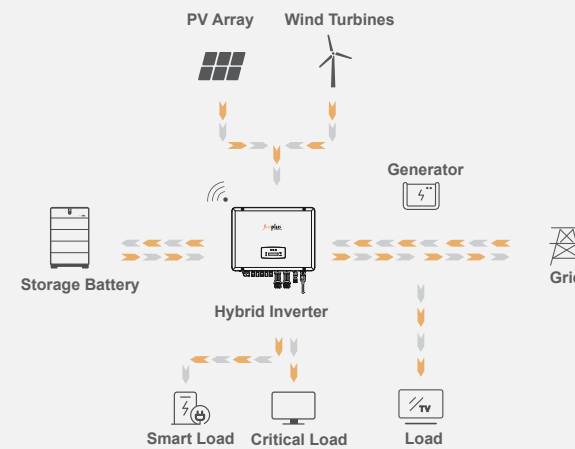


AF-TH Series / 3-30kW

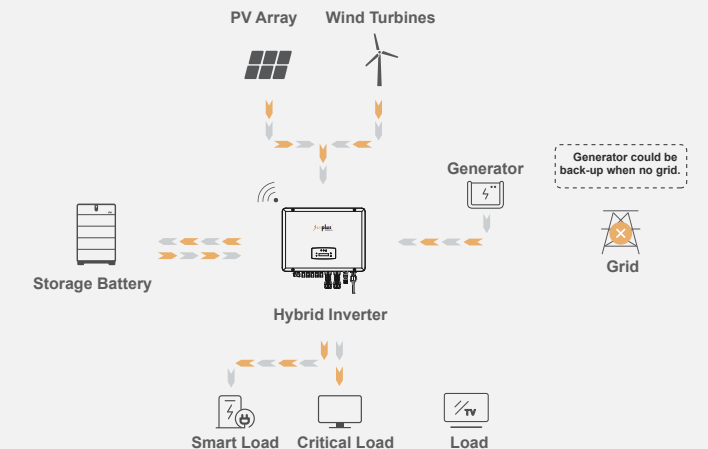
Residential Three Phase Hybrid Inverter



Optimizing Self-Consumption (on-grid)

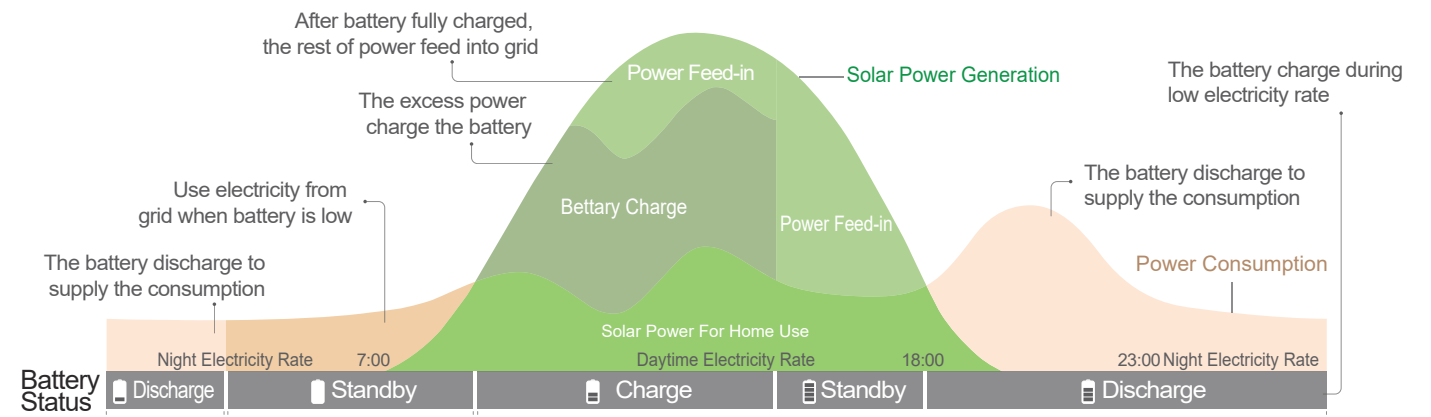


Emergency Power Supply (off-grid)



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.



