

Model # HG2000

220/230/240V, 50/60Hz, 2000VA, 24VDC Smart Combined Inverter/Charger



**Product Description:** Magnizon's HG series is a Smart DC-to-AC inverter with auto line-to-battery transfer and integrated Battery charge, serving as an extended run UPS, a standalone power source or an automotive inverter. HG series Smart inverter supplies power from AC power and DC source. When AC cable is connected to a wall socket, utility power goes to connected equipment(s) and/or charges the battery set via charging system. In battery mode, Smart inverter automatically converts battery energy into AC power for backing up the connected devices. Large LCD displays real time information along with operational schemes, and can also display error codes for easy repair and maintenance. Reliable transformer less IGBT based design and frequency controlled power, very much compatible to all domestic loads: refrigerators, TV's, Computers, and power tool and battery chargers. Smart micro controller based 3-stage built in charging system properly charge and maintain battery bank.

## Applications:

- Well designed for applications where grid power is not stable or brownouts.
- Versatile inverter/charger with PWM Sine wave system with seamless transfer switching serves as an automotive inverter for RVs, trucks, standalone alternative power source with high end back up times with various battery technologies(VRLA, GEL, Deep cycle and many more)
- Perfectly suitable for Off-grid and Hybrid applications using additional MPPT controller
- Small PV plants for houses/villas and small offices.
- Remote closets and small computer room applications.

## Key Feature:

- 24V DC or 220/230/240V AC input; 220/230/240V, 50 /60Hz output
- 2000VA continuous output with double boost capacity.
- Microprocessor controlled Smart volume design
- Built in 8~20A Smart Utility based battery charger
- PWM Sine wave output
- Automatic line-to-battery switchover
- High efficient DC-to-AC conversion, minimizing energy loss
- Rack design & wall-mounted design for flexible installation
- Intelligent 3-stage charger control for efficient charging and preventing overcharge of battery
- Auto restart while AC recovery
- User-friendly LCD+LED indications
- Multiple protection: low battery alarm, low battery shutdown, over
- charged protection, overload protection, over temperature protection, short circuit protection
- With the environmental temperature control charge management
- Quiet, high efficiency operation, high surge capacity and low idle current
- CE Safety
- Compatible to mains voltage or generator power
- Auto restart while AC is recovering
- Overload, over temperature and battery deep discharge protection

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## Specifications:

Model	HG2000
Rated Power	2000VA
INPUT AC	
Nominal Input Voltage	220/230/240V AC
Low Loss Voltage	170V AC +/- 7V (UPS mode)
	90V AC +/- 7V (Appliance mode)
Low loss return Voltage	180V AC +/- 7V (UPS mode)
	100V AC +/- 7V (Appliance mode)
High loss Voltage	280VAC +/- 7V
High loss Return Voltage	270VAC +/- 7V
Max AC input voltage	300V AC
Frequency Range	50Hz/60Hz (auto sensing)
Low loss frequency	40+/-1Hz
Low loss return frequency	42+/-1Hz
High loss frequency	65+/-1Hz
High loss return frequency	63+/-1Hz
Efficiency	>97%
OUTPUT	
AC Voltage Regulation	230V AC +/- 5%
Rated Output Power	2KVA/1.6KW
Output Voltage Waveform	PWM Sine wave
Output Frequency	50Hz/60Hz (auto sensing)
Surge Power	4000VA
Efficiency	95-97%
Over Load protection	5sec @>150% load; 10sec@110~150% load
Nominal DC input Voltage	24V DC
Cold Start Voltage	23.0V DC
Low DC Warning Voltage	
@load < 20%	22.0V DC
@ 20% < load < 50%	21.4V DC
@ load > 50%	20.2V DC
Low DC Warning Return Voltage	
@load < 20%	23.0V DC
@ 20% < load < 50%	22.4V DC

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@ load > 50%	21.2V DC
<b>Low DC Cut-off Voltage</b>	
@load < 20%	21.0V DC
@ 20% < load < 50%	20.4V DC
@ load > 50%	19.2V DC
High DC Recovery Voltage	29V DC
High DC Cut-off Voltage	31V DC
No Load Power Consumption	<10W
Saving Mode Power Consumption	<5W
Transfer Time	6-10mSec
Efficiency	90~93%
<b>Charge Mode Specs (AC charger)</b>	
Battery Voltage	24V DC
Floating Charge Voltage	27V DC
Overcharge Protection	31V DC
Maximum Charge Current	8~20A
Bulk Charging Voltage (Flooded Battery)	29.2V DC
Bulk Charging Voltage (AGM/GEL battery)	28.2V DC
Charging Algorithm	3-Stage (CC-CV-Floating)
<b>Display Indicators</b>	
AC/DC mode	Displays output power, Output Voltage etc
Battery Mode	Yes. Battery symbol flickers every one sec
Battery	Displays Battery charge status
Fault	Displays fault codes (refer the service manual)
<b>Audible Alarm</b>	
Low Battery at Battery Mode	Sounding every 2 seconds
Over Load	Sounding every 0.5seconds
Faults	Continuous sounding
<b>Protection</b>	
Battery deep discharge Protection	Yes
Battery Over charge protection	Yes
Inverter Over load protection	Yes
Over temperature protection	Yes
<b>General Specs</b>	
Dimension (WxHxD-mm)	224*255*80mm

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<b>Net Weight (kgs)</b>	3.2kgs
<b>Humidity</b>	5% to 95% Relative Humidity (non-condensing)
<b>Operating Temperature</b>	0degC to 40deg C
<b>Storage Temperature</b>	-15degC to 50degC
<b>Noise Level</b>	less than 50dB
<b>Quality/Safety standards</b>	ISO9001:2015/ISO14001:2015
<b>Safety</b>	EMC/CE/ROHS
<b>Certification/Confirmity</b>	
<b>Disturbance at Mains Terminals</b>	EN61000-6-3:2007+ A1: 2011+ AC:2012
<b>Radiated Disturbance</b>	EN61000-6-3:2007+ A1: 2011+ AC:2012
<b>Harmonic Current Emission</b>	EN61000-3-12: 2011
<b>Voltage fluctuations &amp; flickering</b>	EN61000-3-11: 2000
<b>Electrostatic Discharge (ESD)</b>	IEC 6100-4-2:2008
<b>Radio-frequency &amp; continuous radiated disturbances</b>	IEC 6100-4-3:2006 + A1:2007 + A2:2010
<b>EFT/B Immunity</b>	IEC 6100-4-4:2012
<b>Surge immunity</b>	IEC 6100-4-5:2014
<b>Conducted RF immunity</b>	IEC 6100-4-6:2013
<b>Power frequency magnetic field</b>	IEC 6100-4-8:2009
<b>Voltage DIP, &gt;95% reduction</b>	IEC 6100-4-11:2004
<b>Voltage DIP, &gt;30% reduction</b>	IEC 6100-4-11:2004
<b>Voltage Interruption</b>	IEC 6100-4-11:2004

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