Three Phase Hybrid Storage Inverter

3-15 kW



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 15kW, compatible with high voltage (80-600V) 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.

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

WIDE RANGE
Voltage Range (80-600V)

PV OVERSIZE
2 Times PV Oversize

MAX. 18.5Adc
String Current Up To 18.5A

UPS FUNCTION
Switch Time < 10ms

COMPACT
Compact Design

GENERATOR
Generator Backup Support

- Support for Time-of-use Optimization
- Configurable Operation Modes
- AFCI (Optional) & Rapid Shutdown Ready (Optional)
- Build in Anti-feed-in Function
- 100% unbalanced output, each phase
- Smart Monitoring & Remote Firmware Upgrade

Technical Data	AF3K-MTH	AF4K-MTH	AF5K-MTH	AF6K-MTH	AF8K-MTH	AF10K-MTH	AF12K-MTH	AF15K-MTH
PV Input								
Max. DC Input Power (kW)	6	8	10	12	16	20	24	30
Max. PV Voltage (V)	1000							
Rated DC Input Voltage (V)	620							
DC Input Voltage Range (V)	150-1000							
MPPT Voltage Range (V)	150-850							
Start-up Voltage (V)	160							
Max. DC Input Current (A)	18.5x2							
Max. Short Current(A)	25 x2							
No. of MPPT Tracker / Strings	2/2							
Battery Port								
Battery Nominal Voltage (V)	350	350	350	350	350	350	450	500
Battery Voltage Range (V)	80-600							
Max. Charge/Discharge Current (A)	30							
Max. Charge/Discharge Power (kW)	3	4	5	6	8	10	12	15
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	12	15
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	18 / 13.2	22.5 / 16.5
Max. AC Output Current (A)	5.3	7	8.5	10.5	13.5	17	21.5	27
Nominal AC Voltage (V)	3P+N+PE/3P+PE 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 (kVA)	3	4	5	6	8	10	12	15
Nominal Output Voltage (V)	3P+N+PE/3P+PE 230/400							
Nominal Output Frequency (Hz)	50/60							
Nominal Output Current (A)	4.4	5.8	7.3	8.7	11.6	14.5	17.4	21.8
Peak Output Power	3.3kVA, 60s	4.4kVA, 60s	5.5kVA, 60s	6.6kVA, 60s	8.8kVA, 60s	11kVA, 60s	13.2kVA, 60s	16.5kVA, 60s
THDV (with linear load)	<3%							
Switching Time (ms)	<10							
Efficiency								
Europe Efficiency	97.50%							
Max. Efficiency	98.00%				98.20%		98.30%	
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	IP66							
AC/DC surge protection	Type II							
General Data								
Dimensions (W x H x D, mm)	370 x 598.5 x 192mm							
Weight (kg)	22kg							
Topology	Transformerless							
Cooling Concept	Intelligent Fan							
Relatively Humidity	0-100%							
Operating Temperature Range (°C)	-25 to 60 °C							
Operating Altitude (m)	<4000							
Standby Consumption (W)	<5							
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G, Sunspec							
Certification & Approvals	EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, IEC62109-1, IEC62109-2, IEC62477-1							
EMC	EN61000-6-2, EN61000-6-3							