Single Phase Hybrid Storage Inverter

1-3.6 kW



The Afore AF low voltage series storage Inverters are designed to increase energy independence for homeowners. The power range is from 1kW to 3.6kW, compatible with low voltage (40-60V) batteries.

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

The Afore energy storage inverter features Smart Electricity Pricing & Automation, an energy management tool based on real-time electricity pricing strategies. It continuously monitors electricity price fluctuations and dynamically adjusts device operation accordingly. Operating 24/7 fully automatically without the need for manual intervention, it helps users optimize their electricity usage and reduce energy costs.

AI EMS
Electricity Pricing & Automation

PV OVERSIZE
2 Times PV Oversize

MPPT CHANNELS
Up to 2 MPPT Channels

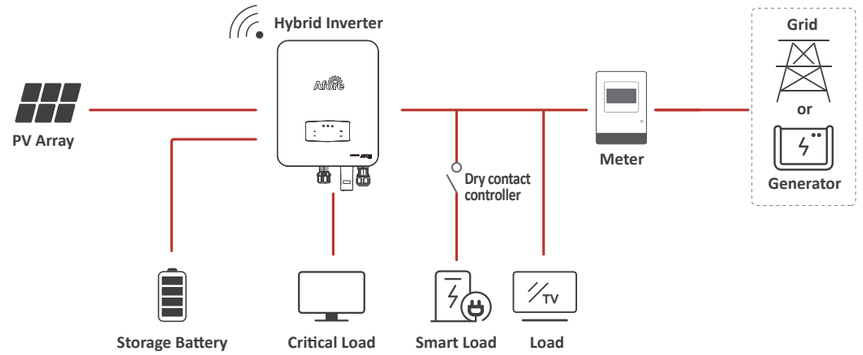
UPS FUNCTION
Switch Time < 10ms

PARALLEL
Max.6 Parallel Stacking

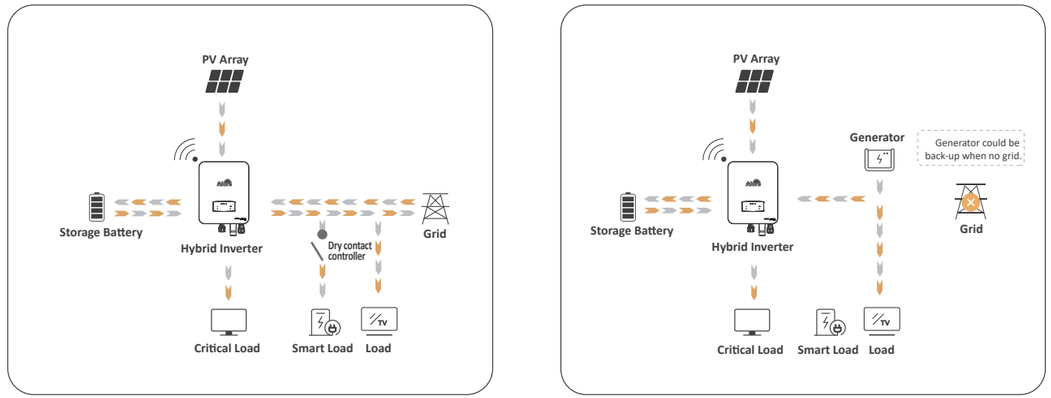
INPUT
Support Generator

- Support for Time-of-use Optimization
- Configurable Operation Modes
- AFCI (Optional) & Rapid Shutdown Ready (Optional)
- Build in Anti-feed-in Function
- Compact Size and Easy Installation
- Smart Monitoring & Remote Firmware Upgrade

For New Storage System:

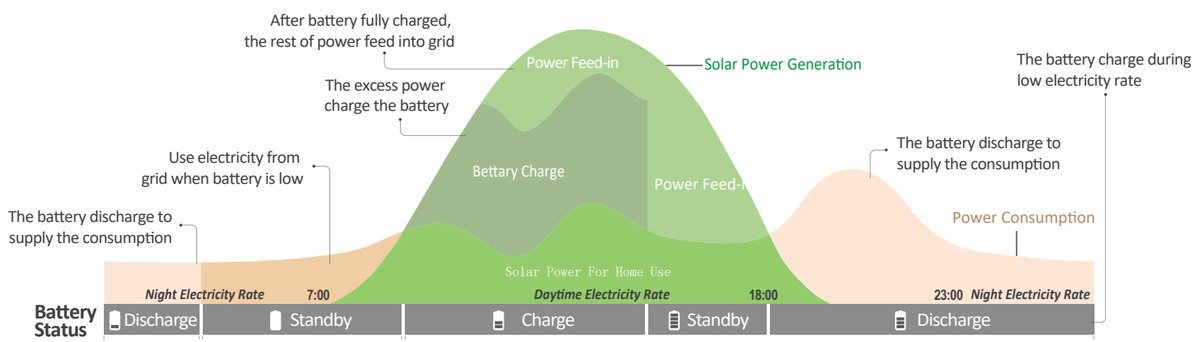


Optimizing Self-Consumption (on-grid) + Emergency Power Supply(off-grid)



