Cleantech Competence

Stationary

HyModule®

The Modular Fuel Cell System, Ready For Integration

Example of stationary application equipped with the HyModule® S8

Advantages

- Emission-free solution for generating electrical and thermal energy from hydrogen
- Very high efficiency and reliability
- Parallel operation of several HyModules®
- High operational safety
- Liquid cooling, use of process heat possible
- Easy hybridization with batteries
- Voltage Adaption with optional DC/DC converter
- Maintenance-friendly due to 19-inch technology and integrated peripherals

Typical Application Areas

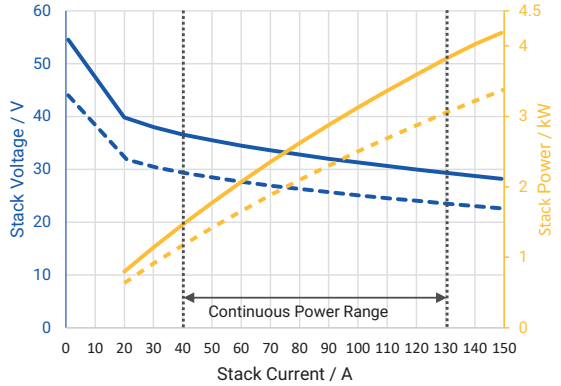
- Emergency power supply
  - Railway infrastructure
  - Telecom / Radio stations
  - Process industry
  - Data centres
  - Uninterruptible power suppy (UPS)
- Autonomous power supply
  - Mobile power supply
  - Off-Grid power supply
  - Off-Grid charging stations
- Power (& heat) generation
  - Peak shaving & grid stabilization
  - Re-electrification of green hyrogen
  - Industrial & residential power supply

Technical Specifications	HyModule® S4 [1]	HyModule® S8
Electrical Interface		
Current Range [A]	0–150	
Voltage Range [VDC] [2]	28–55	56–110
Peak Power [kW] [2]	4.2	8.4
Nominal Continuous Power [kW] [2]	3.8	7.6
Minimal Continuous Power [kW] [2]	1.5	2.9
Supply Voltage [VDC]	24	
Electrical Consumption @ Peak Power [kW]	0.28	0.33
Electrical System Efficiency [%]	up to 52	up to 57
Hydrogen Interface		
Hydrogen Quality	ISO 14687-2 / SAE J2719 (Type I, Grade E, Category 3)	
Hydrogen Supply Pressure [bar_g]	2.5 –7.5	1.5 –7.5
Hydrogen Consumption @ Peak Power [kg/h]	0.28	0.57
Cooling Interface		
Coolant Inlet Temperature [°C]	-30 to +45	
Coolant Outlet Temperature [°C]	<58	
Environmental Conditions		
Ambient Operating Temperature [°C]	+5 to +40	
Storage & Transportation Temperature [°C] [3]	-20 to +60	
Operating Altitude [m]	<2000	
Dimensions / Others		
L x W x H [mm x mm x mm]	785 x 465 x 308	
Tare weight [kg]	77	79
Communication Interface	CAN, Modbus (optional)	
Conformity	CE acc. to Machinery Directive	

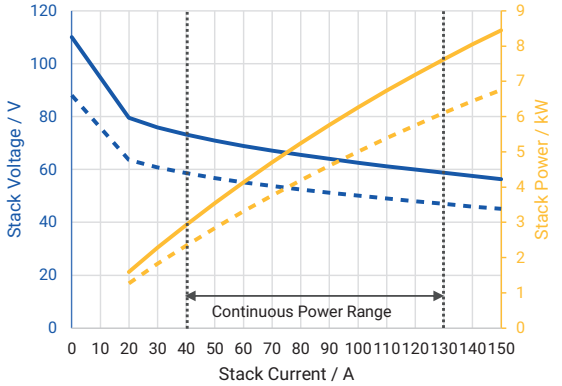
[1] Availability expected for 1st quarter of 2024 (preliminary calculated data)
[2] Begin of Life, without consideration of self-consumption, without voltage conversion at the DC output
[3] Special procedure for range below 0°C necessary

