Model # HSP2024SW-LCD

Magnizon Smart HSP series inverter/charger with duel operational modes with built in Advanced MPPT solar charge controller minimizes the hassles of Solar installation especially in hybrid environments. Large LCD display with functional keys to select various parameters and displays real time information, selecting the modes of operation, Battery charger current settings etc along with operational schemes. Day time will be supported through solar panels and night time or rainy days will be with batteries and Utility power with intelligent microprocessor based automatic switching. Reliable Smart Micro controller technology with advanced IGBT design and frequency controlled power, very much compatible to all varieties of loads: resistive/inductive loads such as refrigerators, motors, pumps, compressors and laser printers as well as electronic loads like TV's, Computers, power tool and battery chargers. Smart micro controller based 3-stage built in charging system properly charge and maintain battery bank in the obscene of solar power or rainy days. The charge rate is selectable so you can use a variety of battery sizes and types to fit your back up time requirements.

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Applications:

- Solar power stations
- Home solar power systems
- Industrial Solar power storage
- DC wind turbine stations
- Health care/Banking/Commercial applications
- Telecom applications

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Key features:

- Micro controller based Smart hybrid technology
- Pure sine wave output
- Dual Chargers (Built-in MPPT Solar controller and AC mode battery Charger)
- **With Two charging mode:** AC charging mode and solar charging mode, solar charging priority
- **Can Choose Two work mode:** Solar-Grid-Battery, Solar-Battery-Grid, can choose from LCD display
- **Intelligent detecting function:** This system microprocessor can continually on-line detect power status, breaker status and all the working status of the circuit.
- **Excellent load feature:** It is completely capable to load from 0-100% while no need to change to bypass, which make sure the output reliable.
- **Intelligent communication-URL based remote monitoring and operation:** With RS232 and RS485 standard collocation, optional SNMP and dry contact
- **Perfect protection:** Input/output over/low voltage protection, input surge protection, phase sequence protection, battery over charge/discharge protection, short circuit protection, over-temperature protection and so on, as well as alarm function.
- **Selectable battery inspection module:** Can test the single parameter and display on the LCD, battery failure will immediately alarm and inform the administrator.

Operational Modes:

- **PV-Grid-Battery:** Magnizon HSP series solar inverter is designed for real-time load sharing function between solar & utility. Solar power priority mode, PV power supply power to inverter via built-in MPPT controller and then the output will be pure sine wave AC power to support load via inverter meanwhile MPPT controller will also charges battery. When solar power is not enough, then utility power will support power to load. If there is no grid power available, then it will uses the battery. In this way, we can maximum use solar power and utility power, hence reduce battery discharge time and extend battery lifespan.
- **PV-Battery-Grid (Maximum use of solar power under the stable environment of utility power):** Solar power supply power to inverter via MPPT controller and then output pure sine wave AC power to load via inverter, meanwhile charge battery. When the solar power is not enough, to maximum use solar power, the battery will supply power to load. When the battery is discharged t a value, the utility power will supply power to load. The users can maximum use solar power, reduce grid power supply and save electricity.

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Specifications:

Model	HSP2024SW-LCD
Rated Power	2KVA/2KW
INPUT AC	
Nominal Input Voltage	220/230/240V AC
Low Loss Voltage	170V AC +/- 7V (UPS mode)
	90V AC +/- 7V (Appliances mode)
Low loss return Voltage	180V AC +/- 7V (UPS mode)
	100V AC +/- 7V (Appliances 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
Output Short circuit Protection	Line Mode: Circuit Breaker
	Battery Mode: Electronic Circuits
Efficiency	>97%
OUTPUT AC	
AC Voltage Regulation	220/230/240V AC +/- 5%
Rated Output Power	2KVA/2KW
Output Voltage Waveform	Pure Sine wave
Output Frequency	50Hz/60Hz (auto sensing)
Surge Power	6000VA
Efficiency	95-97%
Over Load protection	5sec @>150% load; 10sec@110~150% load
Nominal DC input Voltage	24V DC
Cold Start Voltage	24.0V 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%	23.00V DC
@ 20% < load < 50%	22.4V DC
@ load > 50%	21.2V DC
Low DC Cut-off Voltage	
@load < 20%	21.0V DC
@ 20% < load < 50%	20.4V DC
@ load > 50%	19.6V DC
High DC Recovery Voltage	29V DC
High DC Cut-off Voltage	31V DC
No Load Power Consumption	<5W
Saving Mode Power Consumption	<15W
Transfer Time	6-10mSec
Efficiency	93~ 97%
Charger Mode Specs	
Battery Voltage	24V DC
Floating Charge Voltage	27V DC

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Overcharge Protection	30V DC
Maximum Charge Current	80A
Bulk Charging Voltage (Flooded Battery)	29.2V DC
Bulk Charging Voltage (AGM/GEL battery)	28.2V DC
Charging Algorithm	3-Stage (CC-CV-Floating)
Solar Charging Mode Specs	
Maximum PV Array Power	1750W
MPPT Range @ Operating Voltage	120V DC to 450V DC
Maximum PV Array Open Circuit Voltage	500V DC
Maximum Charging Current	60A
Maximum Efficiency	98%
Battery Voltage Accuracy	+/- 0.3%
PV Voltage Accuracy	+/- 2V
Standby Power Consumption	2Watts
Charging Algorithm	3-Stage (CC-CV-Floating)
General Specs	
Dimension (DxWxH-mm)	100x300x410
Net Weight (kgs)	9.5Kgs
Humidity	5% to 95% Relative Humidity (non-condensing)
Operating Temperature	0degC to 55deg C
Storage Temperature	-15degC to 60degC
Parallel Compatibility	Upto 6nos (optional feature)
Communication	RS232 Cable along with monitoring software included
Dry contact for remote management	Yes. Ability to monitor Power OFF/On, LOW DC, Battery voltage, charge status etc
Quality Standards	
Disturbance at Mains Terminals	EN61000-6-3:2007+ A1: 2011+ AC:2012
Radiated Disturbance	EN61000-6-3:2007+ A1: 2011+ AC:2012
Harmonic Current Emission	EN61000-3-12: 2011
Voltage fluctuations & flickering	EN61000-3-11: 2000
Electrostatic Discharge (ESD)	IEC 6100-4-2:2008
Radio-frequency & continuous radiated disturbances	IEC 6100-4-3:2006 + A1:2007 + A2:2010
EFT/B Immunity	IEC 6100-4-4:2012
Surge immunity	IEC 6100-4-5:2014
Conducted RF immunity	IEC 6100-4-6:2013
Power frequency magnetic field	IEC 6100-4-8:2009
Voltage DIP, >95% reduction	IEC 6100-4-11:2004
Voltage DIP, >30% reduction	IEC 6100-4-11:2004
Voltage Interruption	IEC 6100-4-11:2004
EU Low voltage directives (LVD)	EN62109-1: 2010, EN62109-2:2011
EU Electromagnetic compatibility(EMC)	EN62040-2:2006, EN6100-3-2:2014, EN6100-3-3:2013
Quality Certification	ISO9001:2015, ISO14001:2015, CE, RoHs