

HyvivaGrid

Modular, expandable design for long duration energy storage (LDES) in residential and commercial markets



General Description

HyvivaGrid is a modular, hydrogen-based long duration energy storage (LDES) solution.



HyvivaGrid can be customized to fit customer needs for energy storage from 15 kWh all the way up to 1 MWh for residential use (larger commercial and industrial HyvivaGrid products are also available). Its modularity allows customers to decide how much hydrogen should be generated by adding additional Electrolyzer Modules. Likewise, the power draw of up to 4 kW can be extended by adding additional Fuel Cell Modules.

HyvivaGrid energy monitoring system (EMS) allows owners to run HyvivaGrid either in full auto mode where software controls all aspects of the energy storage system or in manual operation mode allowing the customer to set all parameters and monitor performance. HyvivaGrid software notifies the owner of any important maintenance or operational situations.

Benefits

- Prevent curtailment of solar generation and sub-optimal net energy metering (NEM) with electrical utilities.
- Provide off-grid operation for extended periods of time.
- Customize the amount of hydrogen generation, storage capacity and power draw to match customer needs via modular components.
- Elegant design allows HyvivaGrid to be placed in a wide variety of indoor locations.
- Safer to operate and easier to maintain via low pressure hydrogen storage.
- Future-proof module connections allow new modules to be added when available (such as a hydrogen automobile refueling unit).

www.hyviva.com

+1 425.292.7844

info@hyviva.com

Specification	Value	Unit	Comment
Tower Size	75.2 L x 75.3 W x min: 52.2 H max: 181.4 H	cm	Size is per tower. The total height is determined by the number of modules stacked on the base. The base of the tower has a height of 20 cm. Each module is 32.3 cm high. A tower can have up to 5 stacked modules, providing a maximum height of 181.5 cm. Additional towers can be extended to the right of the first tower.
Space Between Towers	20	cm	Towers connect with the HyvivaGrid Tower Connect.
Weight	80 - 750	kg	Per tower and depends on type of stacked modules
Production Rate	up to 1.0785	kg/24 h	With one Electrolyzer Module See Electrolyzer Module datasheet for details
Hydrogen Storage	1 - 100	kg	Each Storage Module can contain up to 1 kg hydrogen. See Hydrogen Storage Module datasheet
Power Output	up to 4	kW	With one Fuel Cell Module See Fuel Cell Module datasheet for details
Buffer Battery	5.1	kWh	Located in the Top Controller Module See Top Controller Module datasheet for details
Peak Power Consumption	3	kW	With one Electrolyzer Module
Operative Power Consumption	2.4	kW	With one Electrolyzer Module
Standby Power Consumption	60	W	All modules idle with HyvivaGrid software monitoring
Connectors	1x battery connector	each	Provided via HyvivaGrid Power Supply
Control and Monitoring	via HyvivaGrid EMS		OPC UA, MQTT, Modbus, REST, Web Sockets
Water Consumption	~420	ml/h	At 25° C when electrolyzer is running
Water Input Pressure	1 - 4	Barg	
Ambient Operating Temperature Range	5 - 45	° Celsius	
Ambient Operating Humidity Range	up to 90%		Non-condensing
Warranty	1	Years	Extension to 3 years available with opt-in to HyvivaFleet remote management service See Hyviva EMS datasheet for details
Conformity	Electrolyzer type EL4.1 has CE mark according to the machine directive 2006/42/CE UKCA mark according to Supply Machinery (Safety) Regulations 2008 CSA/ANSI B22734:2023 Ed.1 Hydrogen Generators Using Water Electrolysis - Industrial, Commercial, and Residential Applications		

Ready to get started with your hydrogen LDES project?

www.hyviva.com
+1 425.292.7844
info@hyviva.com