Power Range Of The Fuel Cell System

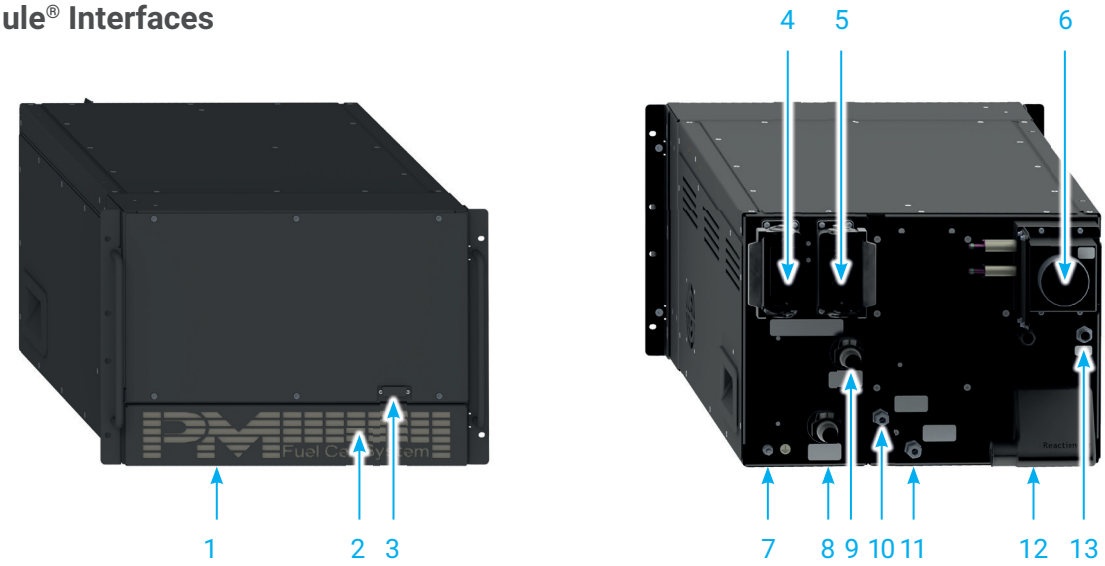
S4



S8



HyModule® Interfaces



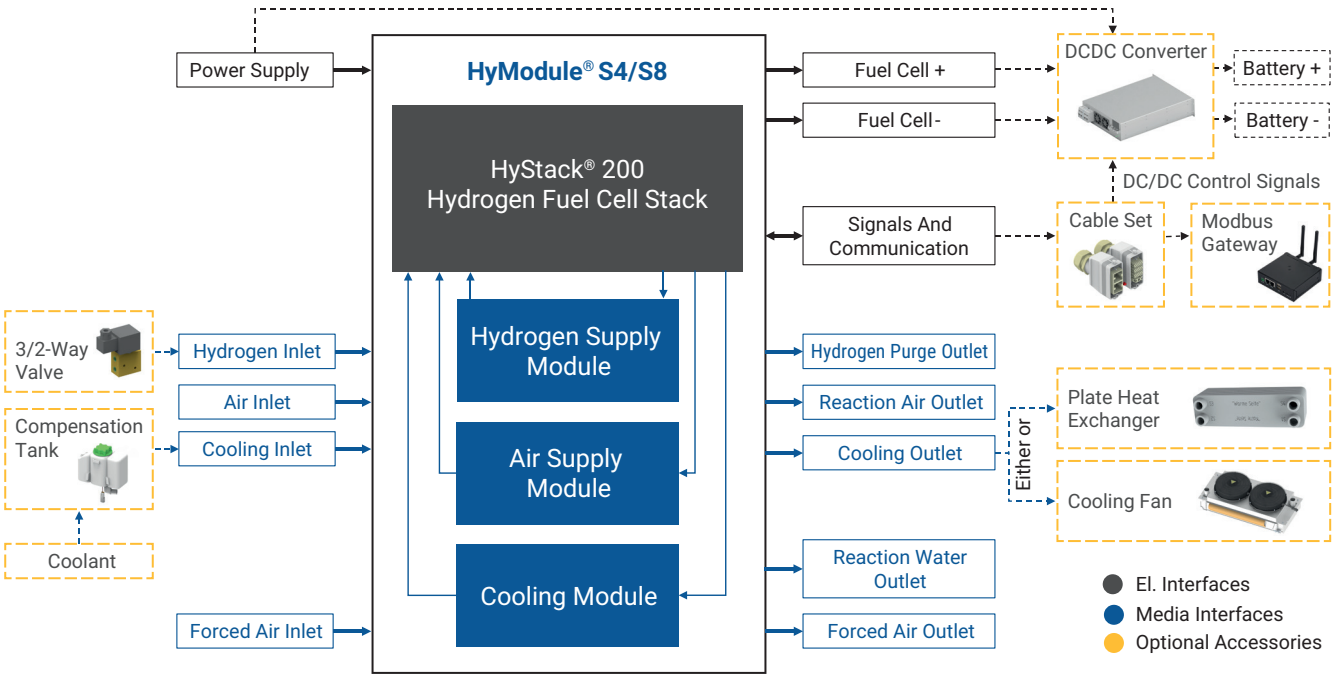
Front

1. Forced Air Inlet
2. Air Suction Inlet
3. Service Interface

Back

4. Control Interface
5. Electrical Interface
6. Forced Air Outlet
7. Grounding
8. Cooling Inlet
9. Cooling Outlet
10. Hydrogen Inlet
11. Hydrogen Outlet (Purge)
12. Reaction Air And Reaction Water Outlet
13. Electrical Interface H2 Sensor

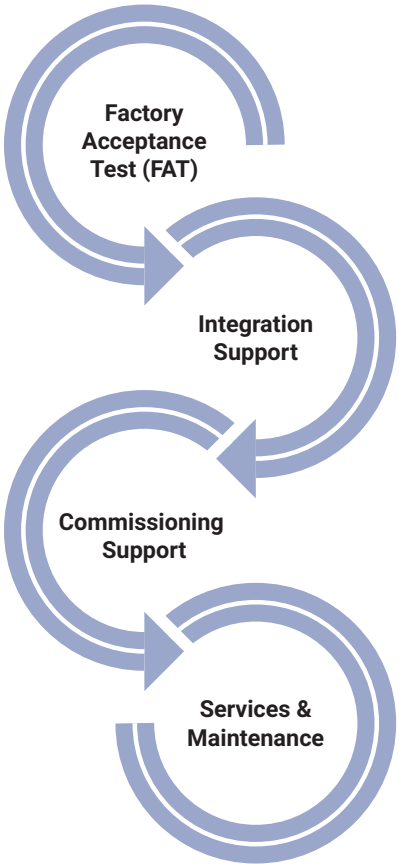
Schematic Diagram Of HyModule® Interfaces Incl. Additional Accessories



TEAMWORKER

Let us be your partner.

Comprehensive Customer Service



- The factory acceptance test is carried out in our factory according to a standardized test procedure. The measured values and the result of the fuel cell performance are documented in a test report.

- Integration support for the installation of the system into the customer application with its specific interfaces

- Start up support during the commissioning of the system at the customer application
- Special parameters settings according to customer requirements

- Preventive Maintenance
- Remote Support
- Repair Center
- Training

About Proton Motor Fuel Cell GmbH

You, as a customer, are our focus. Benefit from our expertise and many years of experience in the development and production of hydrogen fuel cell systems. “Designed & Made in Germany” since 1998.

In addition to the stationary sector, we also offer solutions for the following markets: mobile, maritime and railway.

By purchasing fuel cell systems and integrable hybrid solutions from Proton Motor, you are making an important contribution to the energy transition.

For more information, please reach out to our sales team.

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Stationary
Heavy Duty
Maritime
Rail

Data Sheet_00003_February 2024