



Mobile energy
generator powered
by a fuel cell



Green energy from hydrogen available anywhere

H2BASE is an ecological alternative especially to diesel generators. It produces energy from hydrogen using a fuel cell. H2BASE operation is locally completely emission-free. The only emission is demineralized water, which is gradually released from the running device. The fuel cell also produces heat in the form of steam at a temperature of approx. 65 °C, which can be used for heating with the help of a heat exchanger (in the H2BASE accessories).



<p>Continuous power available</p>	<p>depending on the power variant, up to 100 kW (equivalent to a diesel generator with a power of 100 kVA)</p>
<p>Power peak coverage</p>	<p>up to 100 kW regardless of the power variant</p>
<p>Approximate hydrogen consumption</p>	<p>1.5 kg/h at a power of 25 kW</p>

Areas of use

H2BASE can replace diesel power plants in all their usual applications. It is suitable for powering outdoor events as well as for use on construction sites or as an emergency source during power outages. You can also easily set up a temporary EV charging station with H2BASE.

H2BASE can also serve as a backup source for e.g. data centers. By connecting with photovoltaics and an electrolyser, an energy-independent building can be created.



Zero CO₂ emissions

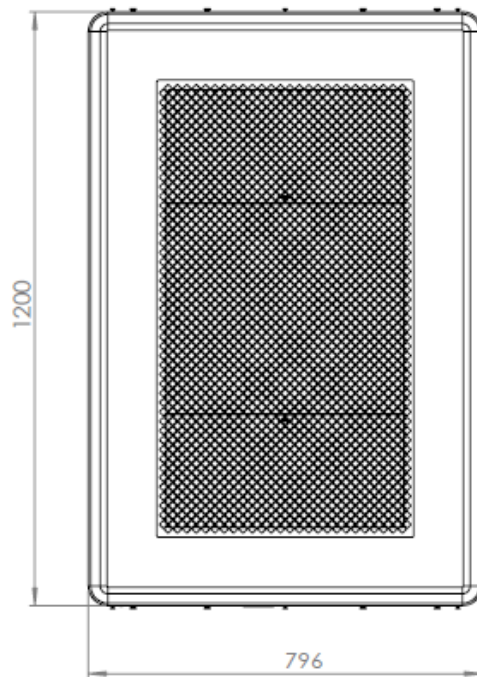
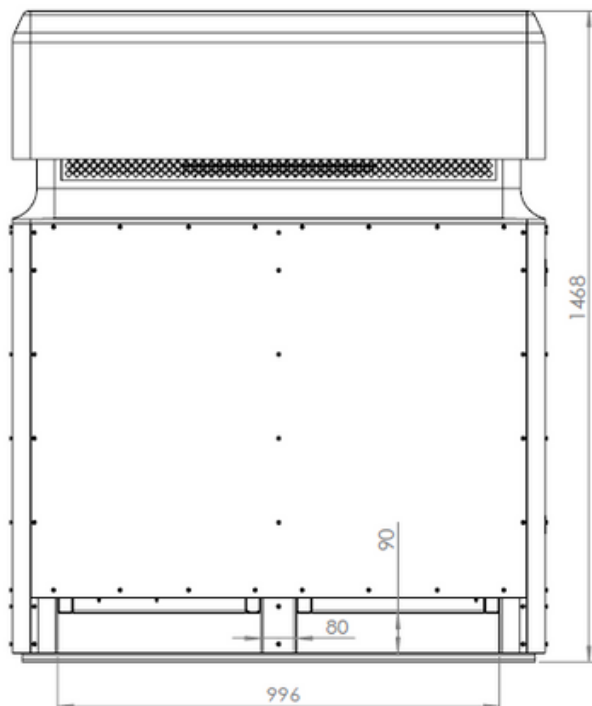
Thanks to the fuel cell, the operation of H2BASE is completely emission-free. To achieve maximum carbon neutrality and minimize emissions in the entire chain from hydrogen production to its conversion into energy, it is ideal to run H2BASE on green hydrogen.

Type of fuel cell used	PEM liquid cooled
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Easily transportable

H2BASE consists of two generator modules and a hydrogen source. The first module contains a fuel cell incl. cooling and hot water output. The second is basically an electrical distribution box, it also contains a control interface and control electronics. Thanks to the compact dimensions and floor plan of a europallet, the H2BASE modules can be easily handled with a pallet truck or forklift

