

# ENERGY STORAGE SYSTEM SOLUTIONS PV SYSTEM SOLUTIONS





Afore New Energy Technology (Shanghai) Co., Ltd.

Building 7, No.333 Wanfang Rd, Minhang District, Shanghai, China. 201112

+86-21-54326236

+86-21-54326136

w www.aforenergy.com

info@aforenergy.com

## I Global Market



## **I About Us**

Afore is a leading PV inverter provider from China, with more than fourteen years dedicated experience in PV inverter R&D and manufacturing, Afore inverters have been installed in Europe, Australia, China, Indian, Japan, North America and South America, meeting the needs of global users.

We provide single and three-phase high-efficiency PV string inverters for a capacity of 1kW to 110kW, storage inverters (single phase 1-6kW, three phase 3-50kW, split phase 3-9.6kW, AC coupled), energy storage battery series (low voltage wall mounted series, high voltage stackable series) and all-in-one storage products. All of our inverters are integrated with smart monitoring system.

We offer not just good products, but also high-efficient local support to our partners and users throughout the inverter life span. Make sure the customers receive reliable returns by choosing Afore!

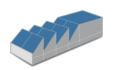
## **Contents**



## **Single Phase PV String Inverter**

**Residential Syster** 

Single Phase 1-3kW, Single Phase 3-6kW, Single Phase 7-10kW



## **Three Phase PV String Inverter**

Residential & Small Commercial System

Three Phase 3-25kW



## **Three Phase PV String Inverter**

**Commercial System and Power Plants** 

Three Phase 30kW, Three Phase 36-60kW, Three Phase 70-110kW



## **Energy storage system**

Residential and Commercial Storage System

Single Phase Hybrid Inverter 1-6kW Three Phase Hybrid Inverter 3-30kW Three Phase Hybrid Inverter 36-50kW

Single Phase AC Coupled Inverter 1-6kW Three Phase AC Coupled Inverter 3-30kW

Split Phase Hybrid Inverter 3-9.6kW

Low Voltage Stackable Energy Storage Battery (2.56-20.48kWh) Wall Mounted Energy Storage Battery (5/10/15kWh) High Voltage Stackable Energy Storage Battery (7.68-30.72kWh)

## **Single Phase Hybrid Storage Inverter**

1-6 kW



The Afore AF low voltage series storage Inverters are designed to increase energy independence for homeowners. The power range is from 1kW to 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 AF low voltage series storage inverters are integrated with Arc Fault Circuit Interrupter (AFCI) and rapid shutdown.



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



Build in Anti-feed-in Function



Compact Size and Easy Installation





<u>■</u>⊒ Sma



Smart Monitoring & Remote Firmware Upgrade

## **Single Phase Hybrid Storage Inverter**

## 4-6 kW Plus Series



The Afore AF low voltage series storage Inverters are designed to increase energy independence for homeowners. The power range is from 4kW to 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 AF low voltage series storage inverters are integrated with Arc Fault Circuit Interrupter (AFCI) and rapid shutdown.



MAX. 120A Max. Charge/ Discharge Current 120A



PV OVERSIZE

1.5 Times PV Oversize



MPPT CHANNELS
Up to 2 MPPT Channels



**UPS FUNCTION** Switch Time < 10ms



14

DN PARALLEL ms Max.6 Parallel Stacking

Support for Time-of-use Optimization

Arc Fault Circuit Interrupter (AFCI) (Optional)

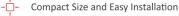
The charging and discharging power of the battery is greater

