IE-Soar™ 2.4kW
Lightweight fuel cell power module for UAVs and other portable applications

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, South Korea and China.

IE-Soar™ 2.4kW is our latest product for UAVs and has the highest output in the range.

The IE-Soar™ 2.4kW is modular which means two modules can be connected in parallel to give an output of 4.8kW. No additional hardware is needed to do this.

Intelligent Energy provides a unique solution to extend flight times of UAVs 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 UAVs 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.
IE-Soar™ 2.4kW specifications

Maximum continuous power 2400W
Peak power Up to 8000W
Output voltage (DCDC regulated) Configurable between 50V and 70V

Fuel Cell Power Module (FCPM)
- Dimensions 128 × 442 × 233mm
- Mass 4400g

Hydrogen Regulator
- Mass 250g
- Maximum regulator (cylinder) pressure 350 bar/5000 psi
- Output pressure 0.5 bar ± 0.25 bar/7 psi ± 3 psi
- Maximum cylinder mass 10kg

Default Hybrid batteries
- Configuration 2 × 6S in series
- Dimensions (per battery) 135 × 40 × 40mm
- Mass (per battery) 535g
- Capacity (per battery) 3300mAh
- Peak power 4800W

Environmental operating conditions
- Startup temperature 5°C to 40°C
- Operating temperature* 0°C to 40°C
- Maximum altitude** 5000m
- Storage temperature -10°C to 70°C
- System warranty 1000 hours

Safety features
- Dual redundant power system and backup battery
- Certification of IE-Soar™ 2.4kW CE and FCC

Other features
- Internal data storage for firmware update, performance and diagnostics SD card
- Communication protocol to UAV or accessories UART / CAN
- Output electrical connector Ring Terminal / AS150

Example Integration
<table>
<thead>
<tr>
<th>UAV</th>
<th>DJI M600 PRO</th>
<th>Gryphon HX-1600</th>
<th>Gryphon XQ-1400 VS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flight time (no payload)</td>
<td>70 minutes</td>
<td>120 minutes</td>
<td>120 minutes</td>
</tr>
<tr>
<td>Flight time (max. payload)</td>
<td>40 minutes (3kg payload)</td>
<td>80 minutes (5.2kg payload)</td>
<td>60 minutes (4.5kg payload)</td>
</tr>
</tbody>
</table>

* -5°C operational capability in development.
** It may be possible to widen this range depending on customer power requirements.

For more information about our products visit our website: 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

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