



# Arnergy 3kVA Inverter



[www.arnergy.com](http://www.arnergy.com)

# Product Features



## Key Features:



Modular



Plug & Play



Safety



Long Life-Span

★ **2 Years**

**WARRANTY** ★

GUARANTEED

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# Product Features



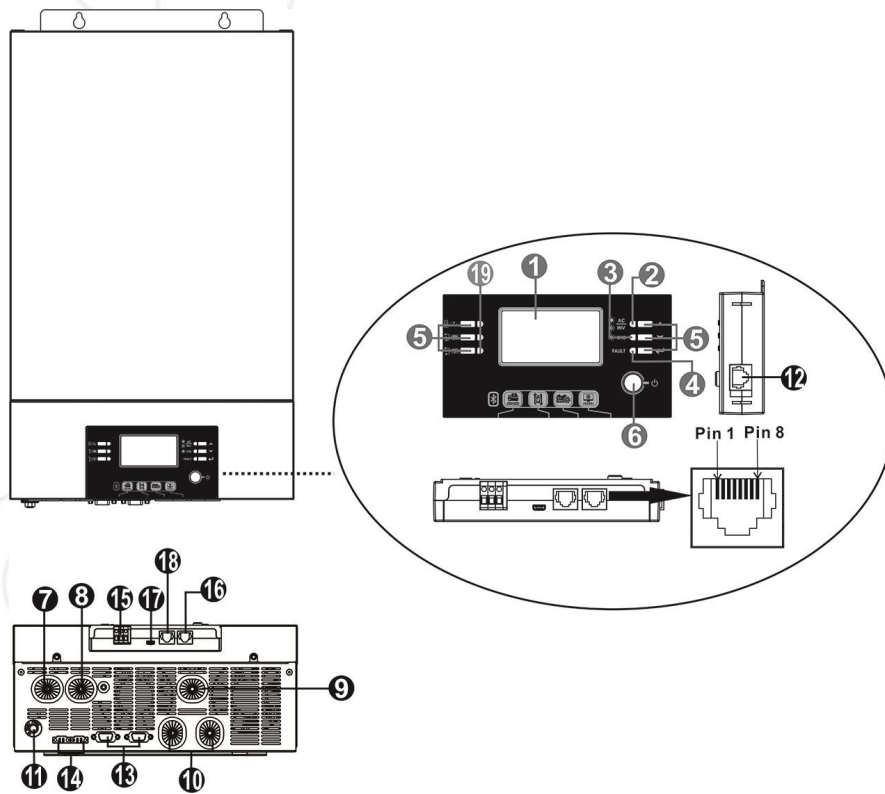
## Physical

Nominal Output Power	3000W
Max. AC Input Power	3000W
Nominal Input Voltage	230VAC
Input Voltage Range	280VAC
Battery Voltage	24V
Rated Frequency	50Hz/60Hz (Auto sensing)
Phase	Single Phase

Dimension (W X D X H)	303 x 140 x 525 mm
Weight	13.0kg
Transfer Time	0ms
Maximum PV Array Open Circuit Voltage	145V
Maximum AC Charger Current	60A
Maximum Solar Charger Current	60A
Total Charging Current	120A

MPPT Number	1
IP Protection	IP21
Warranty	2 years

# Product Features



- |                        |  |
|------------------------|--|
| 1. LCD display         | 11. Circuit breaker  |
| 2. Status indicator    | 12. Remote LCD panel communication port                    |
| 3. Charging indicator  | 13. Parallel communication cable (only for parallel model) |
| 4. Fault indicator     | 14. Current sharing cable (only for parallel model)        |
| 5. Function buttons    | 15. Dry contact  |
| 6. Power on/off switch | 16. RS-232 communication port                              |
| 7. AC input            | 17. USB port   |
| 8. AC output           | 18. BMS communication port: CAN and RS232 or RS485         |
| 9. PV input            | 19. LED indicator for USB function settings                |
| 10. Battery input      |  |

**NOTE:** For parallel model installation and operation, please check separate parallel installation guide for the details

# Product Features



## Recommended battery cable and terminal size:

Typical Amperage	Battery Capacity	Wire Size	Ring Terminal		Torque Value
			Cable mm <sup>2</sup>	Dimensions	
200A	200AH	1*1/0AWG	60	(D) 6.4 mm (L) 49.7 mm	2~3 Nm
		2*4AWG	44	(D) 6.4 mm (L) 49.7 mm	

## Dry Contact Signal

There is one dry contact (3A/250VAC) available on the rear panel. It could be used to deliver signal to external device when battery voltage reaches warning level.

Unit Status		Condition		Dry contact port:	
				NC & C	NO & C
Power Off		Unit is off and no output is powered.		Close	Open
		Output is powered from Utility.		Close	Open
Power On	Output is powered from battery power or Solar energy	Program 01 set as USB (utility first)	Battery voltage < Low DC warning voltage	Open	Close
			Battery voltage > Setting value in Program 13 or battery charging reaches floating stage	Close	Open
		Program 01 is set as SBU (SBU priority) or SUB (solar first)	Battery voltage < Setting value in Program 12	Open	Close
			Battery voltage > Setting value in Program 13 or battery charging reaches floating stage	Close	Open