Configurable Operation Modes



Build in Anti-feed-in Function









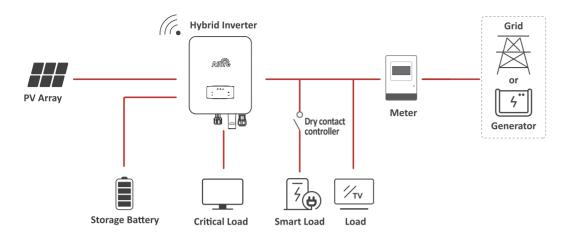


Off-grid mode, with a larger load capacity, the maximum load can be 6KVA

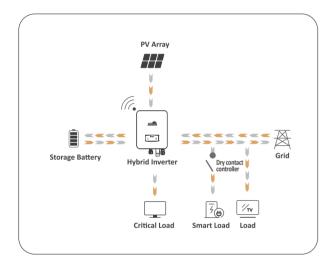
Technical Data	AF1K-SL-1	AF1.5K-SL-1	AF2K-SL-1	AF2.5K-SL-1	AF3K-SL-1	AF3.6K-SL-
PV Input	1.5	2.2	3.0	2.0	4 5	F 4
Max. Input Power (kW)	1.5	2.3	3.0	3.8	4.5	5.4
Max. PV Voltage (V)				550		
MPPT Range (V)	00 500	00 500		- 500	170 500	240 500
Full MPPT Range (V)	80 - 500	90 - 500	120 - 500	150 - 500	170 - 500	210 - 500
Normal Voltage (V)				.00		
Startup Voltage (V)				.00 5 x 1		
Max. Input Current (A)  Max. Short Current (A)				5 x 1		
No. of MPP Tracker / No. of PV String				/1		
Battery Port			1	/ 1		
Max. Charge/Discharge Power (kW)	1.0	1.5	2.0	2.5	3.0	3.6
Max. Charge/Discharge Current (A)	25	40	50	63	80	80
Battery Normal Voltage (V)				1.2		
Battery Voltage Range (V)				- 60		
Battery Type				ad-acid etc.		
AC Grid			Li ion / Le	du dela etc.		
Max Continuous Current (A)	5.0	7.0	10.0	12.0	14.0	17.0
Max Continuous Power (kVA)	1.0	1.5	2.0	2.5	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
Nominal Grid Voltage (V)	,			/ 207 to 253 @ 230		/ 20.7
Nominal Grid Frequency (Hz)				/ 60		
Power Factor		0.999 (Adiu		verexcited to 0.8 und	lerexcited)	
Current THD (%)		, ,,		< 3	·	
AC Load Output						
Max Continuous Current (A)	5.0	7.0	10.0	12.0	14.0	17.0
Max Continuous Power (kVA)	1.0	1.5	2.0	2.5	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
Max Peak Power (kVA) (10min)	1.5	2.3	3.0	3.8	4.5	5.4
Nominal AC Voltage L-N (V)			220	/ 230		
Nominal AC Frequency (Hz)			50	/ 60		
Switching Time (ms)			Sea	mless		
Voltage THD (%)				< 3		
Efficiency						
CEC Efficiency (%)			9	7.0		
Max. Efficiency (%)			9	7.6		
PV to Bat. Efficiency (%)				8.1		
Bat. between AC Efficiency (%)			9	6.8		
Protection						
PV Reverse Polarity Protection				/es		
Over Current/Voltage Protection				/es		
Anti-Islanding Protection				es es		
AC Short Circuit Protection  Residual Current Detection				es (es		
Ground Fault Monitoring				es /es		
Insulation Resister Detection				/es /es		
PV Arc Detection				res res		
Enclosure Protect Level				NEMA4X		
General Data			11 03 /			
Dimensions (W x H x D, mm)			370 x 5	35 x 192		
Weight (kg)				8.5		
Topology				ormerless		
Cooling				gent Fan		
Relative Humidity				100 %		
Operating Temperature Range (°C)			- 25	to 60		
Operating Altitude (m)				1000		
Noise Emission (dB)			<	25		
Standby Consumption (W)			<	10		
Mounting			Wall	Bracket		
Communication with RSD			SUN	ISPEC		
Display & Communication Interfaces			LCD, LED, RS485, 0	CAN, Wi-Fi, GPRS, 4G		
Certification & Approvals				/DE-AR-N4105, VDE01		

