

SMART 3000 / 4000 SERIES

DC/AC Mobile Hybrid Power Systems



SMART 3000 / 4000 SERIES

▪ Overview

Hybrid DC / AC Power Supply – Stand-Alone / Grid Tie

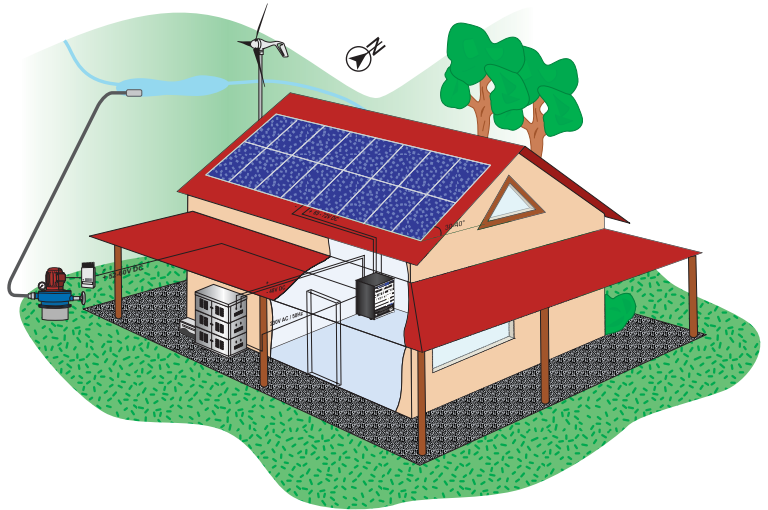
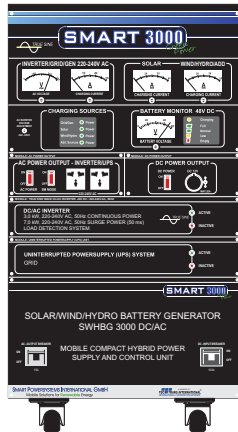
Compact, mobile solar / wind / hydro power system

