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 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/l)

Advantages VS high pressure H_2 reservoirs:
- ✓ Fast, easy and safe logistics
- ✓ **High storage capacity** (53 kg/m^3)

AVAILABILITY

Delivery time: 20 weeks

SPECIFICATIONS (demo unit)

✓	Fuel cell type:	low temp. PEMFC
✓	Fuel:	formic acid
✓	Nominal electrical power:	850 W
✓	Peak power:	**1 000 W**
✓	Nominal thermal power :	1 000 W
✓	FC efficiency:	44-45%
✓	Temperature heating circuit:	65 °C
✓	Start time appr.:	60 min (cold) 30 min (hot)
✓	Load range:	30%-100%
✓	Dim. (w x h x d) mm:	740 x 1.150x 1.159
✓	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 ($HCOOH \Leftrightarrow H_2 + CO_2$)
- ✓ Supports the Fuel Cell deployment with **liquid fuel** management advantages.

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