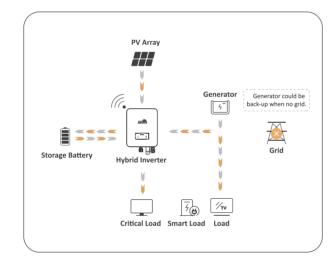
Max. Pay Notinger (1)	Technical Data	AF3K-SL	AF3.6K-SL	AF4K-SL	AF4.6K-SL	AF5K-SL	AF5.5K-SL	AF6K-SL
Mar. PM Usage (r)	PV Input							
MPP Flamp   1	Max. Input Power (kW)	4.5	5.4	6.0	6.9	7.5	8.3	9.0
Fig.   May	Max. PV Voltage (V)				550			
Mary Notage (V)	MPPT Range (V)				80 - 500			
Section   Control (1)	Full MPPT Range (V)	90 - 500	110 - 500	120 - 500	130 - 500	150 - 500	160 - 500	170 - 500
Max. Short Current (A)	Normal Voltage (V)				360			
Max. Conference   Factor   No. of PV Stories   Section	Startup Voltage (V)				100			
Rating   Part   Part   Part   Part   Part   Part   Part   Part	Max. Input Current (A)				18.5 x 2			
Nat. Charge/Obicharge Fower (NW)	Max. Short Current (A)				26 x 2			
Max Charge/Richarge Promet (N)	No. of MPP Tracker / No. of PV String				2/2			
Max. Cantinuous furmer (A)	Battery Port							
Seltery Notinge Runge (	Max. Charge/Discharge Power (kW)	3.0	3.6	4.0	4.6	4.8	4.8	4.8
Martery Type	Max. Charge/Discharge Current (A)				80			
Max Confinious Current (A)	Battery Normal Voltage (V)				51.2			
Max Continuous Current (A)	Battery Voltage Range (V)				40 - 60			
Max continuous Current (A) 14.0 17.0 18.0 22.0 23.0 23.0 26.0 28.0 (Max Continuous Current (A) 13.7 13.1 16.4 / 15.7 18.2 / 13.7 18.2 / 12.7 20.0 22.8 / 22.8 25.0 / 24.0 27.3 / 26.1 Nominal Gird Current (A) 13.7 / 13.1 16.4 / 15.7 18.2 / 13.7 20.1 20.1 20.0 22.8 / 22.8 25.0 / 24.0 27.3 / 26.1 Nominal Gird Grequency (N) 18.7 / 13.7 18.2 / 13.7 18.2 / 13.7 20.0 22.8 / 22.8 25.0 / 24.0 27.3 / 26.1 Nominal Gird Grequency (N) 18.2 18.2 18.2 18.2 18.2 18.2 18.2 18.2				l i-i	ion / Lead-acid etc	r.		
Max Continuous Power (kNA)  3.0 3.6 4.0 8.7 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8 1.8					ion y Lead deld etc			
Max Continuous Power (IAM)   3.0   3.6   4.0   4.6   5.0   5.0   5.0   6.0		14.0	17.0	19.0	22.0	23.0	26.0	28.0
Nominal Grid Current (A)								
Nominal Gird Voltage IV    Nominal Gird Prequency (Hz)   198 to 242 @ 22 0 / 207 to 253 @ 230     Nominal Gird Prequency (Hz)   198 to 142 @ 22 0 / 207 to 253 @ 230     Nominal Gird Prequency (Hz)   198 to 242 @ 22 0 / 207 to 253 @ 230     Nominal Circ IV (K)   180   190   22 0   23 0   26 0   28 0     Max Continuous Power (IVA)   3.0   3.6   4.0   4.6   5.0   5.5   6.0     Max Continuous Power (IVA)   20.5   19.6   246 / 23.5   273 / 261   31 4 / 30   34 1 / 32.7   378 / 361   40 / 30     Max Peack Lurrent (A)   (1) (1) (1) (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2		-						
Nominal Grid Frequency (Fitz)   1.0   1.		15.7 / 15.1	10.4 / 15.7				25.0 / 24.0	27.5 / 20.1
Power Factor   Current TIHD (%)				198 to 242		233 @ 23U		
Current ThiD (%)					<u> </u>			
Max Continuous Current (A) 14.0 17.0 19.0 23.0 23.0 26.0 28.0 28.0 18.0 Max Continuous Surrent (A) (10min) 20.5/19.6 24.6/23.5 27.3/26.1 31.4/30 34.1/32.7 37.8/36.1 41.0/39.2 18.2 18.2 18.2 18.2 18.2 18.2 18.2 18			0.999	(Adjustable from		to 0.8 underexo	cited)	
Max Continuous Current (A)					< 3			
Max Peak Current (A) (10min) 20.5   19.6   24.6   23.5   27.3 / 26.1   31.4 / 30   34.1 / 32.7   37.8 / 36.1   41.0 / 39.2   Max Peak Current (A) (10min) 4.5   5.4   6.0   6.9   7.5   8.3   9.0   Nominal AC Voltage LN (V)	•		:					
Max Peak Power (KVA) (10min)								
Max Peak Power (kVA) (10min)	Max Continuous Power (kVA)	3.0	3.6	4.0	4.6	5.0	5.5	6.0
Nominal AC Voltage L-N (V)         220 / 230           Nominal AC Frequency (Itz)         50 / 60           Switching Time (ms)         Seamless           Voltage THD (%)          3           Efficiency           Efficiency           Efficiency (%)         97.0           Max. Efficiency (%)         97.6           PV to Bat. Efficiency (%)         98.1           Bat. between AC Efficiency (%)         98.1           PV to Bat. Efficiency (%)         98.1           Bat. between AC Efficiency (%)         98.1           PV PV betaction         Yes           Over Current/Voltage Protection         Yes           Over Current/Voltage Protection         Yes           AC Short Circuit Protection         Yes           PV Arc Detection         Yes           Found Fall Monttoring         Yes           Include Monttoring         Yes           Include Monttoring <th< td=""><td>Max Peak Current (A) (10min)</td><td>20.5 / 19.6</td><td>24.6 / 23.5</td><td>27.3 / 26.1</td><td>31.4 / 30</td><td>34.1 / 32.7</td><td>37.8 / 36.1</td><td>41.0 / 39.2</td></th<>	Max Peak Current (A) (10min)	20.5 / 19.6	24.6 / 23.5	27.3 / 26.1	31.4 / 30	34.1 / 32.7	37.8 / 36.1	41.0 / 39.2
Nominal AC Frequency (Hz)         50 / 60           Switching Time (ms)         Seamless           Voltage ThD (%)         3           Efficiency           Usual Cell Efficiency (%)           97.0           Max. Efficiency (%)         97.0           Profession           Profession           Profession           Yes           Over Current/Voltage Protection         Yes           Over Current/Voltage Protection         Yes           Anti-Islanding Protection         Yes           AC Short Circuit Protection         Yes           AC Short Circuit Protection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           Professival Current Detection         Yes           Professival Current Detection         Yes           Insulation Resister Detection         Yes           Insulation Resister Detection         Yes           Insulation Resister Detection         Yes           Insulation Resister Detection         Yes           I	Max Peak Power (kVA) (10min)	4.5	5.4	6.0	6.9	7.5	8.3	9.0
Switching Time (ms)         Seamless           Voltage THD (%)         < 3           EEC Efficiency (%)         97.0           Max. Efficiency (%)         97.6           PV to Ba. Efficiency (%)         96.8           Bat. between Act Efficiency (%)         96.8           Protection           PV Reverse Polarity Protection         Yes           Over Current/Voltage Protection         Yes           Act Short Circuit Protection         Yes           Residual Current Detection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           Var Detection         Yes           Power Detection         Yes           Fonciosure Protect Level         1965 / NEMAX           General Date           Dimensions (W x H x 0, mn)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (°C)         -25 to 60           Operating Intitude (m)         4000           Noise Emission (dB) </td <td>Nominal AC Voltage L-N (V)</td> <td></td> <td></td> <td></td> <td>220 / 230</td> <td></td> <td></td> <td></td>	Nominal AC Voltage L-N (V)				220 / 230			
Voltage THD (%)         < 3           Efficiency           Efficiency           Efficiency (%)         97.0           Max. Efficiency (%)         99.6           PV to Bat. Efficiency (%)         98.1           Bat. between Act Efficiency (%)         96.8           Protection         Yes           Protection         Yes           Anti-Islanding Protection         Yes           Act Short Circuit Protection         Yes           Residual Current Detection         Yes           Act Short Circuit Protection         Yes           Pv Arc Detection         Yes           Pv Arc Detection         Yes           Pv Arc Detection         Yes           Pv Arc Detection         Yes           Disalpan Protection         Yes           Disalpan Resieve Detection         Yes	Nominal AC Frequency (Hz)				50 / 60			