- Support for Time-of-use Optimization
- Configurable Operation Modes
- AFCI & Rapid Shutdown Ready
- Build in Anti-feed-in Function
- Compact Size and Easy Installation
- Smart Monitoring & Remote Firmware Upgrade



Voltage Range (150-800V)



Support Unbalance Load

Max. 1.5

1.5 Times PV Oversize

Max. 32A

String Current Up To 32A

< 10ms

Switch Time < 10ms



Support Generator & Wind Turbines

PV Input	AF3K-TH	AF4K-TH	AF5K-TH	AF6K-TH	AF8K-TH	AF10K-TH
Max. DC Input Power (kW)	5	6	7.5	9	12	15
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		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	200	200	250	300	400
Battery Voltage Range (V)						150-800
Max. Charge/Discharge Current (A)						30
Max. Charge/Discharge Power (W)	3K	4K	5K	6K	8K	10K
Charging Curve						3 Stages
Compatible Battery Type						Li-ion / Lead-acid

AC Grid Output

Nominal AC Output Power (VA)	3000	4000	5000	6000	8000	10000
Max. AC Input Power	4500	6000	7500	9000	12000	15000
Max. AC Output Current (A)	5.3	7	8.5	10.5	13.5	17
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	8000	10000
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
Peak Output Power	3300VA, 60s	4400VA, 60s	5500VA, 60s	6600VA, 60s	8800VA, 60s	11000VA, 60s
THDV (with linear load)						<3%
Switching Time (ms)						<10

Efficiency

Europe Efficiency			97.50%			
Max. Efficiency	98.00%				98.20%	
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 Detection						Yes
Ground Fault Monitoring						Yes
Grid Monitoring						Yes
Enclosure Protect Level						IP65

General Data

Dimensions (H x W x D) (mm)						460 x 556 x 242
Weight (kg)	20				22	
Topology						Transformerless
Cooling Concept	Natural Convection			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	AF12K-TH	AF15K-TH	AF17K-TH	AF20K-TH	AF25K-TH	AF30K-TH
Max. DC Input Power (kW)	18	22.5	25.5	30	37.5	45
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)						500 - 850
Start-up Voltage (V)						160
Max. DC Input Current (A)	20x2	20+32	32x 2		40x2	
Max. Short Current(A)	30x2	30+48	48x 2		60x2	
No. of MPPT Tracker / Strings	2/2	2/3	2/4		2/4	

Battery Port

Battery Nominal Voltage (V)	450	500	400	500	500	550
Battery Voltage Range (V)						150-800
Max. Charge/Discharge Current (A)	30	50	50	50	60	60
Max. Charge/Discharge Power (W)	12K	15K	17K	20K	25K	30K
Charging Curve						3 Stages
Compatible Battery Type						Li-ion / Lead-acid

AC Grid Output

Nominal AC Output Power (VA)	12000	15000	17000	20000	25000	30000
Max. AC Input Power	18000	22500	25500	30000	37500	45000
Max. AC Output Current (A)	21.5	27	30	32	40	48
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)	12000	15000	17000	20000	25000	30000
Nominal Output Voltage (V)						230/ 400
Nominal Output Frequency (Hz)						50/ 60
Nominal Output Current (A)	17.4	21.8	24.8	29	36.3	43.5
Peak Output Power	13200VA, 60s	16500VA, 60s	18700VA, 60s	22000VA, 60s	27500VA, 60s	33000VA, 60s
THDV (with linear load)						<3%
Switching Time (ms)						<10

Efficiency

Europe Efficiency	97.50%		97.80%		98.00% 98.10%	
Max. Efficiency	98.30%				98.50%	
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 Detection						Yes
Ground Fault Monitoring						Yes
Grid Monitoring						Yes
Enclosure Protect Level						IP65

General Data

Dimensions (H x W x D) (mm)						460 x 556 x 242
Weight (kg)	22		28		35	
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				<40	
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