

Three phase Hybrid Inverter

3-30kW



The Afore AF Series three phase storage inverters are designed to increase energy independence for homeowners and commercial users. The power range is from 3.0kW to 30kW, compatible with high voltage (150-800V) batteries.

Energy management is based on time-of-use and demand charge rate structures, significantly reduce the amount of energy purchased from public grid.

Thanks for the UPS function (switch time < 10ms), enables the crucial loads power on during outages. Additionally, under the backup operation mode, the inverter provides you up to 150% peak output overloading.



WIDE RANGE
Voltage Range
(150-800V)



UNBALANCE
Support Unbalance Load



PV OVERSIZE
1.5 Times PV Oversize



MAX. 40A
String Current Up To 40A



UPS FUNCTION
Switch Time < 10ms



INPUT
Support Generator

Support for Time-of-use Optimization

Configurable Operation Modes

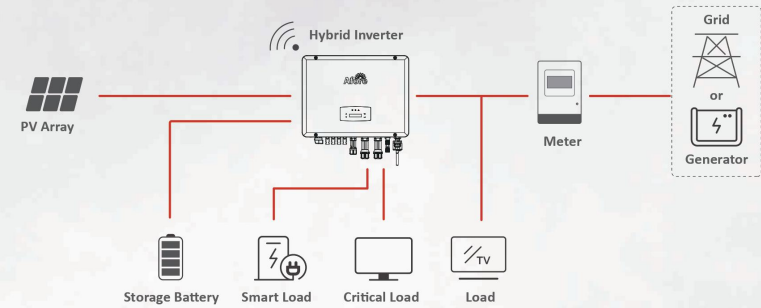
AFCI (Optional) & Rapid Shutdown Ready

Built in Anti-feed-in Function

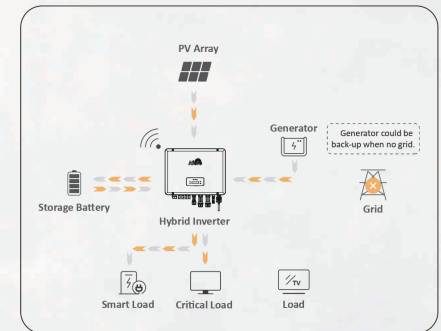
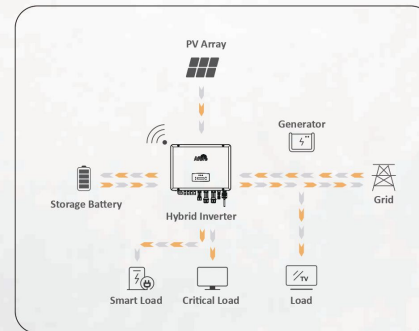
100% unbalanced output, each phase;
200% unbalanced output, each phase (Below 10kW)

Smart Monitoring & Remote Firmware Upgrade

For New Storage System:

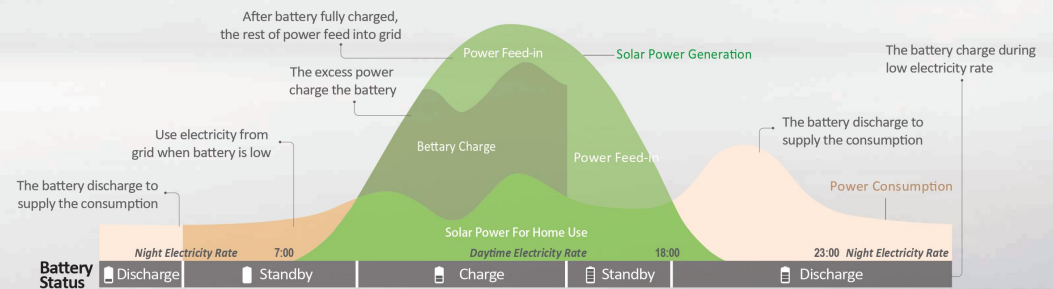


Optimizing Self-Consumption (on-grid) + Emergency Power Supply(off-grid)



Optimizing Self-Consumption Mode

With energy storage system installed, users may also be able to change from a flat rate electricity tariff to a time-of-use tariff. For the areas and regions, where peak shaving can be applied.



