

# Fuel Cell Backup Generator (FCBG-IE400)



## Product Overview

The FCBG-IE400 is a stationary hydrogen-powered backup generator designed for critical infrastructure, defense, and commercial operations. Housed in a sleek, modular enclosure, it delivers 400 kW of clean, silent power using four IE-DRIVE™ HD100 fuel cell stacks. This unit is engineered for quick deployment, low maintenance, and compatibility with grid and off-grid environments.

## Monitoring & Controls

- 10" touchscreen HMI with encrypted remote access
- Integrated EMS for load control, fault diagnostics, and auto start/stop
- Communication protocols:
  - Modbus TCP/IP
  - CAN
  - RS-485
- Cloud-based performance analytics dashboard

## Safety Features

- Hydrogen leak detection with automatic shutoff
- Emergency stop button (internal and external)
- Overvoltage, overcurrent, and over-temp protection
- Dual pressure regulators and relief valves
- NFPA 2 and UL 9540A compliant design

## Options & Customizations

- Remote hydrogen storage integration
- HVAC or insulated housing for extreme climates
- Trailer-mounted version (FCBG-IE400M)
- Extended battery buffer (up to 200 kWh)
- Blackout/start-from-zero mode enabled



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 [TotalHydrogen.com](https://TotalHydrogen.com)

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## System Specifications

Category	Specifications
Model	FCBG-IE400
Power Output	400 kW continuous
Fuel Cell Type	PEM (Proton Exchange Membrane)
Fuel Cell Stack	4x IE-DRIVE™ HD100
Battery Buffer	Optional 60 kWh Lithium-ion (UPS functionality)
Inverter System	SolarArk 120K 3-phase hybrid inverter
DC Input System	350 – 450 VDC
AC Output Voltage	480V 3-phase, 60 Hz
Startup Time	< 2 minutes
Hydrogen Supply Pressure	30 – 300 bar (regulated via onboard system)
Hydrogen Consumption	Approx. 9.6 kg/hr at full load
Thermal Output	Approx. 400,000 BTU/hr (optional heat recovery)

## Enclosure & Environmental Specifications

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Enclosure Type	Powder-coated aluminum/composite, IP54
Cooling	Forced air-cooled with redundant fans
Ambient Temp Range	-10°C to 45°C (with optional HVAC for extended range)
Noise Level	< 65 dB(A) @ 10m
Footprint	Approx. 120" (L) × 48" (W) × 80" (H)
Weight	Approx. 6,000 lbs (fully loaded)

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