BALLARD™

FCmove®-MD

Fuel Cell Power for Range Extender and Light Duty Applications

Ballard's FCmove™-MD is the next-generation hydrogen module for use in zero-emission, battery-dominant hybrid, light and medium-duty motive applications that is perfectly sized as a range extender for transit bus, light duty trucks and fleet vans. The FCmove™-MD offers a durable, compact and easy to install solution for system integrators and vehicle OEMs, backed by Ballard's proven experience, unmatched product performance, and service quality promise.

Features

High Performance

Robust PEM fuel cells deliver the power, range, and efficiency demanded by fleet operators.

Easy Integration

Integrated air and coolant sub-systems enable easy integration of the module into the vehicle, and provide easy access for enhanced serviceability.

High Temperature Operation

Permits a smaller cooling package for integration flexibility and generates HVAC heating, significantly improving overall vehicle fuel economy.

Climate Protection

IP-rated enclosure and freeze tolerant system guards against premature deterioration of key module components in extreme climates.

High Pressure System

Offers better performance, fuel efficiency and durability by preventing degradation of the fuel cell power module.

Remote Diagnostics

Direct or wireless connections allow customers to monitor performance data remotely, and anticipate preventative maintenance.

Proven Reliability & Durability

Demonstrated through exceptional fuel cell stack lifetime, with >25,000 hours of operation and 97% module power availability while in service.

System Integration Flexibility

Ballard collaboratively supports the integration of a variety of drive systems to optimize the power train and vehicle performance.

Zero-emission

PEM fuel cell power modules meet the mandates set by policy makers to reduce transportation emissions.

Humidification

Integrated humidification system is maintenance free and provides maximum system performance and durability through a wide range of environmental conditions.

Safety Features

Integrated safety system with ventilation air flow and H2 sensor built into the module to ensure highest safety and ease of installation.

Product Specifications*

Performance	
Net system power	45 kW
Operating system current	20 - 330 A
Operating System Voltage[1]	450 - 700 V
Idle power	4.5 kW
Physical	
Dimensions (l x w x h) mm	1070 x 595 x 395
Weight (net)	145 kg
Environmental protection	IP67
Operating temperature	-20°C – +50°C
Minimum start-up temperature	-15°C
Short-term storage temp	-40°C – +60°C
Reactants and Coolant	
Fuel Type	Gaseous hydrogen
Fuel purity	As per SAE J2719, ISO 14687:2019 grade D
Fuel supply pressure	8 barg nominal
Peak fuel efficiency	57%
Oxidant	Air
Coolant	0% to 50% by volume, balance DI water
Radiator coolant outlet temperature	60°C nominal
Emissions	
Exhaust	Zero-emission

* Specifications are subject to change without notice

1. Operating system voltage with DCDC (optional supply). Operating system voltage without DCDC 140 - 280V

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