

Three Phase Hybrid Storage Inverter

3-30 kW



The 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), that enables the crucial loads power on during outages. Additionally, under the backup operation mode, the inverter provides you up to 150% peak output overloading.

SODIUM METAL CHLORIDE BATTERY
Support Sodium metal chloride battery

WIDE RANGE
Voltage Range (150-800V)

100% UNBALANCE
Support Unbalance Load

Max. 1.5
1.5 Times PV Oversize

Max. 40A
String Current Up To 40A

<10 ms
Switch Time < 10ms

INPUT
Support Generator

Support for Time-of-use Optimization

Configurable Operation Modes

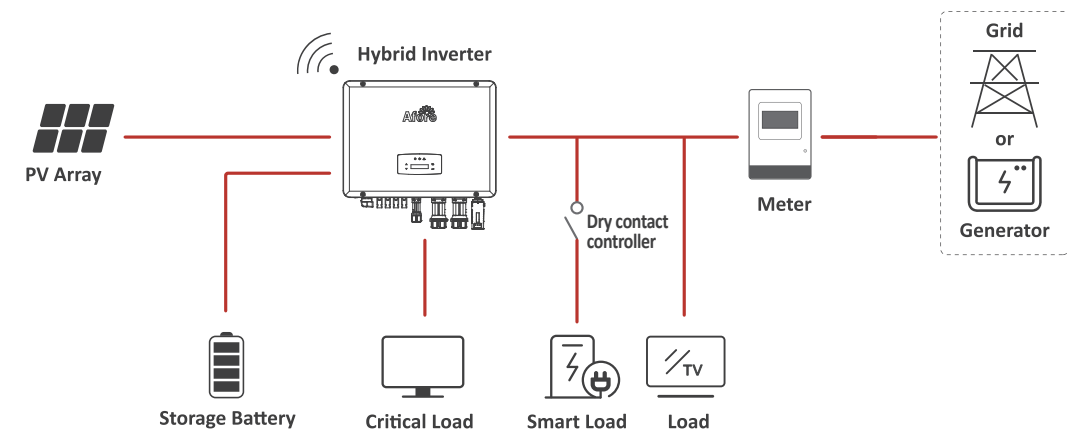
AFCI (Optional) & Rapid Shutdown Ready

Build in Anti-feed-in Function

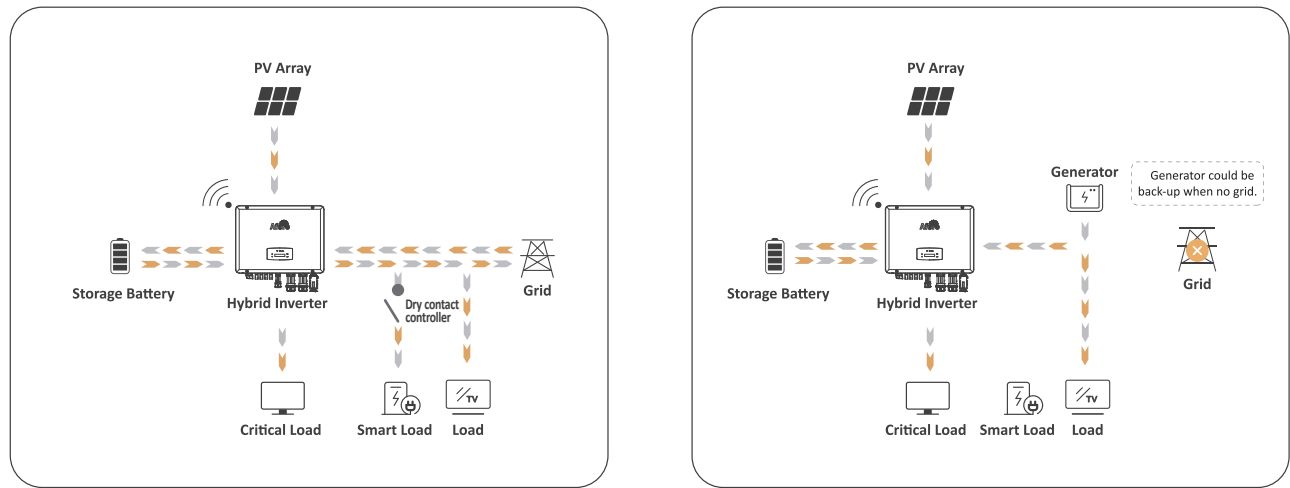
100% unbalanced output, each phase;
200% unbalanced output, each phase (≤ 10kW)