Efficiency (%)         97.0           Max. Efficiency (%)         97.6           Vo 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           Insulation Resister Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         1965 NEMA4X           General Data           Weight (kg)         18.5         20.5           Using Mix H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (*C)         -25 to 60           Operating Affitude (m)         < 25	Switching Time (ms)				Seamless			
CECE Efficiency (%)         97.0           Max. Efficiency (%)         97.6           Y to Bat. Efficiency (%)         98.1           Bat. between AC Efficiency (%)         96.8           Protection           Protection           Ver Current/Voltage Protection         Yes           Over Current/Voltage Protection         Yes           Act Short Circuit Protection         Yes           AC Short Circuit Protection         Yes           Residual Current Detection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           PV Az Detection         Yes           Residual Current Detection         Yes           Insulation Resister Detection         Yes           PV Az Detection         Yes           Publication Resister Detection         Yes           Residual Current Detection         Yes           Publication Resister Detection         Yes           Publication Resister Detection         Yes           Residual Current Detection         Yes           Residual Current Detection         Yes           Residual Current Detection         Yes           Residual Current Detection         Transformation </td <td>Voltage THD (%)</td> <td></td> <td></td> <td></td> <td>&lt; 3</td> <td></td> <td></td> <td></td>	Voltage THD (%)				< 3			
Max. Efficiency (%)         97.6           PV to Bat. Efficiency (%)         98.1           Bat. between AC Efficiency (%)         98.1           Bat. between AC Efficiency (%)         96.8           Protection         Prescription           PV Reverse Polarity Protection         Yes           Over Current/Voltage Protection         Yes           Act Short Circuit Protection         Yes           Residual Current Detection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         1965 / NEMA4X           General Data         1965 / NEMA4X           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (*C)         - 25 to 60           Operating Temperature Range (*C)         - 25 to 60           Operating Altitude (m)         < 4000	Efficiency							
PV to Bat. Efficiency (%)         98.1           Bat. between AC Efficiency (%)         96.8           PV Tectoction         Yes           Over Current/Voltage Protection         Yes           Anti-Islanding Protection         Yes           AC Short Circuit Protection         Yes           Residual Current Detection         Yes           Residual Current Detection         Yes           Insulation Resister Detection         Yes           Insulation Resister Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         1P65 / NEMAX           General Data         1P65 / NEMAX           Dimensions (W x H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0-100 %           Operating Emperature Range (*C)         -25 to 60           Operating Altitude (m)         < 4000	CEC Efficiency (%)				97.0			
PV to Bat. Efficiency (%)         98.8           Bat. between AC Efficiency (%)         96.8           PV cetction         Yes           Over Current/Voltage Protection         Yes           Anti-Islanding Protection         Yes           AC Short Circuit Protection         Yes           AC Short Circuit Protection         Yes           Residual Current Detection         Yes           Residual Current Detection         Yes           Insulation Resister Detection         Yes           PV Arc Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         1P65 / NEMAX           General Data         370 x 535 x 192           Dimensions (W x H x D, nm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Emperature Range (*C)         - 25 to 60           Operating Altitude (m)         < 4000	Max. Efficiency (%)				97.6			
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         Yes           Enclosure Protect Level         1P65 / NEMAX           General Data         Yes           Dimensions (Wx Hx D, nm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Altitude (m)         4 4000           Nose Emission (dB)         < 25 to 60           Operating Altitude (m)         4 4000           Mounting         Will Bracket           Communication with RSD         SUNSPEC           Display & Communication Interfaces         LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G           Certification & Approvals         NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N41					98.1			
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         Yes           PV Arc Detection         Yes           Enclosure Protect Level         Yes           Enclosure Protect Level         1965 / NEMAAX           General Data           Transformerless           Diversions (W x H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (*C)         - 25 to 60           Operating Altitude (m)         < 4000	, , ,				96.8			
PV Reverse Polarity Protection         Yes           Over Current/Voltage Protection         Yes           Anti-Islanding Protection         Yes           Act Short Circuit Protection         Yes           Residual Current Detection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         Yes           Enclosure Protect Level         Yes           Dimensions (W X H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (°C)         - 25 to 60           Operating Altitude (m)         < 4000								
Over Current/Voltage Protection         Yes           Anti-Islanding Protection         Yes           AC Short Circuit Protection         Yes           Residual Current Detection         Yes           Residual Current Detection         Yes           Ground Fault Monitoring         Yes           Insulation Resister Detection         Yes           PV Arc Detection         Yes           Enclosure Protect Level         IP65 / NEMA4X           Dimensions (W x H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (*C)         - 25 to 60           Operating Altitude (m)         < 4000           Noise Emission (dB)         < 25           Standby Consumption (W)         Wall Bracket           Communication with RSD         SUNSPEC           Display & Communication Interfaces         LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G           Certification & Approvals         NRS097, G98/G99, ENS0549-1, C10/C11, AS4777-2, VDE-AR-N4105, VDE0126, IECG2109-1, IECG2109-2					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 Yes  PV Arc Detection Yes  Enclosure Protect Level Protect Level Prof NEMAX  General Data  Dimensions (W x H x D, mm) 370 x 535 x 192  Weight (kg) 18.5 20.5  Topology Transformerless  Cooling Intelligent Fan  Relative Humidity 0 - 100 %  Operating Temperature Range (°C) - 25 to 60  Operating Altitude (m) 4000  Noise Emission (dB) < 25  Standby Consumption (W) 4000  Mounting Wall Bracket  Communication with RSD SUNSPEC  Display & Communication Interfaces LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G  Certification & Approvals  NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2	· · · · · · · · · · · · · · · · · · ·							