Max DC power: 20A / 12V

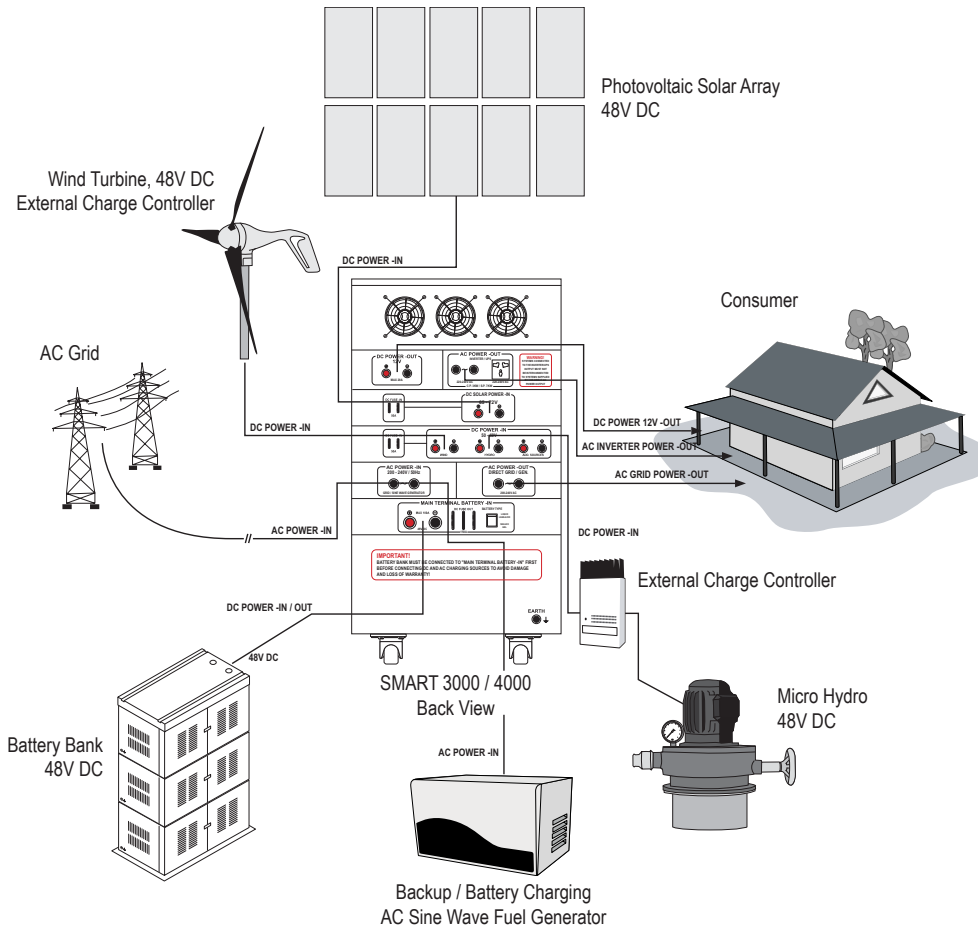
AC continuous / surge power

SMART 3000: 3000 / 7000W

SMART 4000: 4000 / 8000W



System Layout

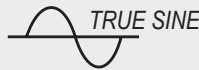


SMART 3000 / 4000 SERIES

■ SWHBG 3000

S01 / S02

MOBILE GRID-INDEPENDENT HYBRID POWER CONTROL UNIT FOR CONTINUOUS POWER SUPPLY BY SOLAR, WIND & HYDRO ENERGY



SMART SWHBG 3000
Front view



SMART SWHBG 3000
Rear view + Protection Cover



SMART SWHBG 3000
Rear view

Key Information

Mobile grid-independent hybrid power control unit for continuous supply of **220-240V AC / 50Hz** (S01) resp. **110-120V AC / 60Hz** (S02) and **12V DC** appliances. Suitable for homesteads, offices, schools, hospitals etc. For grid-connected areas to be used as uninterrupted power supply system (UPS).

Special Features

- Integrated control, charger, inverter unit in plug-and-play-performance
- Suitable for connection to powerful battery banks e.g. SMART battery power modules, system voltage 48V DC
- Powerful high quality true sine wave DC/AC inverter module with load detection, 3000W continuous power, 7000W peak surge power
- Integrated uninterrupted power supply module (UPS), activated when connected to grid or AC sine wave generator
- DC/DC converter for 12V supply, max 20A
- Built-in mains charger, 20A / 48V and solar charge regulator for solar arrays up to 50A / 48V
- Mains and battery voltage indicators, charging sources indicator and battery monitor display
- Current indicator for AC and DC charging
- Multiple connections for 48V DC power charging units (wind, hydro) with external regulators up to 50A / 48V
- Multiple standard power outputs for specific country standards
- Circuit breakers for DC battery -IN and AC -IN
- Electronic parts protected against corrosion, suitable for cold, moderate and tropical climates
- Certifications: ISO9001/2000 production standard, CE declaration of conformity
- * Special performances (optional): 220-240V AC / 60Hz

