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N° PROT **COM_2022_S0008 H2FCB HYDROGEN FUEL CELL BATTERY SYSTEM EN.DOCX**

ELSA Solutions introduces its first hydrogen electric genset H2FCB

A warm welcome on the market to our new H2FCB system: the ZERO CARBON solution dedicated to the energy generation market, developed by ALIANT BATTERY company division.

H2-FC-B, in which H2 stands for hydrogen, FC stands for Fuel Cell and B stands for Battery, is born as a genset system totally based on hydrogen as unique power source. The solution is 100% carbon free and is able to provide and store energy without any CO2 emission, with very low Total Cost of Ownership.
The main energy source of the system is a lithium battery, high voltage version, completely embedded, whose size is scalable from 37KWh to 280KWh.

The battery is charged them from a sort of Range Extender made with a Fuel Cell and a DC/DC Converter which is used to generate electricity when needed.
Power output can be adjusted as well hydrogen consumptions, which are managed by a dedicated controller named Power Management Systems, in short PMS.
The PMS, whose software has been developed from scratch by ELSA Solutions R&D Dept., can be used to select the operating mode, based on customer work cycle and desired operating conditions. Fuel Cell start-stop cycle is autonomous, and all the parameters are communicated via CANBus within the system peripherals and with third party PLC / ECU.

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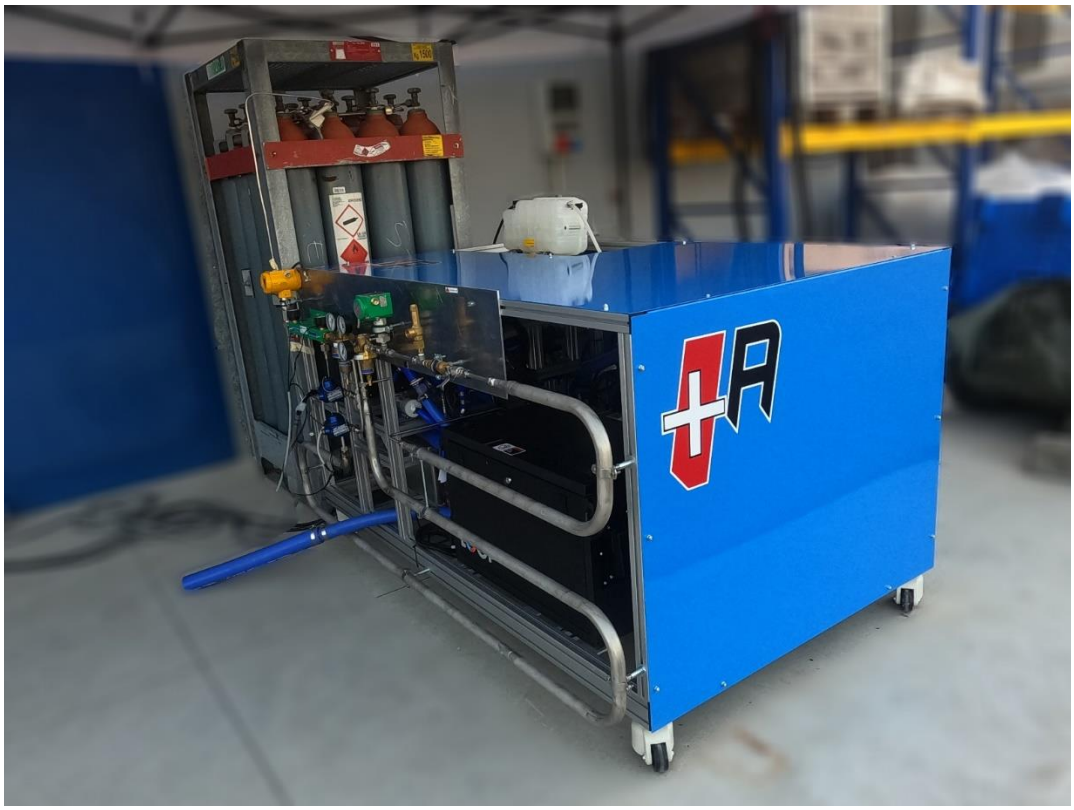
The Fuel Cell generator, made in Canada by Loop Energy, is featuring a state of the art overall efficiency thanks to patented Eflow technology, and can be selected among a range of power sizes from 30KW to 120KW.
The whole system has also cogeneration functions, so thermal management can be used for heat pump with a secondary circuit.



The solution can be mounted inside a skid or inside a container, depending of the final application required.
One or more inverters can be added to create an island grid or to be interfaced on grid.
This system is a game changer to make distributed energy generation possible, even in remote locations. Electric infrastructures can be created with reduced investments, if compared to the costs involved by grid extensions in remote areas.

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