AC Short Circuit Protection       Yes         Residual Current Detection       Yes         Ground Fault Monitoring       Yes         Insulation Resister Detection       Yes         PV Arc Detection       Yes         Enclosure Protect Level       IP65 / NEMA4X         General Data       Tomesions (W x H x D, mm)         Weight (kg)       18.5       20.5         Topology       Transformerless         Cooling       Intelligent Fan         Relative Humidity       0 - 100 %         Operating Temperature Range (*C)       - 25 to 60         Operating Altitude (m)       < 4000								
Residual Current Detection Yes Ground Fault Monitoring Yes Insulation Resister Detection Yes PV Arc Detection Yes Enclosure Protect Level Prot								
Ground Fault Monitoring       Yes         Insulation Resister Detection       Yes         PV Arc Detection       Yes         Enclosure Protect Level       IP65 / NEMA4X         General Data         Dimensions (W x H x D, mm)       370 x 535 x 192         Weight (kg)       18.5       20.5         Topology       Transformerless         Cooling       Intelligent Fan         Relative Humidity       0 - 100 %         Operating Temperature Range (°C)       - 25 to 60         Operating Altitude (m)       < 4000								
Insulation Resister Detection Yes  Enclosure Protect Level IP65 / NEMA4X  General Data  Dimensions (W x H x D, mm) 370 x 535 x 192  Weight (kg) 18.5 370 x 535 x 192  Weight (kg) 18.5 Topology Transformerless  Cooling Intelligent Fan  Relative Humidity 0 - 100 %  Operating Temperature Range (°C) - 25 to 60  Operating Altitude (m) Noise Emission (dB) S < 25  Standby Consumption (W)  Mounting Wall Bracket  Communication with RSD Display & Communication Interfaces NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2								
PV Arc Detection         Yes           Enclosure Protect Level         IP65 / NEMA4X           General Data         Provided Security (MX H X D, mm)         370 x 535 x 192           Dimensions (WX H X D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (°C)         - 25 to 60           Operating Altitude (m)         < 4000           Noise Emission (dB)         < 25           Standby Consumption (W)         < 10           Mounting         Wall Bracket           Communication with RSD         SUNSPEC           Display & Communication Interfaces         LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G           Certification & Approvals         NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2								
Enclosure Protect LevelIP65 / NEMAXXGeneral DataFormula of the protect of the part of								
General Data           Dimensions (W x H x D, mm)         370 x 535 x 192           Weight (kg)         18.5         20.5           Topology         Transformerless           Cooling         Intelligent Fan           Relative Humidity         0 - 100 %           Operating Temperature Range (°C)         - 25 to 60           Operating Altitude (m)         < 4000								
Dimensions (W x H x D, mm)  Weight (kg)  18.5  Topology  Transformerless  Cooling  Intelligent Fan  Relative Humidity  0 - 100 %  Operating Temperature Range (°C)  - 25 to 60  Operating Altitude (m)  Noise Emission (dB)  \$ < 25  Standby Consumption (W)  Aunual Bracket  Communication with RSD  Display & Communication Interfaces  NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2					IPDD / NEIVIA4X			
Weight (kg)18.520.5TopologyTransformerlessCoolingIntelligent FanRelative Humidity0 - 100 %Operating Temperature Range (°C)- 25 to 60Operating Altitude (m)< 4000					270 v F2F :: 402			
Topology Transformerless Cooling Intelligent Fan  Relative Humidity 0 - 100 % Operating Temperature Range (°C) - 25 to 60 Operating Altitude (m)  Noise Emission (dB) < < 25 Standby Consumption (W) < 10 Mounting Wall Bracket Communication with RSD SUNSPEC Display & Communication Interfaces LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G Certification & Approvals NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2				1	5/U X 535 X 192	20.5		
Cooling Intelligent Fan  Relative Humidity 0 - 100 %  Operating Temperature Range (°C) - 25 to 60  Operating Altitude (m) < 4000  Noise Emission (dB) < 25  Standby Consumption (W) < 10  Mounting Wall Bracket  Communication with RSD SUNSPEC  Display & Communication Interfaces LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G  Certification & Approvals NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2		18	5.5		<b>-</b>	20.5		
Relative Humidity 0 - 100 %  Operating Temperature Range (°C) - 25 to 60  Operating Altitude (m) < 4000  Noise Emission (dB) < 25  Standby Consumption (W) < 10  Mounting Wall Bracket  Communication with RSD SUNSPEC  Display & Communication Interfaces LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G  Certification & Approvals NRS097, G98/G99, ENS0549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2								
Operating Temperature Range (°C) - 25 to 60 Operating Altitude (m) < 4000 Noise Emission (dB) < 25 Standby Consumption (W) < 10 Mounting Wall Bracket Communication with RSD SUNSPEC 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								
Operating Altitude (m) < 4000  Noise Emission (dB) < 25  Standby Consumption (W) < 10  Mounting Wall Bracket  Communication with RSD SUNSPEC  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	-							
Noise Emission (dB) < 25 Standby Consumption (W) < 10  Mounting Wall Bracket  Communication with RSD SUNSPEC  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								
Standby Consumption (W) < 10  Mounting Wall Bracket  Communication with RSD SUNSPEC  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								
Mounting Wall Bracket  Communication with RSD SUNSPEC  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	Noise Emission (dB)				< 25			
Communication with RSD SUNSPEC 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	Standby Consumption (W)				< 10			
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	Mounting				Wall Bracket			
Certification & Approvals NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2	Communication with RSD				SUNSPEC			
	Display & Communication Interfaces			LCD, LED, R	S485, CAN, Wi-Fi,	GPRS, 4G		
EMC EN61000-6-2, EN61000-6-3	Certification & Approvals	NRS097	, G98/G99, EN505	549-1, C10/C11, A	S4777.2, VDE-AR-1	N4105, VDE0126	, IEC62109-1, IEC6	2109-2
	EMC			EN61	000-6-2, EN61000	)-6-3		

