

# SMART HOMES

# - SMART SWHBG 1000 & "Brilon"

## Stand-Alone Solar/Wind AC/DC Power Supply

Installed solar charging power/current: **200Wp / 6A** at 24V DC

Installed wind charging power/current: **400W** (12,5 m/s) / **max. 17,5A** at 24V DC

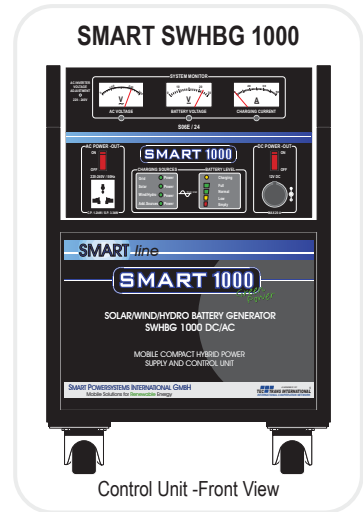
**Range of Daily Consumer Load: 600 - 900Wh**

Selected SMART System: 1x SWHBG 1000 Control / Inverter Unit (system voltage 24V DC)

Max continuous power: 1200W, 220V AC / 50Hz or 110V AC / 60Hz, max. surge power: 3300W+12V DC, max. 20A



SMART HOME „Brilon“



Control Unit -Front View

## System Configuration - Example

### SMART 1000 Control / Inverter Unit:

max. continuous power = 1200 W  
max. surge power = 3300 W

**Total Required Energy Demand = 1982 Wh / day**  
**Total Average Consumer Load = 1416 Wh / day**

### Proposed Charging Sources:

#### Solar:

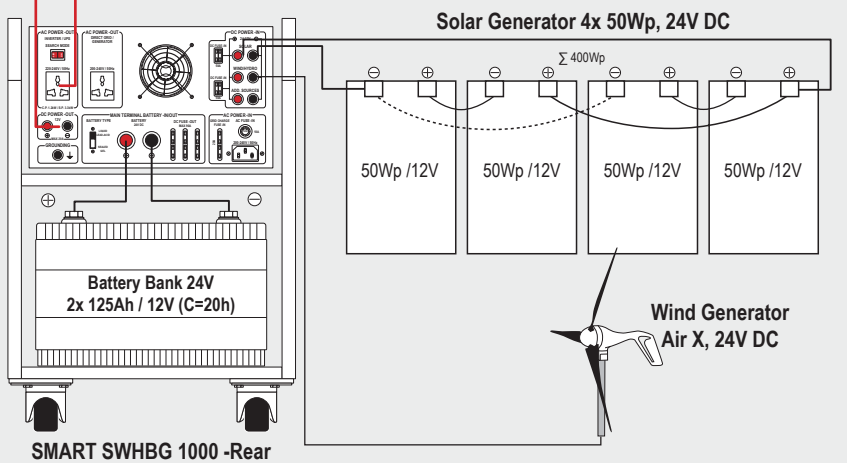
4x 50Wp = 200Wp solar modules, 24V DC  
Charging current: max. 6A / 24V  
Average daily charging capacity:  
Solar factor 4: 800Wh  
Solar factor 5: 1000Wh  
Solar factor 6: 1200Wh

#### Wind:

1x Air X = 400W at 12,5 m/s  
Charging current: max. 17,5A / 24V  
Average daily charging capacity at 6m/s windspeed:  
appr. 1200Wh

### Battery Bank:

2x 125Ah, 12V gel battery, wired in series  
**total capacity = 125Ah (C=20h) at 24V DC**  
**System autonomy = 1 day**



SMART SWHBG 1000 -Rear

## Consumer Profile, 230V AC / 50Hz - Example

Item	Quantity	Power / Unit (W)	Daily Operation (h)	Daily Load (Wh)
Energy Saving Lamp	4	11	4	176
TV / Video	1	60	4	240
Radio / HiFi	1	30	5	150
Fridge	1	120	24	750
Drill	1	600	10 min	100
<b>Max. loading (loading factor = 1,0)</b>		<b>854</b>		
<b>Total daily consumer load</b>				<b>1416</b>
<b>Total daily required energy demand ( x 1,4 )</b>				<b>1982</b>

## Selection of suitable AC Appliances for SMART 1000

