Three Phase Hybrid Storage Inverter

3-8 kW (Delta Voltage Series)

The Afore three phase storage inverters delta voltage series are designed to increase energy independence for homeowners and commer-cial users. The power range is from 3.0kW to 8kW, compatible with high voltage 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 (80-450V)

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
- Build in Anti-feed-in Function
- 100% unbalanced output, each phase
- Smart Monitoring & Remote Firmware Upgrade

Technical Data	AF3K-MTHA	AF4K-MTHA	AF5K-MTHA	AF6K-MTHA	AF7K-MTHA	AF8K-MTHA
PV Input						
Max. DC Input Power (kW)	6	8	10	12	14	16
Max. PV Voltage (V)	600					
Rated DC Input Voltage (V)	400					
DC Input Voltage Range (V)	120-600					
MPPT Voltage Range (V)	100-550					
Start-up Voltage (V)	120					
Max. DC Input Current (A)	18.5x2					
Max. Short Current(A)	25x2					
No. of MPPT Tracker / Strings	2/2					
Battery Port						
Battery Nominal Voltage (V)	200	200	200	300	300	300
Battery Voltage Range (V)	80-450					
Max. Charge/Discharge Current (A)	30					
Max. Charge/Discharge Power (kW)	3	4	5	6	7	8
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	7	8
Max. AC Input/Output Power (kVA)	4.5 / 3.3	6 / 4.4	7.5 / 5.5	9 / 6.6	10.5 / 7.7	10.5 / 8.8
Max. AC Output Current (A)	10.5	13.5	17	21.5	25	25
Nominal AC Voltage (V)	3P+PE/3P 133/230					
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	7	8
Nominal Output Voltage (V)	3P+PE/3P 133/230					
Nominal Output Frequency (Hz)	50/60					
Nominal Output Current (A)	7.6	10.1	12.6	15.1	17.6	20
Peak Output Power	3.3kVA, 60s	4.4kVA, 60s	5.5kVA, 60s	6.6kVA, 60s	7.7kVA, 60s	8.8kVA, 60s
THDV (with linear load)	<3%					
Switching Time (ms)	<10					
Efficiency						
Europe Efficiency	97.50%					
Max. Efficiency	98.00%	98.20%		98.30%	98.00%	
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	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	Natural Convection	Intelligent Fan				
Relative 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					
Certification & Approvals	EN50549-1, C10/C11, IEC62109-1, IEC62109-2, IEC62477-1					
EMC	EN61000-6-2, EN61000-6-3					