

Three Phase Hybrid Inverter

www.aforeenergy.com



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

T +86-21-54326236 **F** +86-21-54326136 **E** info@aforeenergy.com

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



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

AFx-TH Series

Datasheet of Three Phase Hybrid Inverter



Model	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH	
PV Input													
Ppv Max (kW)	5	6	7.5	9	12	15	18	22.5	25.5	30	37.5	45	
Vmax PV (Vdc) (absolute Max.)	1000												
Min. Operating Voltage (Vdc)	160												
Start-up Voltage (Vdc)	160												
MPPT voltage range (Vdc)	150-850												
Vdc range @ full power (Vdc)	200-850	200-850	200-850	250-850	300-850	500-850	500-850	500-850	500-850	500-850	500-850	500-850	
Isc PV (absolute Max.) (A)	30*2	30*2	30*2	30*2	30*2	30*2	30*2	30+48	48*2	48*2	48*2	48*2	
Max. PV input current (A)	20*2	20*2	20*2	20*2	20*2	20*2	20*2	20+32	32*2	32*2	32*2	32*2	
Back feed current (A)	0	0	0	0	0	0	0	0	0	0	0	0	
Number MPP trackers	2	2	2	2	2	2	2	2	2	2	2	2	
Number input strings	1/1	1/1	1/1	1/1	1/1	1/1	1/1	1/2	2/2	2/2	2/2	2/2	
Battery (charge/discharge)													
Battery type	Li-ion/Lead-acid												
Battery Normal Voltage (Range) (Vdc)	150-800(Field adapt battery voltage range)												
Max charge/discharge Current(A)	30	30	30	30	30	30	30	50	50	50	60	60	
Max charge/discharge Power(kW)	3	4	5	6	8	10	12	15	17	20	25	30	
AC Grid (input and output)													
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400												
Frequency (Hz)	50												
Normal AC Current (A)	4.4	5.8	7.3	8.7	11.6	14.5	17.4	21.8	24.7	29	36.3	43.5	
Max. Output Over Current Protection (A)	5.3	7	8.5	10.5	13.5	17	21.5	27	30	32	40	48	
Inrush Current (peak and duration) (A)	7.5A@50us	9.9A@50us	12.1A@50us	14.9A@50us	19.1A@50us	24.1A@50us	30.5A@50us	38.2A@50us	42.5A@50us	45.3A@50us	56.6A@50us	67.9A@50us	
Max. Fault Current (peak and duration) (A)	10A@10us	13.5A@10us	16.5A@10us	20A@10us	26.5A@10us	33A@10us	39.5A@10us	49.5A@10us	56A@10us	65.5A@10us	82A@10us	98A@10us	
Max. cont. input/output current (A)	8 / 5.3	10.5 / 7	13 / 8.5	16 /10.5	20 / 13.5	26 / 17	32 / 21.5	40.5 / 27	45 / 30	48 / 32	60 / 40	72 / 48	
Rated Power(kW)	3	4	5	6	8	10	12	15	17	20	25	30	
Rated Apparent Power (kVA)	3	4	5	6	8	10	12	15	17	20	25	30	
Max. cont. input/output Power (kW)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22	37.5 / 27.5	45 / 33	
Max. cont. Apparent input/output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	12 / 8.8	15 / 11	18 / 13.2	22.5 / 16.5	25.5 / 18.7	30 / 22	37.5 / 27.5	45 / 33	
Power factor	1.0 (-0.8-+0.8 adjustable)												
Max. efficiency (%)	98%				98.2%				98.3%				98.5%
AC Back-up													
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400												
Frequency (Hz)	50												
Nominal Current (A)	4.4	5.8	7.3	8.7	11.6	14.5	17.4	21.8	24.7	29	36.3	43.5	
Max. cont. current (A)	5.3	7	8.5	10.5	13.5	17	21.5	27	30	32	40	48	
Max. Output Over Current Protection (A)	5.3	7	8.5	10.5	13.5	17	21.5	27	3 0	32	40	48	
Inrush Current (peak and duration) (A)	7.5A@50us	9.9A@50us	12.1A@50us	14.9A@50us	19.1A@50us	24.1A@50us	30.5A@50us	38.2A@50us	42.5A@50us	45.3A@50us	56.6A@50us	67.9A@50us	
Max. Fault Current (peak and duration) (A)	10A@10us	13.5A@10us	16.5A@10us	20A@10us	26.5A@10us	33A@10us	39.5A@10us	49.5A@10us	56A@10us	65.5A@10us	82A@10us	98A@10us	
Max. cont. Power (kW)	3	4	5	6	8	10	12	15	17	20	25	30	
Rated Apparent Power (kVA)	3	4	5	6	8	10	12	15	17	20	25	30	
Max. cont. Apparent Power (kVA)	3	4	5	6	8	10	12	15	17	20	25	30	
Power factor	1												
Others													
Ingress protection (IP)	IP65												
Protective class	Class I												
Temperature (°C)	-25°C to +60°C												
Inverter Isolation	Non-isolated (PV-AC-BAT)												
Overvoltage category	OVC III (AC Main), OVC II (PV)(BAT)												
Array grounding	Ungounded												
Anti-slanding Protection	Frequency shift												
Maximum altitude (m)	3000												
Weight (kg)	29										36		
Dimensions (WxHxD) (mm)	558x 535 x 260												
Firmware	1.01												

