



Intelligent  
Energy



## Data sheet

# 650W Fuel Cell Power Module

## Lightweight power module for UAVs and other portable applications

### Fuel Cell Engineering

Intelligent Energy is a fuel cell engineering company focused on the development and commercialisation of its PEM fuel cell technologies for a range of markets including automotive, stationary power and UAVs. We are headquartered in the UK, with additional offices and representation in the US, Japan, India and China.

Intelligent Energy provides a unique solution to extend flight times to drones presently constrained by the limitations of batteries.

Flight durations of over three times that provided by batteries have been achieved and fuel cells provide a natural solution for manufacturers moving to larger drones and heavier payloads.

Intelligent Energy's air cooled fuel cell systems run on hydrogen and ambient air to produce clean DC power in a simple, cost-effective, robust and lightweight package. They have a higher energy to mass ratio than battery based systems and can be refuelled in a few minutes.

Please contact us for availability and pricing.

### Applications

- Survey and inspection
- Search and rescue
- High quality aerial photography
- Precision agriculture
- Parcel delivery
- Warehouse inventory
- Law enforcement
- Military
- Robotics
- Portable power



# 650W UAV fuel cell power module specifications

Maximum continuous power		650W
Maximum peak power (not to be exceeded)		1000W
Output voltage		19.6V – 25.2V
<b>Fuel Cell Power Module</b>	Dimensions	196 × 88 × 140mm
	Mass	810g
<b>Hydrogen Regulator</b>	Mass	250g
	Maximum regulator (cylinder) pressure	300 Bar/4350 PSI
	Output pressure	0.5 Bar ± 0.25 Bar/7 PSI ± 3 PSI
	PRV set pressure	2 Bar/29 PSI
	Burst disc set pressure	450 Bar/6500 PSI
	Maximum cylinder mass	10kg
<b>Hybrid battery</b>	Dimensions	140 × 30 × 20mm
	Mass	230g
	Capacity	1300mAh
	Emergency flight time	2 minutes
<b>Environmental operating conditions</b>	Operating temperature (FCPM should not be operated outside of this range)	5 to 35°C <sup>1</sup>
	Maximum altitude	3000m
	Storage temperature	-10°C to +70°C
	System lifetime	1000 hrs
<b>Safety features</b>	Automatic failure detection system and backup battery	
	Certification of 650W FCPM	CE and FCC
<b>Other features</b>	Internal data storage for firmware update, performance and diagnostics	SD card
	Communication port; to UAV fuel cell module or accessories	UART
	Output electrical connector	XT-60

<sup>1</sup> It may be possible to widen the operating temperature envelope depending on customer power requirements.

For more information about our products visit our website: [www.intelligent-energy.com](http://www.intelligent-energy.com)

To find out how you could benefit from longer flight times, arrange a meeting with a sales representative in your region by emailing: [sales@intelligent-energy.com](mailto:sales@intelligent-energy.com)