

iGen™ System

Extended Run Backup Power Fuel Cell System



iGen™ System:

Low maintenance, reliable, quiet operation, low emissions

Fuel: HydroPlus Liquid Fuel

Power: 250 W

Voltage: 12 Vdc or 24 Vdc

Applications

iGen™ fuel cell systems are designed to be integrated with PV, wind, and grid power to augment batteries in the following applications:

- Highway Signaling and Communications
- Railway Signaling and Communications
- Surveillance, Sensing, Pumping, SCADA, Telecom
- Reliable Grid Backup and Hybridization with PV and Wind Systems

IdaTech designs, develops and manufactures extended run backup power fuel cell systems for the telecommunications and niche industries. IdaTech's products are clean and reliable and have been deployed worldwide for critical backup power applications.

IdaTech's iGen™ System is an extended run backup power fuel cell system designed to augment batteries, photovoltaic panels and/or small wind turbines for hybrid power generation applications.

Compact and outdoor rated, the system operates on a blend of methanol and water for extended run backup power. This liquid fuel, coupled with IdaTech's fuel processing technology, enables on-demand production of hydrogen for applications requiring clean, quiet, reliable power. The need for delivery, storage, and difficult handling of compressed hydrogen is eliminated – another example of IdaTech's power for the long run.

IdaTech offers an integration kit for easy refueling of the iGen™ fuel cell system.

iGen™ System Specifications

Power Rating	250 W
Nominal Voltage	12 Vdc or 24 Vdc
Voltage Adjustable	1 to 13 Vdc, 22 to 26 Vdc
Size (W x D x H)	338 x 437 x 445 mm (13-5/16 x 17-1/4 x 17-1/2 in)
Weight (Product)	18 kg (40 lbs)
Fuel Specification	HydroPlus (methanol/water)
Ambient Temperature	-20°C to 50°C (-4°F to 122°F)
Relative humidity	10 to 95% Non-Condensing
Location	Outdoor Rated Only
Elevation	0 to 2000 m (0 to 6562 ft)
Communications	Dry Contacts via 8-Pin Terminal; GUI via RS-232 9-Pin Dsub
Certifications	CE, ANSI/CSA FC-3
Typical Run Time	90 hrs @ 250 W

Specifications may change without notice.



Advantages

Extended Run Performance – Backup power for days, not hours.

Onsite and On-Demand Hydrogen Production – Eliminates delivery, handling, and storage of bottled hydrogen.

Advanced Technology – Utilizes commercially proven Proton Exchange Membrane (PEM) technology.

Environmentally Robust – Dependable performance over a wide range of temperatures (-20°C to +50°C).

Seamless Integration – Automatically starts and stops, providing charging power anytime the battery voltage is below the customer configurable start voltage threshold.

Cost Effective – Economical alternative to redundant battery strings, additional PV panels and high-maintenance generators.

Flexible System – Simple integration with hybrid systems to augment batteries.

Scalable Systems – For higher power requirements, multiple systems can be combined in parallel.

Low Maintenance – Chemical process versus internal combustion.

Predictable Performance – Remote monitoring and control to ensure system performance.



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Integration Kit for iGen™ System

Extended Run Backup Power Fuel Cell System



iGen™ Integration Kit

Purpose: Provide fuel for iGen™ fuel cell system and convenient access to electrical connections and remote monitoring.

Applications

iGen™ fuel cell systems are designed to be integrated with PV, wind, and grid power to augment batteries in the following applications:

- Highway Signaling and Communications
- Railway Signaling and Communications
- Surveillance, Sensing, Pumping, SCADA, Telecom
- Reliable Grid Backup and Hybridization with PV and Wind Systems

IdaTech's integration kit includes a fuel tank in a rugged lockable enclosure and an electrical interface assembly for quick installation and interconnection of the iGen™ System with the customer's battery bank and loads. The electrical interface provides easy access to electrical connections and remote monitoring features; it is outdoor rated, but may be located inside the customer electronics shelter for convenience. The fuel tank assembly provides enough fuel for 90 or more hours of operation of the iGen™ System at full power and includes fuel level switches that can be remotely monitored for efficient refueling.

IdaTech's integration kit is designed for convenient interconnection of the iGen™ System to the customer's equipment, enabling an easier, more efficient installation to meet the requirements of customer applications.

Integration Kit for iGen™ System

Size (W x D x H)	458 x 585 x 534 mm (18 x 23 x 21 in)
Weight	Dry: 43 kg (95 lbs), Fueled: 87 kg (192 lbs)
Fuel Tank	45 L (12 gal)
Temperature	-20°C to 50°C (-4°F to 122°F)
Relative Humidity	10 to 95% Non-Condensing
Location	Outdoor Rated Only; Electrical Interface Indoor or Outdoor
Elevation	0 to 2000 meters (0 to 6562 ft)
Communications	Dry Contact via 16-Pin Terminal; RS-232 Isolated Pass Through of iGen™ System GUI via 9-Pin Dsub or Converter to TCP/IP via RJ45
Certifications	CE

Specifications may change without notice.



Advantages

Extended Run Performance – Over 90 hours of iGen™ System run time at full power.

Efficient Installation – DIN terminals, breakers, conduit knockouts, and complete documentation enable efficient installation and integration with customer batteries and the iGen™ System.

Rugged – Heavy gauge steel construction with lockable access for demanding outdoor applications.

Configurable – The electrical interface assembly may be mounted outdoors on the fuel tank assembly, on a panel, or indoors in an equipment shelter to meet customer requirements.

Integrated Fuel Delivery – Engineered into the fuel tank assembly are fuel filter, pump, pressure gauge, shut-off valve, level sensors, and fuel priming circuit for perfect integration with the iGen™ Systems.

Fuel Stability – Air exchanges are safely minimized through the design of the fuel tank and closure to achieve many years of fuel stability.