

GenCore[®] Systems

THIS BACKUP POWER CAN SAVE YOU.

Increase system reliability and decrease operating costs with GenCore[®].

GenCore fuel cell systems are high-performance solutions for the critical backup power needs of electric utility substations. Our flexible platform-based product architecture delivers backup that's scalable to your needs.

Unlike traditional technologies, which can be unpredictable and maintenance-dependant, GenCore systems deliver the reliable backup power you need over the widest range of operating environments – with reduced operating costs and zero emissions.

If you lose the grid, we have the grit.

Clean. Quiet. Predictable. GenCore. It's what to demand when your customers demand reliability.

Join us in putting future power generation to work – today.

E-mail us at gencore@plugpower.com or visit www.plugpower.com to learn more.

FUEL CELL PRODUCTS FOR SUBSTATION BACKUP POWER



Rugged, reliable design.



Flexible

Proton Exchange Membrane (PEM) Fuel Cell Stack – Proprietary fuel cell design delivers efficient, clean, quiet DC power. Integrated cell voltage monitoring provides continuous feedback for optimal fuel cell performance.

DC Power Conditioning – GenCore systems offer 48Vdc floating ground, 108Vdc floating ground or 120Vdc floating ground power conditioning to meet the needs of electric utility substations.

Reliable

Electrical Energy Storage – Maintenance-free system provides immediate response to power interruptions.

Fuel Storage System – Available in a variety of forms, hydrogen fuel storage is scalable to meet site and provider specific needs.

Robust

Thermal Management System – Freeze-tolerant design allows for operation from -40°C to 46°C.

Insulated Cabinet – Rugged design is finished with high-quality paint process that protects the exterior finish.

PRODUCT CHARACTERISTICS

5U48FG

5U108FG

5U120FG

Performance		5U48FG	5U108FG	5U120FG
Rated Net Output ¹		0 to 5,000 W	0 to 5,000 W	0 to 5,000 W
Adjustable Voltage		46 to 56 Vdc (48)	111.8 to 125.8 Vdc (108)	125.9 to +136.2 Vdc (120)
Operating Voltage Range		42 to 60 Vdc	111.8 to 132.0 Vdc	125.9 to +139.8 Vdc
Operating Current Range (net)		0 to 109 Amps	0 to 44.9 Amps	0 to 39.9 Amps
Fuel	Gaseous Hydrogen	99.95% Dry	99.95% Dry	99.95% Dry
	Supply Pressure	80 +/- 16 psig (5.5 +/- 1.1 bar)	80 +/- 16 psig (5.5 +/- 1.1 bar)	80 +/- 16 psig (5.5 +/- 1.1 bar)
	Fuel Consumption	40 standard liters per minute at 3,000W	40 standard liters per minute at 3,000W	40 standard liters per minute at 3,000W
		75 standard liters per minute at 5,000W	75 standard liters per minute at 5,000W	75 standard liters per minute at 5,000W
Operation	Ambient Temperature	-40°C to 46°C	-40°C to 46°C	-40°C to 46°C
	Relative Humidity	0% to 95% Non condensing	0% to 95% Non condensing	0% to 95% Non condensing
	Altitude	-197 ft to 6,000 ft (-60 m to 1829 m)	-197 ft to 6,000 ft (-60 m to 1829 m)	-197 ft to 6,000 ft (-60 m to 1829 m)
Physical ²	Dimensions	44" H x 26" W x 24" D (112 cm x 66 cm x 61 cm)	44" H x 26" W x 24" D (112 cm x 66 cm x 61 cm)	44" H x 26" W x 24" D (112 cm x 66 cm x 61 cm)
	Weight	400 Lbs (181 kg)	400 Lbs (181 kg)	400 Lbs (181 kg)
Safety	Compliance	FCC Class A	FCC Class A	FCC Class A
Emissions	Water	Maximum 1.75 Liters per hour	Maximum 1.75 Liters per hour	Maximum 1.75 Liters per hour
	CO, CO2, NOx, SO2	<1ppm	<1ppm	<1ppm
	Audible Noise	60 dBA @ 1m	60 dBA @ 1m	60 dBA @ 1m
Sensors ³	Gas Hazard Detection	Included	Included	Included
Control	Microprocessor	Included	Included	Included
	2 LED Panel	Included	Included	Included
	Low Fuel Alarm	Included	Included	Included
	Communications ⁴	RS-232C	RS-232C	RS-232C
		Digital Form C Contacts	Digital Form C Contacts	Digital Form C Contacts

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¹ Output rated from -40°C to 42°C. From 42°C to 46°C, output decreases 2.5% per degree Celsius. Above 1,000 feet (305 meters), an additional de-rating of 1.5% per 1,000 feet applies.

² Excludes fuel storage.

³ Optional sensors are available to detect Pad shear, water intrusion and tampering.

⁴ Optional communications include MODEM.

Specifications subject to change without notice.