AFx-THP Series

Datasheet of Three Phase Hybrid Inverter



Model	AF3K-THP		AF4K-THP		AF5K-THP		AF6K-THP		AF8K-THP		AF10K-THP		AF12K-THP	
PV Input														
Ppv Max (kW)	5		6		7.5		9		12		15		18	
Vmax PV (Vdc) (absolute Max.)	1000													
Min. Operating Voltage (Vdc)	160													
Start-up Voltage (Vdc)	160													
MPPT voltage range (Vdc)	150-850													
Vdc range @ full power (Vdc)	200-850		200-850		200-850		250-850		300-850		500-850		500-850	
Isc PV (absolute Max.) (A)	30*2		30*2		30*2		30*2		30*2		30*2		30*2	
Max. PV input current (A)	20*2		20*2		20*2		20*2		20*2		20*2		20*2	
Back feed current (A)	0		0		0		0		0		0		0	
Number MPP trackers	2		2		2		2		2		2		2	
Number input strings	1/1		1/1		1/1		1/1		1/1		1/1		1/1	
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 range)			
Max charge/discharge Current(A)	50		50		50		50		50		50		50	
Max charge/discharge Power(kW)	3		4		5		6		8		10		12	
AC Grid (input and output)														
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400													
Frequency (Hz)	50													
Normal AC Current (A)	4.4		5.8		7.3		8.7		11.6		14.5		17.4	
Max. Output Over Current Protection (A)	5.3		7		8.5		10.5		13.5		17		21.5	
Inrush Current (peak and duration) (A)	7.5A@50us		9.9A@50us		12.1A@50us		14.9A@50us		19.1A@50us		24.1A@50us		30.5A@50us	
Max. Fault Current (peak and duration) (A)	10A@10us		13.5A@10us		16.5A@10us		20A@10us		26.5A@10us		33A@10us		39.5A@10us	
Max. cont. input/output current (A)	8 / 5.3		10.5 / 7		13 / 8.5		16 /10.5		20 / 13.5		26 / 17		32 / 21.5	
Rated Power(kW)	3		4		5		6		8		10		12	
Rated Apparent Power (kVA)	3		4		5		6		8		10		12	
Max. cont. input/output Power (kW)	4.5 / 3.3		6 / 4.4		7.5 / 5.5		9 / 6.6		12 / 8.8		15 / 11		18 / 13.2	
Max. cont. Apparent input/output Power (kVA)	4.5 / 3.3		6 / 4.4		7.5 / 5.5		9 / 6.6		12 / 8.8		15 / 11		18 / 13.2	
Power factor	1.0 (-0.8-+0.8 adjustable)													
Max. efficiency (%)	98%								98.2%				98.3%	
AC Back-up														
Normal Voltage (Vac)	3P+N+PE/3P+PE 230/400													
Frequency (Hz)	50													
Nominal Current (A)	4.4		5.8		7.3		8.7		11.6		14.5		17.4	
Max. cont. current (A)	5.3		7		8.5		10.5		13.5		17		21.5	
Max. Output Over Current Protection (A)	5.3		7		8.5		10.5		13.5		17		21.5	
Inrush Current (peak and duration) (A)	7.5A@50us		9.9A@50us		12.1A@50us		14.9A@50us		19.1A@50us		24.1A@50us		30.5A@50us	
Max. Fault Current (peak and duration) (A)	10A@10us		13.5A@10us		16.5A@10us		20A@10us		26.5A@10us		33A@10us		39.5A@10us	
Max. cont. Power (kW)	3		4		5		6		8		10		12	
Rated Apparent Power (kVA)	3		4		5		6		8		10		12	
Max. cont. Apparent Power (kVA)	3		4		5		6		8		10		12	
Power factor	1													
Others														
Ingress protection (IP)	IP65													
Protective class	Class I													
Temperature (°C)	-25°C to +60°C													
Inverter Isolation	Non-isolated (PV-AC-BAT)													
Overvoltage category	OVC III (AC Main), OVC II (PV)(BAT)													
Array grounding	Ungounded													
Anti-sliding Protection	Frequency shift													
Maximum altitude (m)	3000													
Weight (kg)	29													
Dimensions (WxHxD) (mm)	558x 535 x 260													
Firmware	1.01													