Specifications subject to change without notice



SMART SWHBG 3000 S01/48

12V DC / 220-240V AC - 50Hz

Technical Data Sheet

DC-AC Inverter	
Current wave form	true sine, distortion $\leq 3\%$
Max. AC output power (continuous)	3000W + 10%
Max. AC output power (surge)	7000W $\pm 10\%$ / 50ms
AC output voltage	at nominal load adjustable: 220-240V
Frequency	50Hz $\pm 1\text{Hz}$
Efficiency	90% at nominal load
Power factor	$\cos \phi \geq 0.8$
Nominal DC input system voltage	48V DC
I-Standby	$\leq 1500\text{mA}$
Low voltage disconnect (L.V.D.) factory setting	$\leq 41\text{V} \pm 2\%$
Manual reset voltage	$\geq 45\text{V} \pm 2\%$
UPS Function	
AC Input voltage range	180 – 260V AC / 50Hz $\pm 1\text{Hz}$
Off-line UPS transfer time	10-12ms
AC pass through current	15A
Search Mode	
I-Standby	$\leq 30\text{mA}$
Detect power (on $\leq 10\text{s}$, off $\leq 30\text{s}$)	$\geq 20\text{W}$
Operating range without interferences	max. 20m
DC-DC Converter	
Nominal DC input voltage	48V DC
DC output voltage	12.5V $\pm 0.2\text{V}$
DC output current	max. 20A
Low voltage disconnect (L.V.D.)	$\leq 41\text{V} \pm 2\%$
Manual reset voltage	$\geq 45\text{V} \pm 2\%$
Battery Charging	
Battery type switch	flooded lead acid / sealed gel
Charging current grid / generator	max. 20A / 48V DC
Charging current solar	max. 50A / 48V DC
Charging current wind / hydro / add. sources	max. 50A / 48V DC
Overcharge disconnect voltage	59.2V $\pm 2\%$ / 56.4V $\pm 2\%$
Recharge voltage	53.2V $\pm 2\%$ / 50.4V $\pm 2\%$
Charging Sources / Monitor	
Grid / Generator	LED Green / DC current meter
Solar	LED Green / DC current meter
Wind / Hydro / Add. Sources	LED Green / DC current meter
Battery Level Indicator	
Charging active	LED Orange
Full	59.2V $\pm 2\%$ / LED Green
Normal	49.2V $\pm 2\%$ / LED Green
Low	44V $\pm 2\%$ / LED Orange
Empty	42V $\pm 2\%$ / LED Red
Meter / Fan / Fuses & Others	
Battery DC voltage meter	90V
Grid / generator / inverter AC voltage meter	300V
Charging sources DC current meter	grid, gen.: 30A / solar: 75A / wind, hydro, add.: 75A
Battery DC fuse in / out (overload, reverse polarity)	150A
Grid / generator AC input breaker	15A
Battery DC input breaker	100A
Fan: 4	Thermally controlled
Operating temperature range	0° - 50°C
Dimensions (l x w x h)	530 x 424 x 800 mm ³
Net weight	60 kg
Certifications	ISO9001/2000 production standard (March 2005) CE Declaration of Conformity

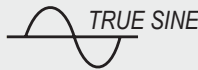
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■ SWHBG 4000

S01 / S02

MOBILE GRID-INDEPENDENT HYBRID POWER CONTROL UNIT FOR CONTINUOUS POWER SUPPLY BY SOLAR, WIND & HYDRO ENERGY



SMART SWHBG 4000
Front view



SMART SWHBG 4000
Rear view + Protection Cover



SMART SWHBG 4000
Rear view

Key Information

Mobile grid-independent hybrid power control unit for continuous supply of **220-240V AC / 50Hz** (S01) resp. **110-120V AC / 60Hz** (S02) and **12V DC** appliances. Suitable for homesteads, offices, schools, hospitals etc. For grid-connected areas to be used as uninterrupted power supply system (UPS).

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- Current indicator for AC and DC charging
- Multiple connections for 48V DC power charging units (wind, hydro) with external regulators up to 50A / 48V
- Multiple standard power outputs for specific country standards
- Circuit breakers for DC battery -IN and AC -IN
- Electronic parts protected against corrosion, suitable for cold, moderate and tropical climates
- Certifications: ISO9001/2000 production standard, CE declaration of conformity
- * Special performances (optional): 220-240V AC / 60Hz

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SMART SWHBG 4000 S01/48

12V DC / 220-240V AC - 50Hz

Technical Data Sheet

DC-AC Inverter	
Current wave form	true sine, distortion $\leq 3\%$
Max. AC output power (continuous)	4000W + 10%
Max. AC output power (surge)	8000W $\pm 10\%$ / 50ms
AC output voltage	at nominal load adjustable: 220-240V
Frequency	50Hz $\pm 1\text{Hz}$
Efficiency	90% at nominal load
Power factor	$\cos \phi \geq 0.8$
Nominal DC input system voltage	48V DC
I-Standby	$\leq 1500\text{mA}$
Low voltage disconnect (L.V.D.) factory setting	$\leq 41\text{V} \pm 2\%$
Manual reset voltage	$\geq 45\text{V} \pm 2\%$
UPS Function	
AC Input voltage range	180 – 260V AC / 50Hz $\pm 1\text{Hz}$
Off-line UPS transfer time	10-12ms
AC pass through current	20A
Search Mode	
I-Standby	$\leq 30\text{mA}$
Detect power (on $\leq 10\text{s}$, off $\leq 30\text{s}$)	$\geq 20\text{W}$
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