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

<table>
<thead>
<tr>
<th><strong>Maximum continuous power</strong></th>
<th>650W</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maximum peak power (not to be exceeded)</strong></td>
<td>1000W</td>
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<tr>
<td><strong>Output voltage</strong></td>
<td>19.6V – 25.2V</td>
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</table>

### Fuel Cell Power Module

- **Dimensions**: 196 × 88 × 140mm
- **Mass**: 810g

### Hydrogen Regulator

- **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

### Hybrid battery

- **Dimensions**: 140 × 30 × 20mm
- **Mass**: 230g
- **Capacity**: 1300mAh
- **Emergency flight time**: 2 minutes

### Environmental operating conditions

- **Operating temperature**: 5 to 35°C
- **Maximum altitude**: 3000m
- **Storage temperature**: -10°C to +70°C
- **System lifetime**: 1000 hrs

### Safety features

- Automatic failure detection system and backup battery
- Certification of 650W FCPM CE and FCC

### Other features

- 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

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1. 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)