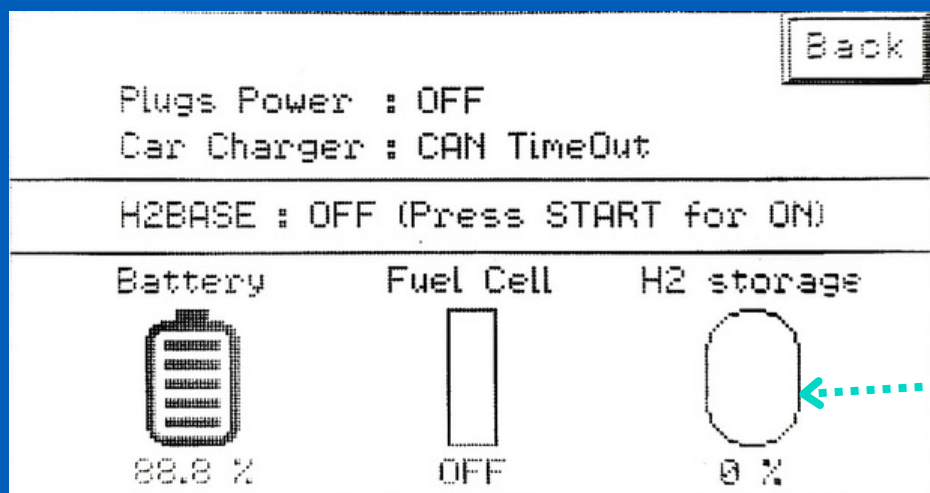
Module M2 - fuel cell	
Dimensions (HWD)	1200 x 800 x 1500mm
Weight	640 kg
Module M3 - electronics, controls and buffer battery	
Dimensions (HWD)	1200 x 800 x 1500 mm
Weight	323 kg



Wide range of pluggable hydrogen sources

The standard hydrogen source for H2BASE is the TPED pressure bundle from DEVINN. Thanks to the fact that this bundle is also equipped with CAN communication, the H2BASE control electronics receives information about the state of the hydrogen supply. H2BASE can also be connected to other sources that meet the following conditions:

Hydrogen inlet pressure for H2BASE	15 bar
Designed for hydrogen	meeting the SAEJ2719 specification



Hydrogen volume indicator



TPED pressure bundle from DEVINN

- 14,1 kg at a pressure of 500 bar equals to 230 kWh of electricity
- Dimensions 1895 x 1200 x 800 mm for easy handling
- Integrated smoke sensor and hydrogen leak detector

Hydrogen source	How to connect to H2BASE
TPED pressure bundle from DEVINN	directly (using an armored hose) + connecting the cable for CAN communication
Steel pressure bundle (common packaging for technical gases)	the DEVINN mobile pressure reductor must be placed between H2BASE and the bundle

Mobile pressure reductor DEVINN

- Possible to connect up to 2 hydrogen bundles with a pressure of 500 bar

If hydrogen runs out in one bundle, the reductor automatically switches to the other.

- CAN communication
Monitors the state of the hydrogen supply in both connected bundles.



Integrated battery for continuous performance

A buffer battery is located in the H2BASE between the electrical outputs and the fuel cell. The battery is primarily used to balance the natural structurally conditioned fluctuation of power supply provided by the fuel cell. In the event of a fuel cell failure, it serves as a backup energy source.

Type of battery used
Second-life Li-Ion automotive battery
Battery capacity
12 kWh

Easy control directly on the device

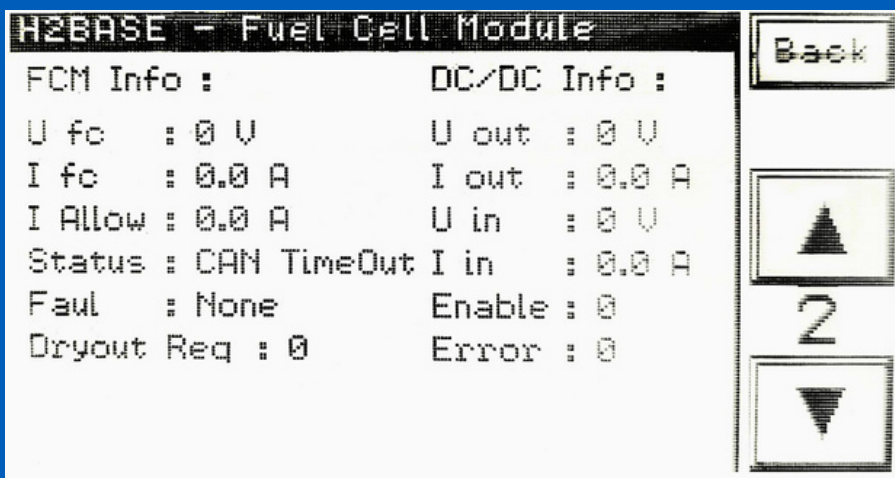
H2BASE is controlled by a touch screen located on the M3 module.

