


AF-THP Series / 3-12kW

Residential Three Phase Hybrid Inverter




Voltage Range (150-800V)


Support Unbalance Load

Max. 1.5
1.5 Times PV Oversize

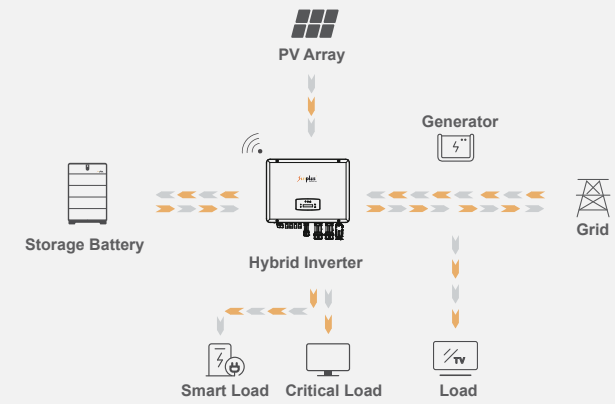
Max. 40A
String Current Up To 40A

<10ms
Switch Time < 10ms

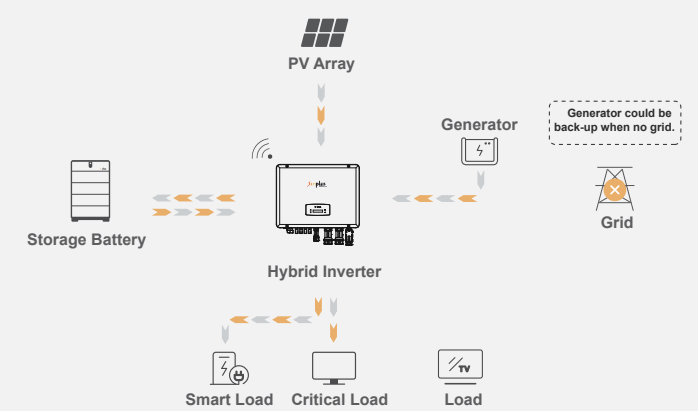

Support Generator

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

Optimizing Self-Consumption (on-grid)

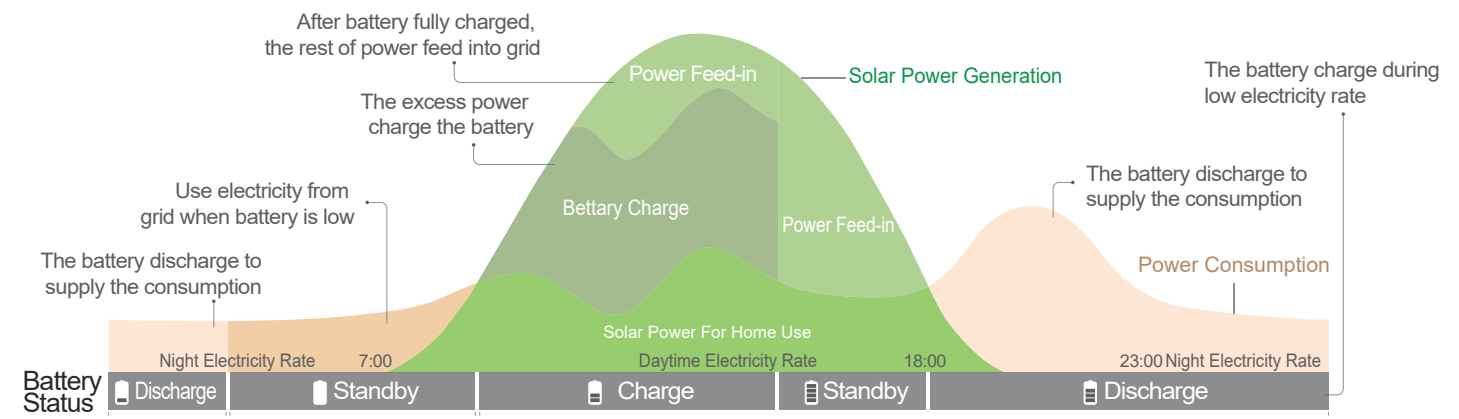


Emergency Power Supply (off-grid)



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.



