Load output (stand alone)		, , , , , , , , , , , , , , , , , , ,	,			
Normal Voltage (VAC)		3P+PE/3I	P 133/230			
Frequency (Hz)		5	60			
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 (I	PV - AC - BAT)			
Overvoltage category		OVC III (AC Ma	in), OVC II (PV)			
Firmware		V1	.01			
Software Version			01			



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#### **Ratings & Principle Characteristics:**

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	ead-acid			
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/3I	P 133/230			
Frequency (Hz)	1	5	0			
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	8~ +0.8)			
AC Load output (stand alone)		,				
Normal Voltage (VAC)		3P+PE/3I	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 (I	PV - AC - BAT)			
Overvoltage category		OVC III (AC Ma	in), OVC II (PV)			
Firmware	V1.01					
Software Version		V	01			



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#### **Ratings & Principle Characteristics:**

Specifications table						
Model	AF8K-THA	AF10K- THA	AF12K- THA	AF15K- THA	AF17K-THA	
PV input			I	I	I	
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			_i-ion/Lead-aci			
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)	0	3F	P+PE/3P 133/2	:30		
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	5)		
AC Load output (stand alone)			<b>、</b>	,		
Normal Voltage (VAC)		3F	P+PE/3P 133/2	:30		
Frequency (Hz)		11 -	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						
Ingress protection (IP)			IP65			
Protective class	Class I					
Temperature (℃)		-25°C to	+60°C (Derati	ng 45°C)		
Inverter Isolation		Non-iso	plated (PV - AC	C - BAT)		
Overvoltage category			(AC Main), OV			
Firmware	V1.01					
Software Version			V01			