Parameters visible on the touch screen

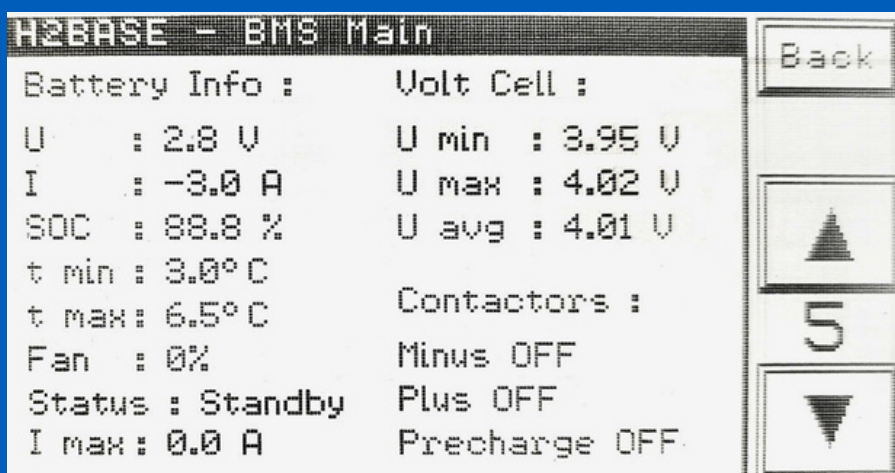
Buffer battery status, fuel cell status, hydrogen supply, device temperature, (in submenu) detailed data for individual components (fuel cell, battery)

Parameters adjustable using the touch screen

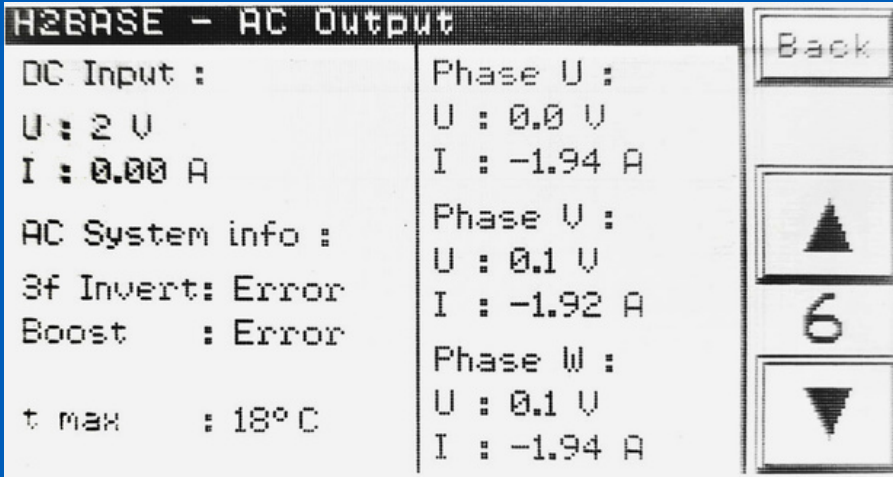
SOC limit of the buffer battery - possible to regulate the frequency of the moments when the fuel cell is starting and switching off, service log



