



UTC Power

A United Technologies Company



PureMotion™ 120 Fuel Cell Power System

The Product

The PureMotion™ 120 Fuel Cell Power System from UTC Power, is a super-efficient, quiet and emission-free transportation fuel cell system. The PureMotion™ 120 power system is based on Proton Exchange Membrane (PEM) technology, and maximizes the benefits of fuel cells by employing a compact, ambient pressure, hydrogen fuel cell system. Ambient pressure technology delivers the highest level of fuel efficiency. In fact, UTC Power anticipates the PureMotion™ 120 power system will deliver nearly double the fuel economy of a standard diesel-powered engine. In addition, the power system is designed to provide a quieter, more comfortable ride for passengers.

Ideally sized for transit vehicles, the PureMotion™ 120 power system generates up to 120 kW of power. The modular design is intended to maximize uptime and simplify routine maintenance. The PureMotion™ 120 power system is particularly well-suited for integration into hybrid vehicle applications.

UTC Power has a strong history of providing fuel cell power plants for fleet transportation applications. Our first fuel cell powered bus began operating at Georgetown University in 1998, and continues to operate today. Since 2001, our fuel cells have also powered buses in the United States, Spain and Italy.



PureMotion™ 120 fuel cell power system bus application, California



The hybrid electric fuel cell bus provides clean transportation at the United Nations World Environment Day in San Francisco, June 2005

Features	Benefits
<ul style="list-style-type: none"> • Ambient pressure operation • Simple air system • Zero emissions • Few moving parts • Simple interfaces 	<ul style="list-style-type: none"> • ~ 2X diesel fuel efficiency • Low noise • Environmentally friendly • High reliability • Simple integration



System Specifications

Power 120 kW net	Voltage Range 290 to 580 VDC	Efficiency* > 46% @ 120 kW	Transient Capability 24 kW/sec
Fuel Type Gaseous H ₂ (99.95% purity)	Cooling Liquid cooled (radiator not included)	Operating Temperature -10°C to 49°C (14°F to 120°F)	Power System Dimensions H: 1,030 mm (41") W: 1,490 mm (59") L: 1,177 mm (46") Weight 900 kg (1,984 lb)
Emissions Water vapor	Noise < 70dB @ 1.23 m	Electrical Input < 2 kW @ 24 VDC	

* Tank to DC measurement

Specifications current as of print date. For updated information, contact the manufacturer at 1-866-900-POWER (866-900-7693).



The PureMotion™ 120 power system is designed to minimize the integration effort. The modular design and minimal interfaces mean less time and money are spent on application engineering. This modular approach also makes the PureMotion™ 120 power system easy to service and maintain, therefore, maximizing operating time.



- Enclosure Vent
- Electrical Interfaces (load, supply, & control)
- Process Air Interfaces
- Cooling System Interfaces
- Hydrogen Supply

Product Benefits



High efficiency



Environmentally friendly
- zero emissions



Energy cost savings



Low noise



Reliability



Low maintenance