







# AF-TH-0 Series / 3- 30kW

Three Phase AC Coupled Inverter



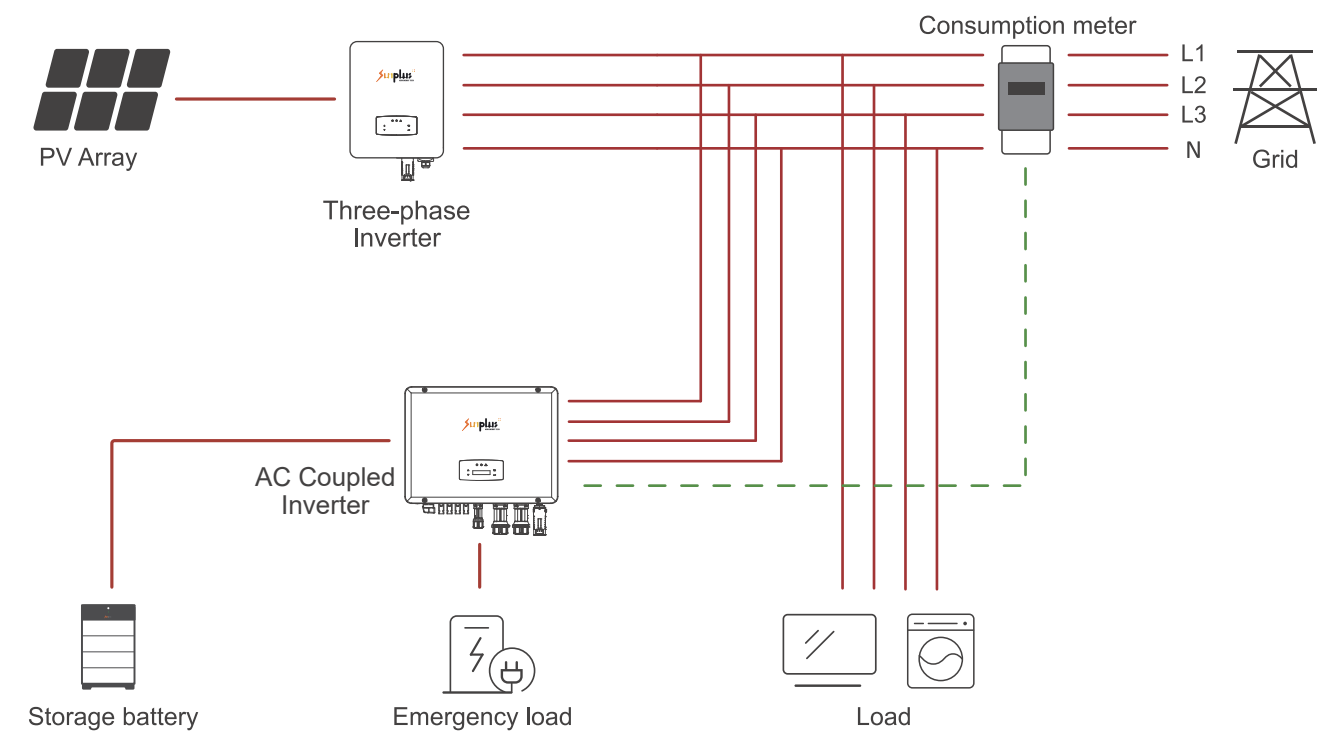
-  Support sodium-ion battery
-  Voltage Range (150-800V)
-  Max. Charge/ Discharge Current 60A
-  Support Unbalance Load
- <10ms**  
Switch Time < 10ms
-  Smart EMS/BMS
-  Island support

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

## Retrofitting Storage Solution on Existing Solar System:

Adding battery storage to an existing solar system enables homeowners to store their solar PV generated electricity instead of export it to the grid. More savings on your electricity bill.

### Three Phase AC Coupled (Retro Fit)



Battery	AF3K-TH-0	AF4K-TH-0	AF5K-TH-0	AF6K-TH-0	AF8K-TH-0	AF10K-TH-0
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 (kW)	3 / 3.3	4 / 4.4	5 / 5.5	6 / 6.6	8 / 8.8	10 / 11
Charging Curve	3 Stages					
Compatible Battery Type	Li-ion / Sodium-ion battery					

### AC Grid

Nominal AC Output Power (kW)	3	4	5	6	8	10
Max. AC Input/Output Power (kVA)	4.5 / 3	6 / 4	7.5 / 5	9 / 6	12 / 8	15 / 10
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) adjustable					
Current THD (%)	< 3 %					

### AC Load Output

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

Max. Efficiency	98.00 %	98.20 %
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### 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
Protective class	Class I
Overvoltage category	OVC III (AC Main)

### General Data

Dimensions (W x H x D, mm)	370 x 497 x 192	
Weight (kg)	20.8kg	
Topology	Transformerless	
Cooling Concept	Natural Convection	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-Fi, GPRS, 4G	
Certification & Approvals	NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2	
EMC	EN61000-6-2, EN61000-6-3	

Battery	AF12K-TH-0	AF15K-TH-0	AF17K-TH-0	AF20K-TH-0	AF25K-TH-0	AF30K-TH-0
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 (kW)	12 / 13.2	15 / 16.5	17 / 18.7	20 / 22	25 / 27.5	30 / 33
Charging Curve	3 Stages					
Compatible Battery Type	Li-ion / Sodium-ion battery					

### AC Grid

Nominal AC Output Power (kW)	12	15	17	20	25	30
Max. AC Input/Output Power (kVA)	18 / 12	22.5 / 15	25.5 / 17	30 / 20	37.5 / 25	45 / 30
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) adjustable					
Current THD (%)	< 3 %					

### AC Load Output

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

Max. Efficiency	98.30 %	98.50 %
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### 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
Protective class	Class I
Overvoltage category	OVC III (AC Main)

### General Data

Dimensions (W x H x D, mm)	370 x 497 x 192	558 x 535 x 260	
Weight (kg)	20.8kg	29kg	36kg
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-Fi, GPRS, 4G		
Certification & Approvals	NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2		
EMC	EN61000-6-2, EN61000-6-3		