### For New Storage System:



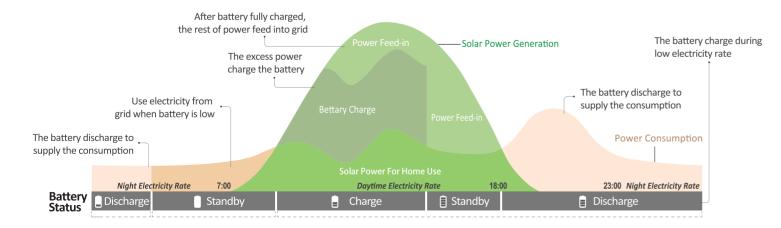
### Optimizing Self-Consumption (on-grid) + Emergency Power Supply (off-grid)





### **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	AF4K-SLP	AF4.6K-SLP	AF5K-SLP	AF5.5K-SLP	AF6K-SLP
PV Input					
Max. Input Power (kW)	6	6.9	7.5	8.3	9
Max. PV Voltage (V)			550		
MPPT Range (V)			80 - 500		
Full MPPT Range (V)	120 - 500	130 - 500	150 - 500	160 - 500	170 - 500
Normal Voltage (V)			360		
Startup Voltage (V)			100		
Max. Input Current (A)  Max. Short Current (A)			18.5 x 2 26 x 2		
No. of MPP Tracker / No. of PV String			2/2		
Battery Port			2/2		
Max. Charge/Discharge Power (kW)	4.0	4.6	5.0	5.5	6.0
Max. Charge/Discharge Current (A)			120		
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)	19.0	22.0	23.0	26.0	28.0
Max Continuous Power (kVA)	4.0	4.6	5.0	5.5	6.0
Nominal Grid Current (A)	18.2 / 17.4	21.0 / 20.0	22.8 / 21.8	25.0 / 24.0	27.3 / 26.1
Nominal Grid Voltage (V)		198 to 24	42 @ 220 / 207 to 25	3 @ 230	
Nominal Grid Frequency (Hz)			50 / 60		
Power Factor		0.999 (Adjustable f	rom 0.8 overexcited to	0.8 underexcited)	
Current THD (%)			< 3		
AC Load Output					
Max Continuous Current (A)	19.0	22.0	23.0	26.0	28.0
Max Continuous Power (kVA)	4.0	4.6	5.0	5.5	6.0
Max Peak Current (A) (10min)	27.3 / 26.1	31.4 / 30	34.1 / 32.7	37.8 / 36.1	41.0 / 39.2
Max Peak Power (kVA) (10min)	6.0	6.9	7.5	8.3	9.0
Nominal AC Voltage L-N (V)			220 / 230		
Nominal AC Frequency (Hz)			50 / 60		
Switching Time (ms)			Seamless		
Voltage THD (%)			< 3		
Efficiency			07.0		
CEC Efficiency (%)			97.0		
Max. Efficiency (%)			97.6		
PV to Bat. Efficiency (%)			98.1 96.8		
Bat. between AC Efficiency (%)  Protection			30.8		
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			Yes		
Enclosure Protect Level			IP65 / NEMA4X		
General Data					
Dimensions (W x H x D, mm)			370 x 535 x 192		
Weight (kg)			20.5		
Topology			Transformerless		
Cooling			Intelligent Fan		
Relative Humidity			0 - 100 %		
Operating Temperature Range (°C)  Operating Altitude (m)			- 25 to 60 < 4000		
Noise Emission (dB)			< 4000		
Standby Consumption (W)			< 10		
Mounting			Wall Bracket		
Communication with RSD			SUNSPEC		
Display & Communication Interfaces		LCD. LED	), RS485, CAN, Wi-Fi, G	PRS, 4G	
Certification & Approvals	NRS097, G9	98, EN50549-1, C10/C11, A			IEC62109-2
EMC	, ==		61000-6-2, EN61000-6		

## **Three Phase Hybrid Storage Inverter**

3-30 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 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





WIDE RANGE Voltage Range (150-800V)





**PV OVERSIZE** 1.5 Times PV Oversize



MAX. 40Adc String Current Up To 40A



**UPS FUNCTION** Switch Time < 10ms





Support Generator

## **Three Phase Hybrid Storage Inverter**

## 3-12 kW Plus Series



The Afore three phase storage inverters plus series are designed to increase energy independence for homeowners and commercial users. The power range is from 3.0kW to 12kW, compatible with high voltage (80-600V and 120-650V) 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



Battery Voltage Minimum 80V



**MAX. 50A** Max. Charge/ Discharge Current 50A



**100% UNBALANCE** 



**PV OVERSIZE** 1.5 Times PV Oversize



MAX. 20Adc



String Current Up To 20A

**UPS FUNCTION** 

24

Support for Time-of-use Optimization

AFCI (Optional) & Rapid Shutdown Ready

Configurable Operation Modes



Build in Anti-feed-in Function



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



Smart Monitoring & Remote Firmware Upgrade

Support for Time-of-use Optimization

Configurable Operation Modes



Build in Anti-feed-in Function 100% unbalanced output, each phase;



200% unbalanced output, each phase (Below 10kW) Smart Monitoring & Remote Firmware Upgrade