Detailed info
about the
fuel cell



Submenu for
the buffer
battery



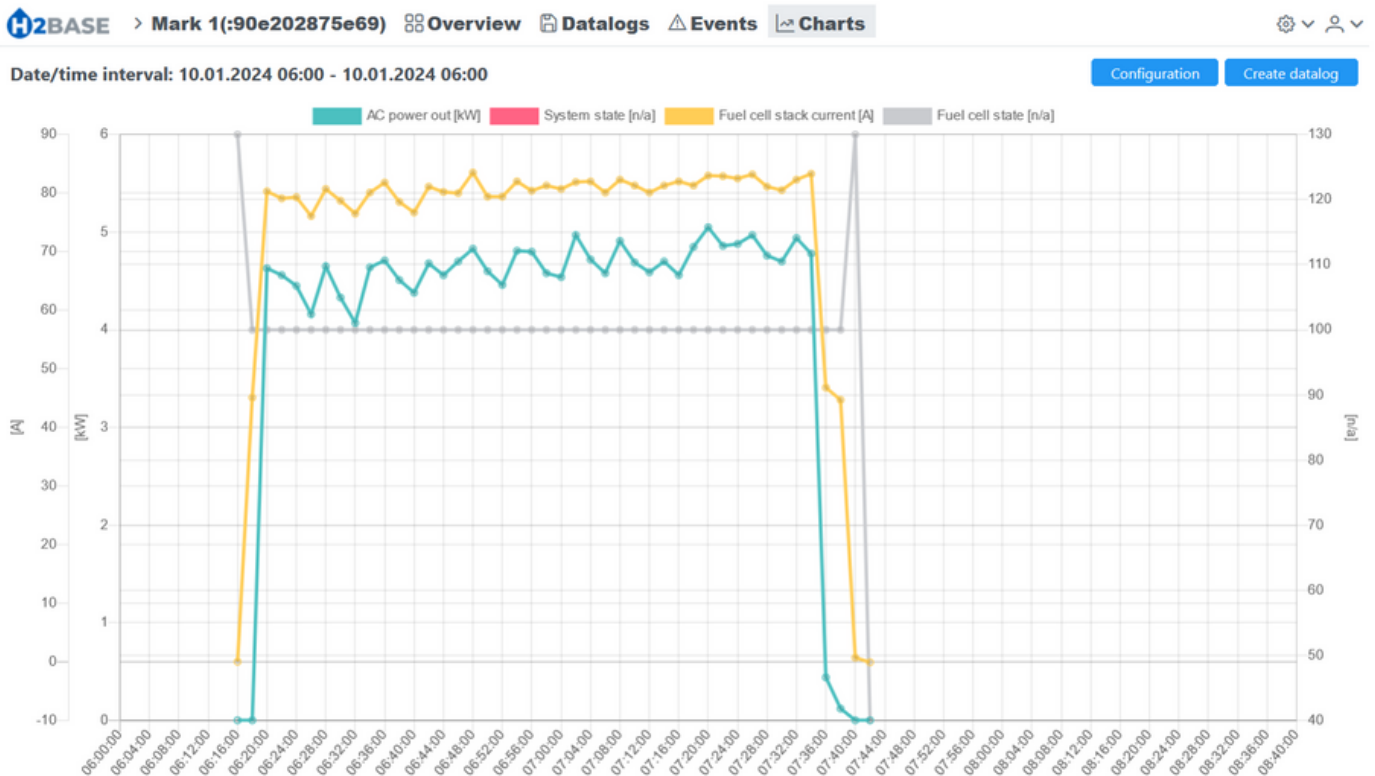
Detail of AC output parameters

Remote setup and supervision

You can monitor the status of H2BASE using our web interface.

Parameters viewable in the web interface

Device status, currently provided power, hydrogen supply status, service log, temperature of equipment and individual components, operating history



Variable outputs

We will be happy to adjust the quantity and parameters of the H2BASE electrical outputs upon your request.

Standard configuration of H2BASE outputs

AC outputs

Inverter 3 x 110 A (76 kW), sockets 3 x 32 A 400 V (3 sockets) and 1 x 16 A 230 V (9 sockets)

DC outputs

1 x 0 - 1000 V (220 A)

EV charger

1 x CCS CHAdeMO with a power of 45 kW

Thermal output

Integrated hot water exchanger, after connecting to the circuit it is possible to heat up the water to approx. 65 °C



The heat of the fuel cell can be used to heat outdoor events

With the help of a mobile hot water exchanger (accessory), the heat of the fuel cell can be used as a heat source for outdoor events. The exchanger is equipped with an adjustable electric fan.



Low noise level

When operating at medium power, the H2BASE achieves a noise level of approximately 60 dB.

Safety systems and measures

- IP protection IP54
- Central stop
- A drying mechanism preventing damage to the switched-off fuel cell when stored at temperatures below freezing point
- Hydrogen leak sensors
- Smoke detectors

Operating conditions

Operating temperature range	-20 to +40°C
Temperature range for storage of the switched off device	-40 to +50 °C

Legislative terms and conditions

The type and level of safety regulations for the operation and transport of H2BASE determines the type of hydrogen source used. Regulations can vary significantly from country to country. An ADR certificate is not required to transport the H2BASE itself without a hydrogen supply. We do not recommend operating H2BASE in closed and unventilated spaces. Please contact us to assess a specific security situation.

Service and inspection requirements

Requirement	Frequency
Service inspection	Once a year
Replacement of filters	Once a year
Revision of pressure equipment (needs to be done also for the TPED hydrogen pressure bundle from DEVINN when used)	Once a year

Product variants

Variants	
Fuel cell power	25 kW
Fuel cell power	55 kW
Fuel cell power	100 kW
Additional equipment and accessories	
Mobile pressure reductor	
TPED pressure bundle from DEVINN	
Mobile hot water exchanger	
Mobile EV charging station	



Other mobile energy sources with a fuel cell

We also offer the H2BOT, a mobile semi-autonomous charger for EV charging in places without the availability of grid. Like H2BASE, H2BOT produces energy directly from hydrogen using a fuel cell.



Find out more



Standards and Conformity

2014/30/EU	Electromagnetic compatibility
2014/35/EU	Low voltage
2000/14/ES	Noise
2014/68/EU	Pressure equipment
2014/53/EU	Radio equipment (remote monitoring)
EN 62282-5-1	Portable fuel cell power systems

H2BASE online tour



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