



Hydrogen Power Solutions



Inverter & Island-Extension



HYDRO BOY

The powerful compact devices

SMA has a long tradition with inverters for fuel cells. SMA modified the first solar inverters for use in fuel cell applications more than 10 years ago. In the meantime, the Hydro Boy has become a huge success on the market. SMA equipped the Hydro Boy 1324, with an additional fan, which makes it even more powerful. The devices are equipped with a transformer

on the grid output side, which makes them the ideal choice for direct grid-feeding throughout the world. The AC output can be scaled up by simply connecting multiple devices in parallel.

Technical Data Hydro Boy 1124 / Hydro Boy 1324

DC input	
Input voltage	20 V - 55 V
Continuous input power @ 30 °C HB 1124 / HB 1324	1200 W / 1300 W
Maximum input current	56 A
AC output	
Maximum AC power @ 30 °C HB 1124 / HB 1324	1100 W / 1200 W
Output voltage (Range)	230 V (180 V - 300 V)
Frequency (Range)	50 Hz / 60 Hz (45,5 Hz - 54,2 Hz / 55,5 Hz - 64,5 Hz)
Maximum Efficiency	91 %
Interfaces	
CAN	Yes
RS485 or RS232	Optional
General Data	
Width x Height x Depth	434 x 295 x 214
Protection rating	IP42 / IP20
Weight HB 1124 / HB 1324	approx. 29 kg
Ambient Temperature	0 °C ... +50 °C



HYDRO BOY HF

High yield devices in lightweight housings

The new Hydro Boy generation: The 1524HF and 2524HF devices are equipped with modern high frequency technology and thus ensure a very high efficiency. By reducing the weight and size of the coil components, these inverters have become particularly lightweight and easy to use. Thanks to the modular design of the power electronics, the Hydro Boy

Inverters also adapt flawlessly to external conditions. Thus combining the state-of-the-art SMA technologies and the highest efficiency in a 19" rack.

Technical Data Hydro Boy 1524HF / Hydro Boy 2524HF

DC input	
Input voltage	25 V - 70 V
Continuous input power @ 30 °C HB 1524HF / HB 2524HF	1500 W / 2500 W
Maximum input current HB 1524HF / HB 2524HF	60 A / 100 A
AC output	
Maximum AC power @ 30 °C HB 1524HF / HB 2524HF	1150 W / 2300 W
Output voltage (Range)	230 V (184 V - 264 V)
Frequency (Range)	50 Hz / 60 Hz (45 Hz - 65 Hz)
Maximum Efficiency	> 93 %
Interfaces	
CAN	Yes
RS485 or RS232	Optional
General Data	
Width x Height x Depth (in mm)	approx. 444 x 130 / 160 x 454
Protection rating	IP20
Weight HB 1524HF / HB 2524HF	approx. 15 kg / 17 kg
Ambient Temperature	0 °C ... +70 °C



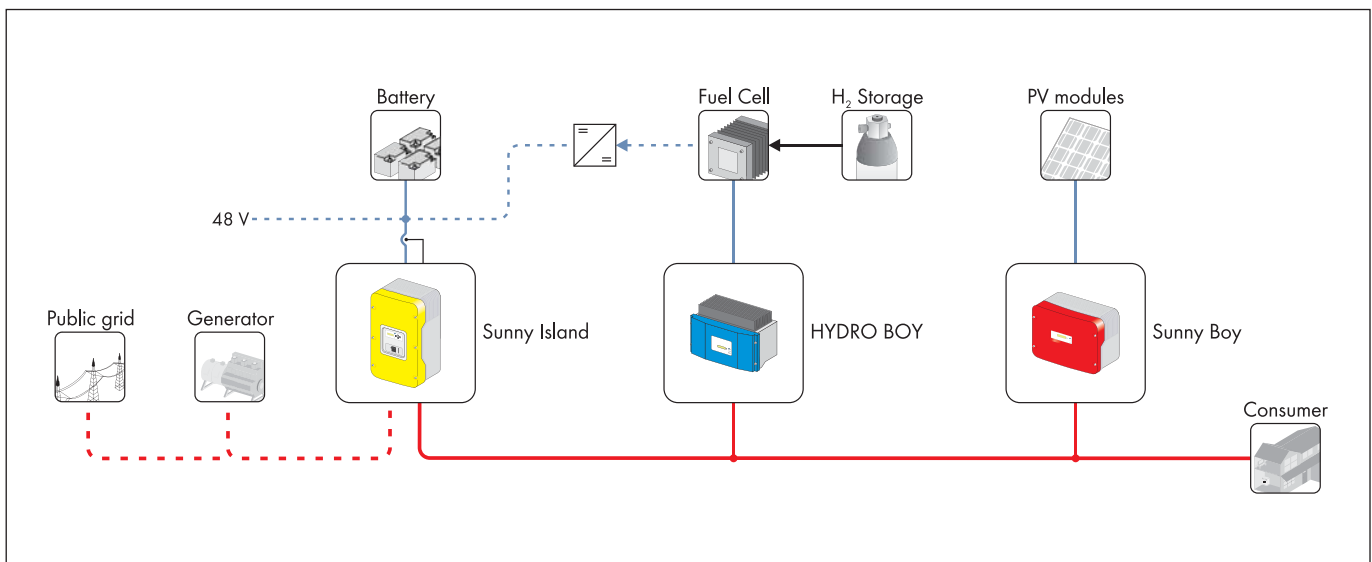
H₂ ISLAND-Extension

Secure power supply for stand-alone systems

No light, no heating, no computer: today, it is very difficult to do anything without electricity. Together with the battery unit, the Sunny Island stand-alone inverter creates a standard AC electricity supply that integrates all components - from electrical appliances to electricity generators. This AC coupling and the Sunny Island as system manager let SMA deliver an inno-

vative solution for the supply of remote locations or for emergency supply.

The island extension now supplements the necessary battery using a fuel cell equipped with a hydrogen storage tank. By working with well-known manufactures, SMA is already demonstrating how the island system using fuel cells influence the future.





References

The clean alternative to diesel generators

The fuel cell inverter market segment for SMA is distinguished by intensive project work with various customers. Customers are well-known manufactures of heating systems as well as research institutions. A large range of devices and systems were created in the course of these projects. Customers benefit from the high quality of SMA inverters thanks to SMA´s expertise resulting from 25 years of experience and its constant pursuit for innovation. In addition to grid-feeding systems, SMA is also competent in connecting fuel cell systems in stand-alone and hybrid supply units. Arrange a personal meeting or give us a call and try us out.



» Supplying electricity to telecommunication facilities in grid-remote areas, Greece

» Technical Data

- Single-phase stand-alone system with 10 kW_{AC} using two Sunny Island 5048
- PV generator with 6 kW_{AC}
- Wind turbine with 2.5 kW_{AC}
- IdaTech ElectraGen fuel cell system 5 kW_{DC} island grid connection with Sunny Island 5048 and external DC/DC converter



» Backup system with Hydro Boy 1124, Germany

» Technical Data

- 1.2 kW_{DC} power backup
- Ballard Nexar Stack
- Metal hydride storage tank 3 kWh
- System control with Sunny Backup 5000

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