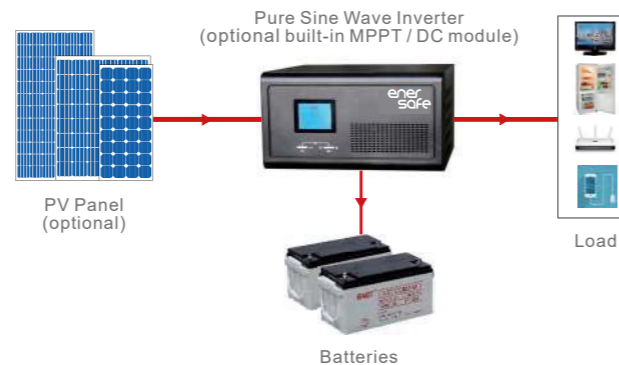


## Pure Sine Wave Inverter

300 W ~ 3500 W



The Pure Sine Wave Inverter is desirable long backup power solution for home and office appliances. It is not only an inverter but also contains a powerful intelligent charger. It provides pure sine wave power to all kinds of loads. And it can be used as UPS for computers as well.



### Features

- DSP digital control technology
- Pure sine wave output
- Suitable for all kinds of loads, such as resistive, inductive and rectified loads and motors
- Use of pulse by pulse technology, improving load shock ability
- Charge current Max.60 A. Settable charge current and charge voltage on front panel
- Settable no-load shutdown and energy saving mode
- Short circuit, overload and low battery protection
- Intelligent long backup time up to 10 hrs (based on battery bank and loads)
- Compatible with generators, and matching of inverter and generator is settable
- Unique functions: optional built-in MPPT module enables the inverter to work as off-grid solar inverter, optional DC module enables the inverter to apply to communications, router, switch, mobile charging, DC fans and illumination



### Rear Panel

1. Input
2. Output
3. Battery Breaker
4. Battery Input
5. Fuse
6. AC Breaker
7. Fan
8. DC Output (optional)
9. MPPT Module (optional)

### Specifications

MODEL	300 W	600 W	1000 W	1600 W	2500 W	3500 W
<b>DC INPUT</b>						
Nominal input voltage	12 V		24 V			
DC input voltage range	10 ~ 15 V		20 ~ 30 V			
<b>AC INPUT</b>						
Bypass voltage	0 ~ 264 Vac for 220 / 230 / 240 Vac, 0 ~ 132 Vac for 100 / 110 / 115 / 120 Vac					
AC voltage	150 ~ 282 Vac for 220 Vac, 156 ~ 294 Vac for 230 Vac, 163 ~ 307 Vac for 240 Vac, 68 ~ 128 Vac for 100 Vac, 75 ~ 141 Vac for 110 Vac, 79 ~ 148 Vac for 115 Vac, 82 ~ 154 Vac for 120 Vac					
Frequency	50 / 60 Hz (auto-sensing & settable: 5% ~ 15%, default 15%), 42.5 ~ 57.5 Hz for 50 Hz, 51 ~ 69 Hz for 60 Hz					
Input voltage of generator	99 ~ 282 Vac for 220 Vac, 104 ~ 294 Vac for 230 Vac, 108 ~ 307 Vac for 240 Vac, 45 ~ 128 Vac for 100 Vac, 50 ~ 141 Vac for 110 Vac, 52 ~ 148 Vac for 115 Vac, 54 ~ 154 Vac for 120 Vac					
Input frequency of generator	40 ~ 70 Hz					
Input power limitation	Rated power 10% ~ 150%, regulating step 10%, default 120%					
<b>OUTPUT</b>						
DC mode output voltage	220 / 230 / 240 Vac ± 5% or 100 / 110 / 115 / 120 Vac ± 5% (settable)					
AC mode output voltage	174 ~ 242 Vac for 220 Vac, 182 ~ 253 Vac for 230 Vac, 190 ~ 264 Vac for 240 Vac, 79 ~ 109 Vac for 100 Vac, 87 ~ 121 Vac for 110 Vac, 93 ~ 125 Vac for 115 Vac, 95 ~ 133 Vac for 120 Vac					
Nominal output frequency	50 / 60 Hz ± 0.3 Hz (auto-sensing & settable)					
Output waveform	Pure sine wave					
Output power	300 W	600 W	1000 W	1600 W	2500 W	3500 W
Efficiency	Max. 95% (mains mode); Max. 80% (inverter mode)					
ECO mode	Settable, load < 3%, enter in 80 s					
No-load shutdown	Settable, time can be set (1 ~ 99 min), load can be set (3% ~ 50%)					
Transfer time	≤ 10 ms			≤ 15 ms		
Power factor	1.0					
THDv	< 5% (linear load)					
Inductive load	Yes					
Motor load	Yes					
Rectifier load	Yes					
Overload	Mains mode: 110% for 120 s, 125% for 60 s, 150% for 10 s (switch to bypass) Inverter mode: 110% for 60 s, 125% for 10 s, 150% for 10 s (shut down)					
<b>BATTERIES</b>						
Charging current (selectable)	Default 10 A	Default 20 A, regulating step 1 A (< 10 A) / 5 A (> 10 A)				
	Max. 15 A	Max. 30 A	Max. 40 A	Max. 40 A	Max. 50 A	Max. 60 A
Equalizing charge voltage	Single battery 14.4 Vdc (default), 13.6 ~ 15 Vdc adjustable					
Floating charge voltage	Single battery 13.7 Vdc (default), 13.2 ~ 14.6 Vdc adjustable					
Charge mode	3 stage charge mode					
DOD	Single battery 10.8 Vdc (default), 9.6 ~ 13 Vdc settable					
EOD	Single battery 10.2 Vdc (default), 9.6 ~ 11.5 Vdc adjustable					
Reverse warning	Buzzer					
<b>MPPT MODULES (OPTIONAL)</b>						
Model	10 A / 20 A / 30 A / 40 A			/		
Max. PV input voltage (Voc)	40 V		60 V		/	
PV optimum operating voltage (Vmp)	18 V ~ 32 V		29 V ~ 48 V		/	
Max. PV power	120 W / 240 W / 360 W / 480 W		240 W / 480 W / 720 W / 960 W		/	
<b>DC MODULES (OPTIONAL)</b>						
Model	5 V (2 A), 9 V / 12 V (1 A), 15 V / 24 V (1 A), 12 V / 24 V (10 A)					
<b>OTHERS</b>						
Protections	Overload - short-circuit - overvoltage - undervoltage - overcharge - overtemperature - excessive low battery					
Human-machine interface	LCD & BUZZER					
Operating temperature	0 ~ 40					
Operating humidity	Relative humidity ≤ 93%					
Net weight (kg)	8.0 / 8.5 / 7.4	10.9 / 11.4 / 11	14.0 / 14.6	18.0 / 18.5	32.0	36.0
Gross weight (kg)	9.0 / 9.5 / 8.4	11.9 / 12.4 / 12	15.0 / 15.6	19.0 / 19.5	34.0	38.0
Dimensions (W × D × H) (mm)	280×258×120 (w / o option) 293×280×160 (w / option) 400×210×127 (Wall mounted)		293 × 280 × 160		302 × 479 × 209	
Packaged dimensions (W × D × H) (mm)	330×352×200 (w / o option) 370×355×235 (w / option) 490×290×195 (Wall mounted)		370 × 355 × 235		353 × 582 × 287	