PV Input	AF3K-THP	AF4K-THP	AF5K-THP	AF6K-THP
Max. DC Input Power (kW)	5	6	7.5	9
Max. PV Voltage (V)		1000		
Rated DC Input Voltage (V)		620		
DC Input Voltage Range (V)		150-1000		
MPPT Voltage Range (V)		150-850		
Full MPPT Range(V)		200-850		250-850
Start-up Voltage (V)		160		
Max. DC Input Current (A)		20x2		
Max. Short Current(A)		30x2		
No. of MPPT Tracker / Strings		2/2		

Battery Port

Battery Nominal Voltage (V)	100	100	100	150
Battery Voltage Range (V)		80-600		
Max. Charge/Discharge Current (A)		50		
Max. Charge/Discharge Power (W)	3K	4K	5K	6K
Charging Curve		3 Stages		
Compatible Battery Type		Li-ion / Lead-acid		

AC Grid Output

Nominal AC Output Power (VA)	3000	4000	5000	6000
Max. AC Input Power	4500	6000	7500	9000
Max. AC Output Current (A)	5.3	7	8.5	10.5
Nominal AC Voltage (V)		230/ 400		
Nominal AC Frequency (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
Nominal Output Voltage (V)		230/ 400		
Nominal Output Frequency (Hz)		50/ 60		
Nominal Output Current (A)	4.4	5.8	7.3	8.7
Peak Output Power	3300VA, 60s	4400VA, 60s	5500VA, 60s	6600VA, 60s
THDV (with linear load)		<3%		
Switching Time (ms)		<10		

Efficiency

Europe Efficiency		97.50%		
Max. Efficiency		98.00%		
Battery Charge/Discharge Efficiency		98.00%		

Protection

Reverse Polarity Protection	Yes
Over Current / Voltage Protection	Yes
Anti-islanding Protection	Yes
AC Short-circuit Protection	Yes
Leakage Current Protection	Yes
Ground Fault Monitoring	Yes
Grid Monitoring	Yes
Enclosure Protect Level	IP65

General Data

Dimensions (W x H x D, mm)	558 x 535 x 260
Weight (kg)	29
Topology	Transformerless
Cooling Concept	Intelligent Fan
Relatively Humidity	0-100%
Operating Temperature Range (°C)	-25 to 60
Operating Altitude (m)	<4000
Noise Emission (dB)	<30
Standby Consumption (W)	<5
Display & Communication Interfaces	LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G
Certification & Approvals	NRS97, G98/G99, EN50549-1, C10/C11, AS 4777, VDE-AR-N4105, VDE0126, IEC62040, IEC62109-1, IEC62109-2
EMC	EN61000-6-2, EN61000-6-3

PV Input	AF8K-THP	AF10K-THP	AF12K-THP
Max. DC Input Power (kW)	12	15	18
Max. PV Voltage (V)		1000	
Rated DC Input Voltage (V)		620	
DC Input Voltage Range (V)		150-1000	
MPPT Voltage Range (V)		150-850	
Full MPPT Range(V)	300-850		500-850
Start-up Voltage (V)		160	
Max. DC Input Current (A)		20x2	
Max. Short Current(A)		30x2	
No. of MPPT Tracker / Strings		2/2	

Battery Port

Battery Nominal Voltage (V)	200	250	300
Battery Voltage Range (V)	80-600		120-650
Max. Charge/Discharge Current (A)		50	
Max. Charge/Discharge Power (W)	8K	10K	12K
Charging Curve		3 Stages	
Compatible Battery Type		Li-ion / Lead-acid	

AC Grid Output

Nominal AC Output Power (VA)	8000	10000	12000
Max. AC Input Power	12000	15000	18000
Max. AC Output Current (A)	13.5	17	21.5
Nominal AC Voltage (V)		230/ 400	
Nominal AC Frequency (Hz)		50/ 60	
Power Factor		1 (-0.8-0.8)	
Current THD (%)		<3%	

AC Load Output (Back-up)

Nominal Output Power (VA)	8000	10000	12000
Nominal Output Voltage (V)		230/ 400	
Nominal Output Frequency (Hz)		50/ 60	
Nominal Output Current (A)	11.6	14.5	17.4
Peak Output Power	8800VA, 60s	11000VA, 60s	13200VA, 60s
THDV (with linear load)		<3%	
Switching Time (ms)		<10	

Efficiency

Europe Efficiency		97.50%	
Max. Efficiency	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-circuit Protection	Yes
Leakage Current Protection	Yes
Ground Fault Monitoring	Yes
Grid Monitoring	Yes
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