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
1.5 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
- Build in Anti-feed-in Function
- Compact Size and Easy Installation
- Smart Monitoring & Remote Firmware Upgrade
  Dedicated web portal for installation monitoring, data archiving, report generation, and language selection (e.g. Polish language)

Technical Data	AF1K-SL-1+	AF1.5K-SL-1+	AF2K-SL-1+	AF2.5K-SL-1+	AF3K-SL-1+	AF3.6K-SL-1+	AF3K-SL+	AF3.6K-SL+
Max. Input Power (kW)	1.5	2.3	3.0	3.8	4.5	5.4	4.5	5.4
Max. PV Voltage (V)	600							
MPPT Range (V)	60 - 550							
Normal Voltage (V)	360							
Startup Voltage (V)	60							
Max. Input MPPT Current (A)	18.5 x 1						18.5 x 2	
Max. Short MPPT Current (A)	26 x 1						26 x 2	
No. of MPP Tracker / No. of PV String	1 / 1						2 / 2	

Technical Data	AF1K-SL-1+	AF1.5K-SL-1+	AF2K-SL-1+	AF2.5K-SL-1+	AF3K-SL-1+	AF3.6K-SL-1+	AF3K-SL+	AF3.6K-SL+
Battery Port								
Max. Charge/Discharge Power (kW)	1.0	1.5	2.0	2.5	3.0	3.6	3.0	3.6
Max. Charge/Discharge Current (A)	25	40	50	63			80	
Battery Normal Voltage (V)	51.2							
Battery Voltage Range (V)	40 - 60							
Battery Type	Li-ion / Lead-acid/ Lithium - iron - phosphate							
AC Grid								
Max. Current (A)	5.0	7.0	10.0	12.0	14.0	17.0	14.0	17.0
Max. Power (kVA)	1.0	1.5	2.0	2.5	3.0	3.6	3.0	3.6
Nominal Grid Current (A)	4.6 / 4.4	6.9 / 6.6	9.1 / 8.7	11.4 / 10.9	13.7 / 13.1	16.4 / 15.7	13.7 / 13.1	16.4 / 15.7
Nominal Grid Voltage (V)	220 / 230							
Nominal Grid Frequency (Hz)	50 / 60							
Power Factor	1 default (adjustable from 0.8 leading to 0.8 lagging)							
THDi (%)	< 3							
Number of powered phases	1							
AC Load Output								
Max Continuous Current (A)	5.0	7.0	10.0	12.0	14.0	17.0	14.0	17.0
Max Continuous Power (kVA)	1.0	1.5	2.0	2.5	3.0	3.6	3.0	3.6
Max Peak Current (A) (10min)	6.9 / 6.6	10.5 / 10.0	13.7 / 13.1	17.3 / 16.6	20.5 / 19.6	24.6 / 23.5	20.5 / 19.6	24.6 / 23.5
Max Peak Power (kVA) (10min)	1.5	2.3	3.0	3.8	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							
THDV (%)	< 3							
One-phase backup power supply	Yes							
Efficiency								
EURO Efficiency (%)	97.0							
Max. Efficiency (%)	97.6							
Battery Charge/Discharge Efficiency	97.6							
Protection								
Reverse Polarity Protection	Yes							
Over Current / Voltage Protection	Yes							
Anti-islanding Protection	Yes							
AC Short-ciruit Protection	Yes							
Residual current detection	Yes							
Ground Fault Monitoring	Yes							
Grid Monitoring	Yes							
DC insulation resistance monitoring	Yes							
Leakage current monitoring	Yes							
DC Switch	Yes							
Overheat protection	Yes							
Intelligent I-V curve monitoring	Yes							
AC/DC surge protection	Type II							
Enclosure Protect Level	IP66							
Curve loading under overload conditions	Yes							
General Data								
Dimensions (W x H x D, mm)	370 x 535 x 192							
Weight (kg)	17							
Topology	Transformerless							
Cooling	Natural Convection (Passive cooling)							
Relative Humidity	0 - 100 %							
Operating Temperature Range (°C)	- 25 to +60							
Operating Altitude (m)	< 4000							
Standby Consumption (W)	< 10							
Mounting	Wall Bracket							
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G, Sunspec, Modbus RTU							
Certification & Approvals	IEC62109-1, IEC62109-2, IEC62477-1, EN61000-6-1,EN61000-6-2, EN61000-6-3, IEC61000-4-16, IEC61000-4-18, IEC61000-4-29, IEC61727, IEC62116, NCRfG, EN50549-1, compliance with EN50438, PTPiREE, IREiSD							
VPP Function	Yes							
Control operation modes	Yes							
Integrated compatibility with energy storage systems	Yes							
Collection and local visualization of electrical energy production data from the installation	Yes							
Connection of a communication module for data transmission.	Yes							
Warranty	10-Years							
Energy Management System (EMS)	Yes							
Display	Yes							
Possibility to select the menu language depending on the country: e.g. Polish language	Yes							
Management of PV operation, battery charging and discharging processes, and building energy consumption control.	Yes							