• All specifications are subject to change without notice.  
• Custom-made specifications are acceptable.

# Modified Sine Wave Inverter

1200 VA ~ 2400 VA



ener safe

The Modified Sine Wave Inverter is a DC-to-AC inverter with auto line-to-battery transfer and integrated charging system, serving as an extended-run UPS, is a standalone power source or a home inverter as well. It supplies power from AC power and DC source. When AC cable is connected to a wall outlet, utility power goes to connected equipment and/or charges the batteries via the charging system. In battery mode, it automatically converts battery energy into AC power for backing up the connected devices.

## Features

- Automatic Line to Battery transfer
- Rack / Tower design, installation versatility
- Adjustable wider input voltage range and charging current
- Intelligent charging control, efficient charging
- Auto restart when mains power is restored
- Superior protection: low battery, overcharge, overload, overtemperature and short circuit
- High load-bearing capacity, supporting various household loads and IT equipment (< 50% half-wave load, < 30% inductive load)

## Specifications

MODEL	1200 VA	1500 VA	2400 VA
Capacity	720 W	900 W	1440 W
<b>INPUT</b>			
Rated voltage	220 / 230 / 240 Vac (selectable)		
Voltage range	220 / 230 / 240 Vac, -22% / -59% ~ +26%, ± 5 Vac (selectable)		
Rated frequency	50 / 60 Hz (auto-sensing)		
Frequency range	± 10% (default), ± 5% ~ 15% (selectable)		
<b>OUTPUT</b>			
Power factor	0.6		
Output voltage	Battery mode: 220 / 230 / 240 Vac±10% (selectable) Mains mode: synchronized with utility power		
Output frequency	Battery mode: 50 / 60 Hz±1% (selectable); Mains mode: synchronized with utility power		
Output waveform	Battery mode: square wave; Mains mode: synchronized with utility power		
Inversion efficiency	≥ 83% (max.)	≥ 85% (max.)	
IT equipment	Yes		
Half-wave load	≤ 50% (rated load)		
Inductive load	≤ 30% (rated load)		
<b>BATTERIES</b>			
Rated voltage	12 Vdc	24 Vdc	
Charging current (Max.)	20 / 10 A ± 3 A (selectable)	15 / 10 A ± 3 A (selectable)	
Equalizing charge voltage	Single battery 14.2 ± 0.3 Vdc (default), 13.6 ~ 15.0 Vdc (selectable)		
Floating charge voltage	Single battery 13.6 ± 0.3 Vdc		
Low voltage alarm	Single battery 10.8 ± 0.3 Vdc (default), 9.6 ~ 13.0 Vdc (selectable)		
Low voltage shutdown	Single battery 10.2 ± 0.3 Vdc (default), 9.6 ~ 12.0 Vdc (selectable)		
Overvoltage protection	Single battery 15.0 ± 0.3 Vdc		
Overvoltage recovery	Single battery 13.6 ± 0.3 Vdc		
<b>SYSTEM</b>			
Transfer time	≤ 8 ms (typical) , ≤ 15 ms (max.)		
Protections	Overload, short circuit, over-temperature, output over/under-voltage, excessive low battery		
Overload times (Mains mode)	≥ 110% for 120 s, ≥ 125% for 60 s, ≥ 150% for 10 s, ≥ 200% for 1 s		
Overload times (Battery mode)	≥ 110% for 60 s, ≥ 125% for 5 s, ≥ 150% for 1 s		
Communication interface	No		
Panel display	LCD + LED		
<b>OTHERS</b>			
Operating temperature	0 ~ 45		
Operating humidity	0 ~ 95% (no-condensing)		
Altitude	≤ 1000 m (Above 1000 m, derating 1% for each additional 100 m)		
IP rating	IP20		
Cooling	Forced-air cooling		
Noise	< 45 dB		
Dimensions (W x D x H) (mm)	245 x 220 x 80		
Packaged dimensions (W x D x H) (mm)	315 x 290 x 156		
Net weight (kg)	2.66	2.68	2.82
Gross weight (kg)	3.02	3.04	3.18

Note: "Selectable" can be customized according to customer requirements.