Fuel Cells · Power Systems

Proton Motor
Fuel Cell Stacks and Systems

Cleantech Competence

20 Years
Made in Germany

DATA SHEET

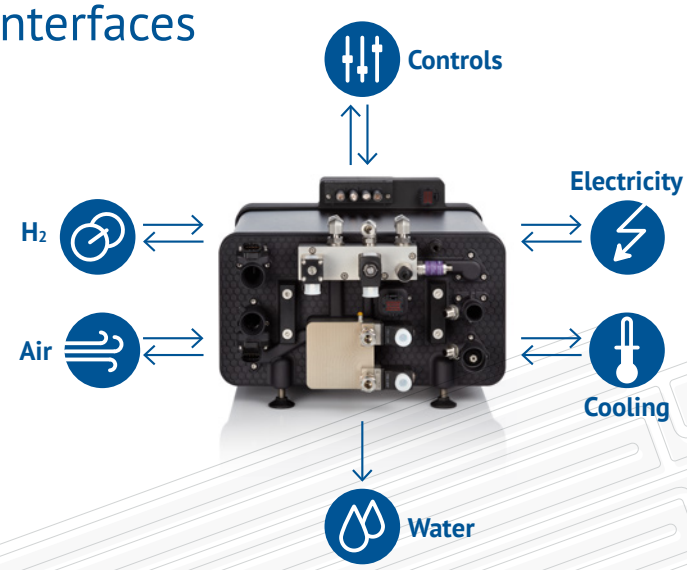
Stationary
Automotive
Maritime
Rail

PM 200 Stack Module

Fuel Cell Stack Module for integration into fuel cell systems

Grafik/Foto: High-performance stack with bi-polar plates. Unique installation horizontally and vertically possible and worldwide only available with Proton Motor.

Interfaces



Main benefits

- Freeze storage and start capable
- Long life time
- Liquid cooling (easy usability of the reaction heat)
- High reliability
- High efficiency
- Live monitoring and diagnosis
- Ideal for multiple applications
- No external humidification necessary
- Housed module
- No forced air ventilation needed
- Safe use – Stack housing explosion tested
- Most powerful stack with bi-polar plates

Type PM 200	24	48	72	96	120	144	168
Electrical Output							
Power Range* [kW]	0.4–2.1	0.8–4.2	1.2–6.3	1.6–8.4	2.0–10.6	2.4–12.7	2.8–14.8
Current Range [A]	0–150						
Voltage Range [V DC]	14–28	28–55	42–83	56–110	70–138	84–165	98–193
El. System Efficiency* [%]	47–67						
Hydrogen Interface							
Hydrogen Quality	ISO 14687-2 / SAE J2719						
H2 Supply Pressure [bar_g]	1.5–7.5						
Hydrogen Consumption (max) [kg/h]	0.14	0.29	0.43	0.57	0.71	0.85	1
Dimensions							
Width x Height** [mm x mm]	294 x 237						
Length** [mm]	395	489	583	676	771	861	957
Volume [l]	27.5	34.1	40.6	47.1	53.7	60.0	66.7
Tare weight [kg]	15.9	19.3	22.7	26.1	29.5	32.9	36.3

* without peripherals
** main dimensions

The PM 200 Fuel Cell Stack Module – the heart of PM´s technology

The PM Stack Module offers high performance and reliability. It is specially developed and manufactured by Proton Motor. Its straight forward and flexible integration makes the PM Stack Module ideal for multiple energy applications. In addition to the fuel cell stack, the stack module already includes electrical interfaces as well as communication and media connections.

Included parts:

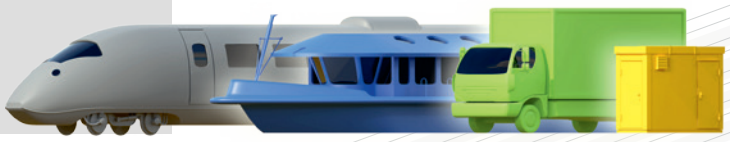
- Fuel cell stack
- Two main power switches to main DC/DC converter
- Pre-charging device for main DC/DC converter
- Voltage bleeding device
- Current sensor
- H2 purge valve
- H2 pressure sensor stack inlet
- H2 pressure switch stack inlet
- H2 pressure regulator stack inlet
- Main shut off valve stack inlet
- H2 filter stack inlet
- Anode water separator stack outlet
- Level switch anode water separator stack outlet
- Shut of valve anode water separator stack outlet
- Shut-off valve air outlet (back pressure)
- Temperature sensor cooling stack inlet
- Temperature sensor cooling stack outlet
- Temperature sensor air stack inlet
- Temperature sensor air stack outlet
- Cell voltage monitoring unit

Environmental Conditions	
Ambient Temperature [°C]	-35 to +45
Operating Altitude* [m]	< 2,000
Humidity ** [% r.H.]	< 95

Others	
Conformity	CE
Protection Class	IP65

* without de-rating
** non condensing

Specifications are subject to change without notice. Specifications and descriptions in this document were in effect at the time of publication. Proton Motor Fuel Cell GmbH reserves the right to changes at any time.



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