HYFORM-PEMFC

Prototype of Reformed Formic Acid (FA) Fuel Cell (FC) Power Generator

World 1st integrated FAFC 1 kW_e system Technology Demonstration unit



KEY FEATURES

The generator combines a Formic Acid catalytic reformer (as a $\rm H_2$ source) and a commercial PEM Fuel Cell,

The generator is independent of gas grid.

Advantages VS Hydrocarbon generator:

- ✓ Low noise
- Clean gas emissions
- Low carbon content, no particles
- No NOx

Advantages VS electrical batteries:

- long term stable energy storage
- ✓ High storage capacity (>500 Wh/I)

Advantages VS high pressure H_2 reservoirs:

- \checkmark Fast, easy and safe logistics
- ✓ High storage capacity (53 kg/m³)





AVAILABILITY

Delivery time: 20 weeks

SPECIFICATIONS (demo unit)

\checkmark	Fuel cell type:	low temp. PEMFC
\checkmark	Fuel:	formic acid
\checkmark	Nominal electrical power:	850 W
\checkmark	Peak power:	1 000 W
\checkmark	Nominal thermal power :	1 000 W
\checkmark	FC efficiency:	44-45%
\checkmark	Temperature heating circuit:	65 °C
\checkmark	Start time appr.:	60 min (cold)
		30 min (hot)
\checkmark	Load range:	30%-100%
\checkmark	Dim. (w x h x d) mm:	740 x 1.150x 1.159
\checkmark	Weight :	380 kg

APPLICATIONS

- Demonstration of electric power generation for infrastructure in off-grid or with limited grid capacity areas:
 - telecommunications towers
 - devices of emergency services
 - remote control
 - Etc.
- ✓ A part of a formic acid based **energy storage** system (HCOOH ⇔ H_2 + CO_2)
- Supports the Fuel Cell deployment with liquid fuel management advantages.

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