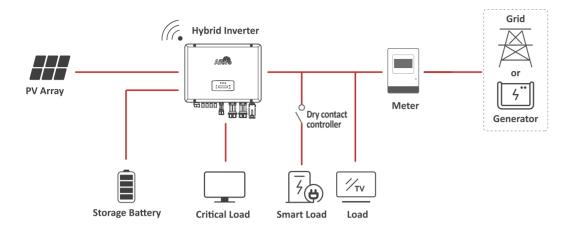
AFCI (Optional) & Rapid Shutdown Ready



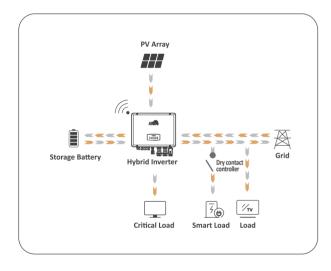
Technical Data	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH	
PV Input	_						
Max. DC Input Power (kW)	5	6	7.5	9	12	15	
Max. PV Voltage (V)			10				
Rated DC Input Voltage (V)	620						
DC Input Voltage Range (V)	150-1000						
MPPT Voltage Range (V)			150-				
Full MPPT Range(V)		200-850		250-850	300-850	500-850	
Start-up Voltage (V)			16				
Max. DC Input Current (A)			20:				
Max. Short Current(A)			30:				
No. of MPPT Tracker / Strings			2/	2			
Battery Port	200	200	200	250	200	400	
Battery Nominal Voltage (V)	200	200	200		300	400	
Battery Voltage Range (V)			150-				
Max. Charge/Discharge Current (A)			3			40	
Max. Charge/Discharge Power (kW)	3	4	5	6	8	10	
Charging Curve			3 Sta		2445		
Compatible Battery Type		LI-ION	/ Lead-acid / Sodiu	iii metai chioride b	auery		
AC Grid	2	4	F	6	0	10	
Nominal AC Output Power (kW)	3	6 (4.4	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/				
Nominal AC Frenquency (Hz)			1 (-0.8-0.8)				
Power Factor			(-0.8-0.8				
Current THD (%)			< 3	70			
AC Load Output (Back-up)	2000	4000	F000	6000	8000	10000	
Nominal Output Power (VA)	3000	4000	5000		8000	10000	
Nominal Output Voltage (V)			230/				
Nominal Output Frequency (Hz)	4.4	F 0	50/	8.7	11.6	145	
Nominal Output Current (A) Peak Output Power	4.4 3300VA, 60s	5.8 4400VA, 60s	7.3 5500VA, 60s	6600VA, 60s	8800VA, 60s	14.5	
THDV (with linear load)	3300VA, 003	4400 VA, 003	<3		0000VA, 003	11000VA, 60	
Switching Time (ms)			<1				
Efficiency				.0			
•			07.5	0.07			
Europe Efficiency		00.0	97.5	00 %	00.	200/	
Max. Efficiency		98.0	98.0	10.07	98	20%	
Battery Charge/Discharge Efficiency  Protection			96.0	70			
Reverse Polarity Protection			Ye	nc			
Over Current / Voltage Protection			Ye				
Anti-islanding Protection			Ye				
AC Short-ciruit Protection			Ye				
Leakage Current Detection			Ye				
Ground Fault Monitoring			Ye				
Grid Monitoring			Ye				
Enclosure Protect Level			IPE				
General Data				,,,			
Dimensions (W x H x D, mm)			370 x 497 x 192 / 5	558 x 535 x 260 mn	1		
Weight (kg)				/ 29kg	-		
Topology			Transfor				
Cooling Concept		Natural Co			Intellia	ent Fan	
Relatively Humidity			0-10	00%	intellig		
Operating Temperature Range (°C)			-25 to				
Operating Altitude (m)			<40				
Noise Emission (dB)			<3				
Standby Consumption (W)			<				
Display & Communication Interfaces			LCD, LED, RS485, CA		ì		
Certification & Approvals	NRS097, G98/G9		/C11, AS4777.2, VD			EC62109-2	
EMC	,, 00		EN61000-6-2,		,,	•	

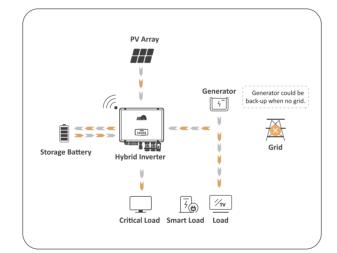
Technical Data	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH		
PV Input								
Max. DC Input Power (kW)	18	22.5	25.5	30	37.5	45		
Max. PV Voltage (V)			10	00				
Rated DC Input Voltage (V)			62	20				
DC Input Voltage Range (V)			150-	1000				
MPPT Voltage Range (V)		150-850						
Full MPPT Range(V)			500-	-850				
Start-up Voltage (V)			16	50				
Max. DC Input Current (A)	20x2	20+32	32	x 2	40	x 2		
Max. Short Current(A)	30x2	30+48	48	x2	60	x 2		
No. of MPPT Tracker / Strings	2/2	2/3	2/	/4	2/	<b>'</b> 4		
Battery Port	-		-					
Battery Nominal Voltage (V)	450	500	400	500	500	550		
Battery Voltage Range (V)				-800				
Max. Charge/Discharge Current (A)	30	50	50	50	60	60		
	12	15	17	20	25	30		
Max. Charge/Discharge Power (kW)	12	13			23	30		
Charging Curve		1::		ages	attory			
Compatible Battery Type  AC Grid		LI-ION	/ Lead-acid / Sodiu	m metal chloride ba	allel y			
	12	15	17	20	25	20		
Nominal AC Output Power (kW)	12 18 / 13.2	15 22.5 / 16.5	17 25.5 / 18.7	20 30 / 22	25 37.5 / 27.5	30 45 / 33		
Max. AC Input/Output Power (kVA)		-	-	•	-	-		
Max. AC Output Current (A)	21.5	27	30	32	40	48		
Nominal AC Voltage (V)				/400				
Nominal AC Frenquency (Hz)				/60				
Power Factor				) adjustable				
Current THD (%)			<3	3%				
AC Load Output (Back-up)								
Nominal Output Power (VA)	12000	15000	17000	20000	25000	30000		
Nominal Output Voltage (V)				/400				
Nominal Output Frequency (Hz)			50,					
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, 60		
THDV (with linear load)			<3	3%				
Switching Time (ms)			<:	10				
Efficiency								
Europe Efficiency	97.5	50%	97.8	30%	98.00%	98.10%		
Max. Efficiency		98.	.30%		98.	50%		
Battery Charge/Discharge Efficiency			98.0	00%				
Protection								
Reverse Polarity Protection			Ye	es				
Over Current / Voltage Protection			Ye	es				
Anti-islanding Protection			Ye	es				
AC Short-ciruit Protection			Ye	es				
Leakage Current Detection			Ye	es				
Ground Fault Monitoring				es				
Grid Monitoring				es				
Enclosure Protect Level			IP					
General Data								
	370 x 497 x 192 / 558 x 535 x 260			558 x 535 x 260 mn	n			
Weight (kg)	20.8 / 29kg		29kg		36	kg		
Topology	. 0			rmerless	:			
Cooling Concept				ent Fan				
Relatively Humidity				00%				
Operating Temperature Range (°C)				0 60 °C				
Operating Altitude (m)				000				
Noise Emission (dB)				40				
Standby Consumption (W)				5				
Display & Communication Interfaces			LCD, LED, RS485, CA					
Certification & Approvals		8/G99. EN50549-1	C10/C11, AS4777.2			1. IEC62109-2		
EMC	111.5557, 050	-, -55,150575 1,		, EN61000-6-3		_,		
Livic			_140±000-0=Z,	, _,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				

