

## PowiDian Methanol Fuel Cells



v 1.0

### METHANOL FUEL CELLS

At PowiDian we have developed an innovative 100% green energy station – known as the **Smart Autonomous Green Energy System - SAGES**. Our solution is fully modular and flexible – so we can always adapt to our customer’s needs.

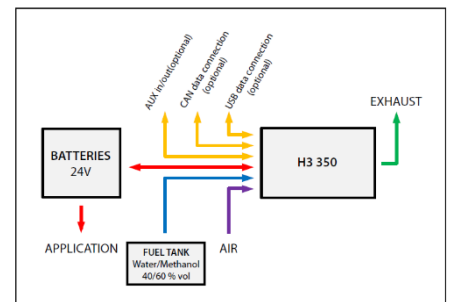
Apart from the use of green energy sources like wind and sun in SAGES – we have included the use of Methanol Fuel Cells into our SAGES solution. This way we can expand the usability and capacity of our SAGES solution to better meet the needs and requirements of our customers, with the need of limited refueling.

The Methanol Fuel Cells can be added to all our SAGES solutions or it can also be used as a stand-alone battery charger when needed. Our fuel cells are Reformed Methanol Fuel Cell which work at high temperature PEM with an integrated methanol reformer – this integration of fuel cell and reformer enables a highly energy efficient system due to reuse of fuel cell waste heat reformation process.

Version	Rated Power output	Fuel consumption (60% Methanol + 40% Deionized)	Weight	Typical End-User Price
<b>H3-350</b>	350 W @ 21-28,5 V DC	440 ml/h @ 350W	13,7 kg	From 7.5 k€
<b>H3-700</b>	700 W @ 24/48 V DC	880 ml/h @ 700 W	27 kg	From 14 k€
<b>H3-2500</b>	2500 W @ 48 V DC or 350-400 V AC	2200 ml/h @ 2500 W	65 kg	From 25 k€
<b>H3-5000</b>	5000 W @ 48 V DC or 350-400 V AC	4400 ml/h @ 5000 W	75 kg	From 35 k€

Common for all systems are:

- No preventive maintenance
- Lifetime +1500 h at 100% power output
- Systems can be upgraded / recored
- Simple installation and autonomous operation
- Can be used within SAGES or stand-alone both On- and Off-Grid
- External interfaces CANbus/USB/AUX
- Ambient temperature -40 to +50° Celsius and exhaust temperature 120°
- Extended runtime with the use of safe Methanol fuel mix easily available



H3 350 system diagram



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