PV Input	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
Max. DC Input Power (kW)	5	6	7.5	9	12	15
Max. PV Voltage (V)	1000					
Rated DC Input Voltage (V)	620					
DC Input Voltage Range (V)	150-1000					
MPPT Voltage Range (V)	150-850					
Full MPPT Range(V)	200-850		250-850		300-850	500-850
Start-up Voltage (V)	160					
Max. DC Input Current (A)	20x2					
Max. Short Current(A)	30x2					
No. of MPPT Tracker / Strings	2/2					
Battery Port						
Battery Nominal Voltage (V)	200	200	200	250	300	400
Battery Voltage Range (V)	150-800					
Max. Charge/Discharge Current (A)	30					
Max. Charge/Discharge Power (W)	3K	4K	5K	6K	8K	10K
Charging Curve	3 Stages					
Compatible Battery Type	Li-ion / Lead-acid					
AC Grid Output	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
Nominal AC Output Power (VA)	3000	4000	5000	6000	8000	10000
Max. AC Input Power	4500	6000	7500	9000	12000	15000
Max. AC Output Current (A)	5.3	7	8.5	10.5	13.5	17
Nominal AC Voltage (V)	230/400					
Nominal AC Frequency (Hz)	50/60					
Power Factor	1 (-0.8-0.8)					
Current THD (%)	<3%					
AC Load Output (Back-up)						
Nominal Output Power (VA)	3000	4000	5000	6000	8000	10000
Nominal Output Voltage (V)	230/400					
Nominal Output Frequency (Hz)	50/60					
Nominal Output Current (A)	4.4	5.8	7.3	8.7	11.6	14.5
Peak Output Power	3300VA, 60s	4400VA, 60s	5500VA, 60s	6600VA, 60s	8800VA, 60s	11000VA, 60s
THDV (with linear load)	<3%					
Switching Time (ms)	<10					
Efficiency	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
Europe Efficiency			97.50%			
Max. Efficiency			98.00%		98.20%	
Battery Charge/Discharge Efficiency			98.00%			
Protection						
Reverse Polarity Protection	Yes					
Over Current / Voltage Protection	Yes					
Anti-islanding Protection	Yes					
AC Short-circuit Protection	Yes					
Leakage Current Detection	Yes					
Ground Fault Monitoring	Yes					
Grid Monitoring	Yes					
Enclosure Protect Level	IP65					
General Data	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
Dimensions (W x H x D, mm)	556 x 460 x 242 mm					
Weight (kg)	20kg				22kg	
Topology	Transformerless					
Cooling Concept	Natural Convection				Intelligent Fan	
Relatively Humidity	0-100%					
Operating Temperature Range (°C)	-25 to 60 °C					
Operating Altitude (m)	<4000					
Noise Emission (dB)	<30					
Standby Consumption (W)	<5					
Display & Communication Interfaces	LCD, LED, RS485, CAN, WI-FI, GPRS, 4G					
Certification & Approvals	NRS97, G98/G99, EN50549-1, C10/C11, AS 4777, VDE-AR-N4105, VDE0126, IEC62040, IEC62109-1, IEC62109-2					
EMC	EN61000-6-2, EN61000-6-3					

PV Input	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
Max. DC Input Power (kW)	18	22.5	25.5	30	37.5	45
Max. PV Voltage (V)	1000					
Rated DC Input Voltage (V)	620					
DC Input Voltage Range (V)	150-1000					
MPPT Voltage Range (V)	150-850					
Full MPPT Range(V)	500-850					
Start-up Voltage (V)	160					
Max. DC Input Current (A)	20x2	20+32	32x2			40x2
Max. Short Current(A)	30x2	30+48	48x2			60x2
No. of MPPT Tracker / Strings	2/2	2/3	2/4			2/4
Battery Port						
Battery Nominal Voltage (V)	450	500	400	500	500	550
Battery Voltage Range (V)	150-800					
Max. Charge/Discharge Current (A)	30	50	50	50	60	60
Max. Charge/Discharge Power (W)	12K	15K	17K	20K	25K	30K
Charging Curve	3 Stages					
Compatible Battery Type	Li-ion / Lead-acid					
AC Grid Output	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
Nominal AC Output Power (VA)	12000	15000	17000	20000	25000	30000
Max. AC Input Power	18000	22500	25500	30000	37500	45000
Max. AC Output Current (A)	21.5	27	30	32	40	48
Nominal AC Voltage (V)	230/400					
Nominal AC Frequency (Hz)	50/60					
Power Factor	1 (-0.8-0.8)					
Current THD (%)	<3%					
AC Load Output (Back-up)						
Nominal Output Power (VA)	12000	15000	17000	20000	25000	30000
Nominal Output Voltage (V)	230/400					
Nominal Output Frequency (Hz)	50/60					
Nominal Output Current (A)	17.4	21.8	24.8	29	36.3	43.5
Peak Output Power	13200VA, 60s	16500VA, 60s	18700VA, 60s	22000VA, 60s	27500VA, 60s	33000VA, 60s
THDV (with linear load)	<3%					
Switching Time (ms)	<10					
Efficiency	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
Europe Efficiency	97.50%		97.80%		98.00%	
Max. Efficiency	98.30%				98.50%	
Battery Charge/Discharge Efficiency			98.00%			
Protection						
Reverse Polarity Protection	Yes					
Over Current / Voltage Protection	Yes					
Anti-islanding Protection	Yes					
AC Short-circuit Protection	Yes					
Leakage Current Detection	Yes					
Ground Fault Monitoring	Yes					
Grid Monitoring	Yes					
Enclosure Protect Level	IP65					
General Data	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
Dimensions (W x H x D, mm)	556 x 460 x 242 mm					
Weight (kg)	22kg		28kg		35kg	
Topology	Transformerless					
Cooling Concept	Intelligent Fan					
Relatively Humidity	0-100%					
Operating Temperature Range (°C)	-25 to 60 °C					
Operating Altitude (m)	<4000					
Noise Emission (dB)	<30		<40			
Standby Consumption (W)	<5					
Display & Communication Interfaces	LCD, LED, RS485, CAN, WI-FI, GPRS, 4G					
Certification & Approvals	NRS97, G98/G99, EN50549-1, C10/C11, AS 4777, VDE-AR-N4105, VDE0126, IEC62040, IEC62109-1, IEC62109-2					
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