# Specifications



Table 1 Line Mode Specifications

Inverter Model	3KW
Input Voltage Waveform	Sinusoidal
Nominal Input Voltage	230Vac
Low Loss Voltage	110Vac± 7V
Low Loss Return Voltage	120Vac± 7V
High Loss Voltage	280Vac± 7V
High Loss Return Voltage	270Vac± 7V
Max AC Input Voltage	300Vac
Nominal Input Frequency	50Hz / 60Hz (Auto detection)
Low Loss Frequency	46(56)± 1Hz
Low Loss Return Frequency	46.5(57)± 1Hz
High Loss Frequency	54(64)± 1Hz
High Loss Return Frequency	53(63)± 1Hz
Power Factor	>0.98
Output Short Circuit Protection	Line mode: Circuit Breaker Battery mode: Electronic Circuits
Efficiency (Line Mode)	93% (Peak Efficiency)
Transfer Time	Line mode<->Battery mode 0ms Inverter<->Bypass 4ms



# Specifications

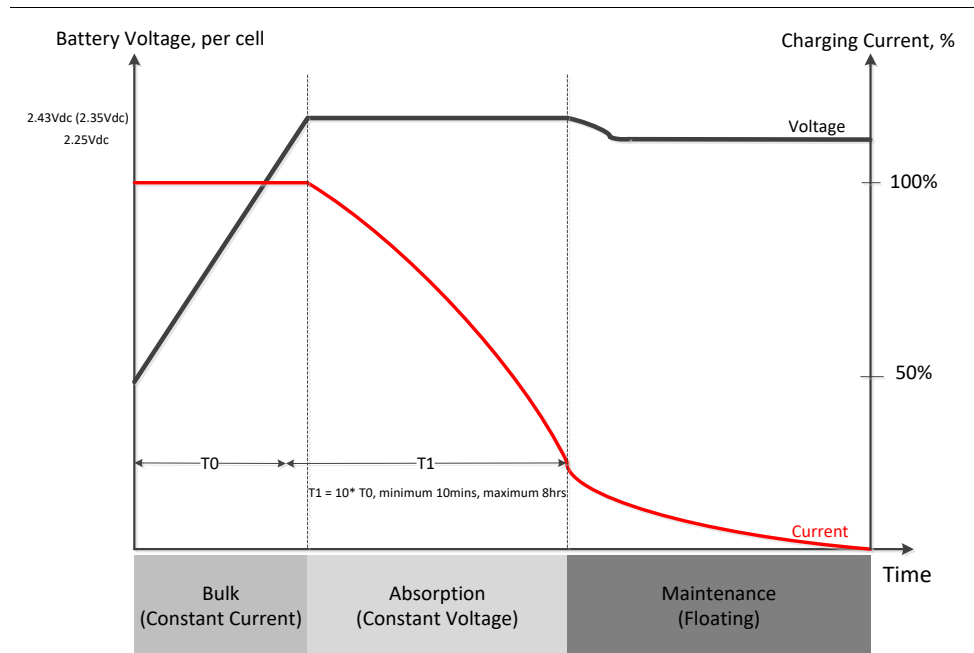
Table 2 Battery Mode Specifications

Inverter Model	3KW
Rated Output Power	3KVA/3KW
Output Voltage Waveform	Pure Sine Wave
Output Voltage Regulation	230Vac± 5%
Output Frequency	50Hz or 60Hz
Peak Efficiency	90%
Overload Protection	5s@≥150% load; 10s@105%~150% load
Surge Capacity	2* rated power for 5 seconds
Nominal DC Input Voltage	24Vdc
Operating Range	20Vdc -34Vdc
Cold Start Voltage	23Vdc
Low DC Warning Voltage	
@ load < 50%	22.5Vdc
@ load ≥ 50%	22.0Vdc
Low DC Warning Return Voltage	
@ load < 50%	23.5Vdc
@ load ≥ 50%	23.0Vdc
Low DC Cut-off Voltage	
@ load < 50%	21.5Vdc
@ load ≥ 50%	21.0Vdc
High DC Recovery Voltage	32Vdc
High DC Cut-off Voltage	34Vdc
No Load Power Consumption	<75W

Table 3 Charge Mode Specifications

Inverter Model		3KW
Charging Current @ Nominal Input Voltage		Default: 30A, max: 60A
Bulk	Flooded Battery	29.2Vdc
Charging	AGM / Gel Battery	28.2Vdc
Voltage		
Floating Charging Voltage		27Vdc
Overcharge Protection		34Vdc
Charging Algorithm		3-Step

Charging Curve





# Specifications



## Solar Charging Mode (MPPT type)

Inverter Model	3KW
Rated Power	1500W
Maximum charging current	60A
Efficiency	98.0% max
Max. PV Array Open Circuit Voltage	145Vdc
PV Array MPPT Voltage Range	30~115Vdc
Battery Voltage Accuracy	+/-0.3%
PV Voltage Accuracy	+/-2V
Charging Algorithm	3-Step
Joint Utility and Solar Charging	
Max Charging Current	120A
Default Charging Current	60A

Table 4 ECO/Bypass Mode Specifications

Inverter Model	3KW
Input Voltage Waveform	Sinusoidal
Low Loss Voltage	176Vac± 7V
Low Loss Return Voltage	186Vac± 7
High Loss Voltage	280Vac± 7V
High Loss Return Voltage	270Vac± 7V
Nominal Input Frequency	50Hz / 60Hz (Auto detection)
Low Loss Frequency	46(56)± 1Hz
Low Loss Return Frequency	46.5(57)± 1Hz
High Loss Frequency	54(64)± 1Hz
High Loss Return Frequency	53(63)± 1Hz

Table 5 General Specifications

Inverter Model	3KW
SCC type	MPPT
Parallel-able	YES
Communication	RS232 and Bluetooth
Safety Certification	CE
Operating Temperature Range	0°C to 55°C
Storage temperature	-15°C~ 60°C
Humidity	5% to 95% Relative Humidity (Non-condensing)
Dimension (D*W*H), mm	140 x 303 x 525
Net Weight, kg	13.0