Optimizing Self-Consumption Mode

With home energy storage installed, home owners 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	AF1K-SL-1	AF1.5K-SL-1	AF2K-SL-1	AF2.5K-SL-1
PV Input				
Max. Input Power (kW)	2	3	4	5
Max. PV Voltage (V)	550			
MPPT Range (V)	80 - 500			
Normal Voltage (V)	360			
Startup Voltage (V)	100			
Max. Input Current (A)	18.5 x 1			
Max. Short Current (A)	26 x 1			
No. of MPP Tracker / No. of PV String	1 / 1			
Battery Port				
Max. Charge/Discharge Power (kW)	1.0	1.5	2.0	2.5
Max. Charge/Discharge Current (A)	25	40	50	63
Battery Normal Voltage (V)	51.2			
Battery Voltage Range (V)	40 - 60			
Battery Type	Li-ion / Lead-acid etc.			
AC Grid				
Max Continuous Current (A)	5.0	7.0	10.0	12.0
Max Continuous Power (kVA)	1.0	1.5	2.0	2.5
Nominal Grid Current (A)	4.6 / 4.4	6.9 / 6.6	9.1 / 8.7	11.4 / 10.9
Nominal Grid Voltage (V)	198 to 242 @ 220 / 207 to 253 @ 230			
Nominal Grid Frequency (Hz)	50 / 60			
Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)			
Current THD (%)	< 3			
AC Load Output				
Max Continuous Current (A)	5.0	7.0	10.0	12.0
Max Continuous Power (kVA)	1.0	1.5	2.0	2.5
Max Peak Current (A) (10s)	6.9 / 6.6	10.5 / 10.0	13.7 / 13.1	17.3 / 16.6
Max Peak Power (kVA) (10s)	1.5	2.3	3.0	3.8
Nominal AC Voltage L-N (V)	220 / 230			
Nominal AC Frequency (Hz)	50 / 60			
Switching Time (ms)	< 10			
Voltage THD (%)	< 3			
Efficiency				
CEC Efficiency (%)	97.0			
Max. Efficiency (%)	97.6			
PV to Bat. Efficiency (%)	98.1			
Bat. between AC Efficiency (%)	96.8			
Protection				
PV Reverse Polarity Protection	Yes			
Over Current/Voltage Protection	Yes			
Anti-Islanding Protection	Yes			
AC Short Circuit Protection	Yes			
Residual Current Detection	Yes			
Ground Fault Monitoring	Yes			
Insulation Resister Detection	Yes			
PV Arc Detection	Optional			
Enclosure Protect Level	IP66 / NEMA4X			
AC/DC surge protection	Type II			
General Data				
Dimensions (W x H x D, mm)	370 x 535 x 192			
Weight (kg)	17			
Topology	Transformerless			
Cooling	Natural Convection			
Relative Humidity	0 - 100 %			
Operating Temperature Range (°C)	- 25 to 60			
Operating Altitude (m)	< 4000			
Standby Consumption (W)	< 10			
Mounting	Wall Bracket			
Communication with RSD	SUNSPEC			
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G, Sunspec			
Certification & Approvals	NRS097, G98, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, IEC62109-1, IEC62109-2, IEC62477-1			
EMC	EN61000-6-2, EN61000-6-3			

Technical Data	AF3K-SL-1	AF3.6K-SL-1	AF3K-SL	AF3.6K-SL
PV Input				
Max. Input Power (kW)	6	7.2	6	7.2
Max. PV Voltage (V)	550			
MPPT Range (V)	80 - 500			
Normal Voltage (V)	360			
Startup Voltage (V)	100			
Max. Input Current (A)	18.5 x 1		18.5 x 2	
Max. Short Current (A)	26 x 1		26 x 2	
No. of MPP Tracker / No. of PV String	1 / 1		2 / 2	
Battery Port				
Max. Charge/Discharge Power (kW)	3.0	3.6	3.0	3.6
Max. Charge/Discharge Current (A)	80			
Battery Normal Voltage (V)	51.2			
Battery Voltage Range (V)	40 - 60			
Battery Type	Li-ion / Lead-acid etc.			
AC Grid				
Max Continuous Current (A)	14.0	17.0	14.0	17.0
Max Continuous Power (kVA)	3.0	3.6	3.0	3.6
Nominal Grid Current (A)	13.7 / 13.1	16.4 / 15.7	13.7 / 13.1	16.4 / 15.7
Nominal Grid Voltage (V)	198 to 242 @ 220 / 207 to 253 @ 230			
Nominal Grid Frequency (Hz)	50 / 60			
Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)			
Current THD (%)	< 3			
AC Load Output				
Max Continuous Current (A)	14.0	17.0	14.0	17.0
Max Continuous Power (kVA)	3.0	3.6	3.0	3.6
Max Peak Current (A) (10s)	20.5 / 19.6	24.6 / 23.5	20.5 / 19.6	24.6 / 23.5
Max Peak Power (kVA) (10s)	4.5	5.4	4.5	5.4
Nominal AC Voltage L-N (V)	220 / 230			
Nominal AC Frequency (Hz)	50 / 60			
Switching Time (ms)	< 10			
Voltage THD (%)	< 3			
Efficiency				
CEC Efficiency (%)	97.0			
Max. Efficiency (%)	97.6			
PV to Bat. Efficiency (%)	98.1			
Bat. between AC Efficiency (%)	96.8			
Protection				
PV Reverse Polarity Protection	Yes			
Over Current/Voltage Protection	Yes			
Anti-Islanding Protection	Yes			
AC Short Circuit Protection	Yes			
Residual Current Detection	Yes			
Ground Fault Monitoring	Yes			
Insulation Resister Detection	Yes			
PV Arc Detection	Optional			
Enclosure Protect Level	IP66 / NEMA4X			
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