

The Alteryg *Freedom Power*™ System

Backing you up, when and where you need it most.

Changing the way essential operations get their backup power.

Alteryg *Freedom Power* systems are fully integrated, self-contained, high efficiency fuel cell power systems that generate power at the point-of-use.

These clean and green, CARB-certified,* zero-emission power generators deliver the power quality, reliability, and on-demand standby and ride-through capabilities required for telecommunications, cable/broadband, data centers, homeland security and other essential 24/7 operations.

Freedom Power Systems provide an excellent alternative to batteries and generators. The plug and play design allows system modules to stand alone or be combined to produce a wide range of power output (1-30kW).



The Alteryg
Freedom Power
System

Features of *Freedom Power* Systems

- High quality power
- Highly efficient
- Reliable and rugged
- Clean and green
- Simple to install
- Easy to maintain
- Quiet operation
- Scalable and modular
- Remote monitor and control capability
- Compact, small footprint, lightweight

*State of California Air Resources Board Distributed Generation Certification

Product Information

The Alteryg Freedom Power™ System

Alteryg Freedom Power Systems (FPS)*	FPS 1	FPS-5	FPS-10	FPS-15	FPS-20	FPS-25	FPS-30
Power Output							
Kilowatts (kW) Net:	1	5	10	15	20	25	30
kW Max. (30 seconds):	1.25	6.25	12.5	18.75	25	31.25	37.5
Voltage							
Rated Net Current:	22 A	105 A	210 A	315 A	420 A	525 A	630 A
Nominal Voltage (VDC):	48	24	24	24	24	24	24
Voltage, Adjustable (VDC):	22 to 58	20 to 29	20 to 29	20 to 29	20 to 29	20 to 29	20 to 29
Physical							
Dimensions (w x d x h) in.	19 x 24 x 8.5	21 x 33 x 24.75**	21 x 33 x 50**	21 x 33 x 75**	46 x 33 x 50**	69 x 33 x 50**	69 x 33 x 50**
Weight (lbs):	87	179	378	557	746	945	1144
Mounting:	19" rack	Standard 23" rack, shelf mount or enclosure mount					
Operational							
Ambient Temperature:***	10C to 35C	-40C to 50C					
Relative Humidity:	5 to 100%	5% to 100%					
Location:	indoors	Indoors with suitable air management ducting or outdoors with suitable enclosure					
Altitude:		10,000 ft					
Environmental							
Clean:		California Air Resources Board (CARB) Certified as a Zero Emission Electric Power Generator. By-product is water					
Green:		Recycles residual heat to increase energy/system efficiency. "Green" hydrogen fuel (generated from biomass, hydroelectric, solar or wind powered electrolysis)					
Noise:		<60dBA @ 1 meter					
Control System							
Supervisory Control:		32-Bit Digital Signal Controller w/on-board, real time diagnostics, communications, thermal & systems management. Sensorless Brushless Direct Current motor control					
Power Conditioning:		Fully digital, multi-phase, interleaved DC/DC converter					
Software:		Real time control communicates with GUI to provide system and site status and allow user input of operating parameters. Field upgrades through Comm. port					
Communications/Monitoring:		USB, RS-232, RS-485 and Ethernet supported. Four (4) user defined dry contacts (8 optional). Wireless optional					
Sensors:		Fuel pressure, leak detection, ambient temperature & humidity, stack & electronics temperatures, fan & filter conditions, stack & output currents and voltages, tampering					
Safety/Certifications/Compliance****		CSA/ANSI Fuel Cell 1 (FC1), FCC 47CFR Part 15, Subpart B, Class A, NEBS Level 3					
Fuel							
Type and Grade:		Gaseous hydrogen, industrial grade, 99.95% pure					
Supply Pressure:		40 to 100 psig					
Consumption (SLPM):	15	75	150	225	300	375	450

* Specifications for Alteryg Freedom Power Systems. Up to six (6) 1kW or 5kW FPS units can be paralleled to achieve between 1 to 30 kW of total power output.

** Dimensions include additional clearance to assure proper airflow and cooling in an enclosure. See Alteryg installation manual for details.

*** 50 C or higher requires high temperature configuration.

**** Some certifications pending

Specifications subject to change without notice.



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