### For New Storage System:



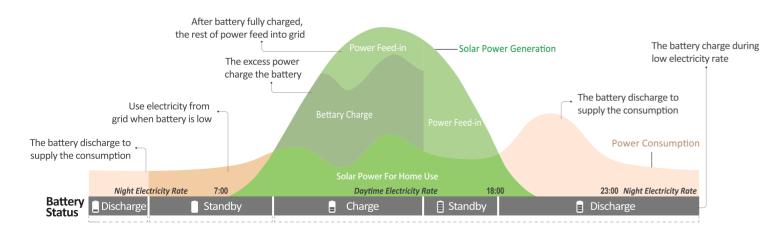
### Optimizing Self-Consumption (on-grid) + Emergency Power Supply (off-grid)





### **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	A FOR THE	AEAK TUD	AFEK TUD	AFEK TUD	AFOK TUD	A E 1 OV TUD	AF12K-THP
	AF3K-THP	AF4K-THP	AF5K-THP	AF6K-THP	AF8K-THP	AF10K-THP	AF1ZK-IFIP
PV Input	_		7.5	0	12	45	10
Max. DC Input Power (kW)	5	6	7.5	9	12	15	18
Max. PV Voltage (V)				1000			
Rated DC Input Voltage (V)				620 150-1000			
DC Input Voltage Range (V)				150-850			
MPPT Voltage Range (V)		200-850		250-850	300-850	500	-850
Full MPPT Range(V)		200-830		160	300-830	300	- 630
Start-up Voltage (V)  Max. DC Input Current (A)				20x2			
Max. Short Current(A)				30x2			
No. of MPPT Tracker / Strings				2/2			
Battery Port				2,2			
Battery Nominal Voltage (V)	100	100	100	150	200	250	300
Battery Voltage Range (V)			80-600		200		-650
Max. Charge/Discharge Current (A)			80-000	50		120	-030
Max. Charge/Discharge Power (kW)	3	4	5	6	8	10	12
Charging Curve				3 Stages		10	12
Compatible Battery Type			Li-ion / Lead-acid	d / Sodium metal	chloride hattery		
AC Grid			, 2200 001	, January metal			
Nominal AC Output Power (kW)	3	4	5	6	8	10	12
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
Max. AC Output Current (A)	5.3	7	8.5	10.5	13.5	17	21.5
Nominal AC Voltage (V)				230/400			
Nominal AC Frenquency (Hz)				50/60			
Power Factor				1 (-0.8-0.8)			
Current THD (%)				<3%			
AC Load Output (Back-up)							
Nominal Output Power (VA)	3000	4000	5000	6000	8000	10000	12000
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	17.4
Peak Output Power	3300VA, 60s	4400VA, 60s	5500VA, 60s	6600VA, 60s	8800VA, 60s	11000VA, 60s	13200VA, 60s
THDV (with linear load)				<3%			
Switching Time (ms)				<10			
Efficiency							
Europe Efficiency				97.50%			
Max. Efficiency		98.	00%		98.	20%	98.30%
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 Enclosure Protect Level				Yes			
General Data				IP65			
Dimensions (W x H x D, mm)				558 x 535 x 260 m	m		
Weight (kg)				29kg	· · · · · · · · · · · · · · · · · · ·		
Topology				Transformerless			
Cooling Concept				Intelligent Fan			
Relative 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-F	i, GPRS, 4G		
Certification & Approvals	NRS09	7, G98/G99, EN50	0549-1, C10/C11, A			i, IEC62109-1, IEC	62109-2
FNAC			FNG	4000 6 2 5116406		,	

EN61000-6-2, EN61000-6-3

28

27

EMC

## **Three Phase Hybrid Storage Inverter**

36-50 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 36kW to 50kW, 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.







VIDE RANGE Voltage Range (150-800V)



100% UNBAL Support Unbalanc



PV OVERSIZE

1.5 Times PV Oversize



MAX. 40Adc UI String Current Up To 40A Sw



JNCTION ime < 10ms



INPUT Support Generator

Support 280AH, 315AH battery system



Support for Time-of-use Optimization



Build in Anti-feed-in Function

2 times AC Oversize

Configurable Operation Modes



100% unbalanced output, each phase





Smart Monitoring & Remote Firmware Upgrade

AF36K-1H	AF4UK-1H	AF50K-TH
54	60	75
	1000	
	620	
	150-1000	
	150-850	
	500-850	
	160	
	40×4	
	48 x 4	
	4/8	
	500	
	150-800	
	120	
36	40	50
	3 Stages	
Li-ion		pattery
36	40	50
72 / 39.6	80 / 44	100/55
	66.77	83.38
	230/400	
	50/60	
	<u>-</u>	
36000	44000	55000
	230/400	
52.2		72.5
		55000VA, 60s
3300077, 003		33000 77, 003
	<10	
00.20%	00.20%	00.20%
98.20%		98.30%
	99.00%	
	1765	
	Intelligent Fan	
	-25 to 60 °C	
	<4000	
	<60	
	<100	
	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 40	G
	36 Li-ion 36 72 / 39.6 60.06	\$4 60  1000 620 1150-1000 1150-850 500-850 500-850 160 40x4 48x4 48x4 4/8  500 1150-800 120 36 40 3 Stages Li-ion / Lead-acid / Sodium metal chloride to the control of the

 $^{19}$ 

# **Monitoring Device & Solution**









PV Sytem Information Push



Multiple Systems In One Account



Cloud Data Synchronization



PC Browser Andriod And Ios



Real-time/ Historical Data Monitoring And Analysis



System Income Calculation



Wi-Fi / Ethernet / GPRS Data Sticker



Power Plant Data Logger



or Jr. G+ III was seen to be a below who don't trick any sleen

Zero injection Smart Meter(optional)

**°**c

Weather Station

## | Global Projects