Smart Monitoring & Remote Firmware Upgrade

For New Storage System:

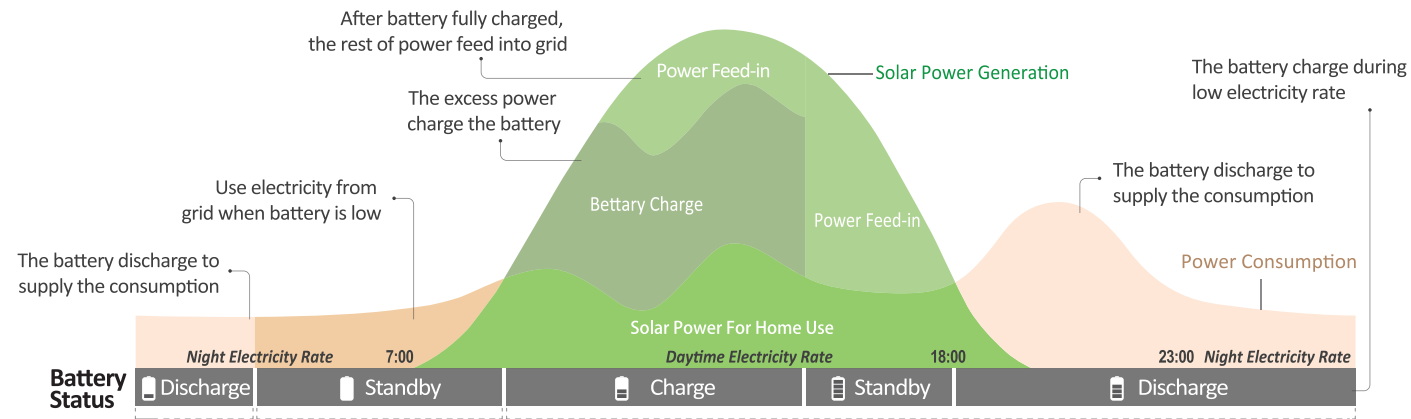


Optimizing Self-Consumption (on-grid) + Emergency Power Supply (off-grid)



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.



Technical Data	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
PV Input						
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 (kW)	3	4	5	6	8	10
Charging Curve	3 Stages					
Compatible Battery Type	Li-ion / Lead-acid / Sodium metal chloride battery					
AC Grid						
Nominal AC Output Power (kW)	3	4	5	6	8	10
Max. AC Input/Output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	12 / 8.8	15 / 11
Max. AC Output Current (A)	5.3	7	8.5	10.5	13.5	17
Nominal AC Voltage (V)	230/400					
Nominal AC Frenquency (Hz)	50/60					
Power Factor	1 (-0.8-0.8) adjustable					
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						
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					
AC/DC surge protection	Type II					
General Data						
Dimensions (W x H x D, mm)	558 x 535 x 260 mm					
Weight (kg)	29kg					
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	NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2					
EMC	EN61000-6-2, EN61000-6-3					

Technical Data	AF12K-TH		AF15K-TH		AF17K-TH		AF20K-TH		AF25K-TH		AF30K-TH	
PV Input												
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 (kW)	12		15		17		20		25		30	
Charging Curve	3 Stages											
Compatible Battery Type	Li-ion / Lead-acid / Sodium metal chloride battery											
AC Grid												
Nominal AC Output Power (kW)	12		15		17		20		25		30	
Max. AC Input/Output Power (kVA)	18 / 13.2		22.5 / 16.5		25.5 / 18.7		30 / 22		37.5 / 27.5		45 / 33	
Max. AC Output Current (A)	21.5		27		30		32		40		48	
Nominal AC Voltage (V)	230/400											
Nominal AC Frenquency (Hz)	50/60											
Power Factor	1 (-0.8-0.8) adjustable											
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		24.7		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												
Europe Efficiency	97.50%				97.80%				98.00%		98.10%	
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-ciruit Protection	Yes											
Leakage Current Detection	Yes											
Ground Fault Monitoring	Yes											
Grid Monitoring	Yes											
Enclosure Protect Level	IP65											
AC/DC surge protection	Type II											
General Data												
Dimensions (W x H x D, mm)	558 x 535 x 260 mm											
Weight (kg)	29kg						36kg					
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)	<40											
Standby Consumption (W)	<5											
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G											
Certification & Approvals	NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2											
EMC	EN61000-6-2, EN61000-6-3											