

Endurance and efficiency gains from self-built UAVs

Using fuel cells for rotary wing UAVs

Hydrogen fuel cells are the best power solution for commercial UAV operators looking for **greater endurance** or **higher payloads**.

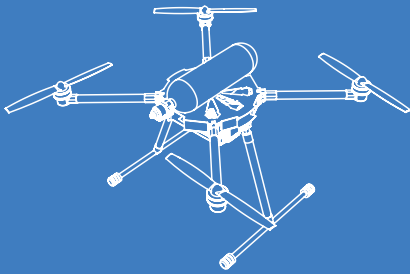
IE-Soar™ modules are easy to integrate into both commercially available platforms and self-built UAVs for use in commercial services such as parcel delivery and inspection. Below are two UAV builds based around IE-Soar™ 800W and IE-Soar™ 2.4kW modules. They are designed to maximise flight time while using readily available, off the shelf and well proven commercial UAV components. Payloads and flight times are shown in the graph below.

Not only do fuel cells offer three times longer flight durations compared to batteries, they also benefit from **fast refuel**, substantially **fewer refuelling stops**, **minimal maintenance** and **longer usable life**.

The UAV configurations shown below illustrate what can be achieved with off the shelf components and IE-Soar™ modules.

7kg AUM

1kg payload – **60 minute** flight time



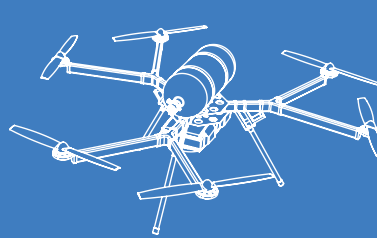
Compact and lightweight UAV designed for up to 1.2kg payloads. Balances good manoeuvrability with excellent lift efficiency. Lighter payloads can fly for upwards of 90 minutes.

Spec:

- IE-Soar™ 800W
- Pixhawk/Here 2 GPS OR DJI A3 controller
- T-Motor MN501-S
- T-Motor AIR 40A ESC
- T-Motor 18 x 6.1 propeller
- Tarot X4 (or similar) frame

25kg AUM

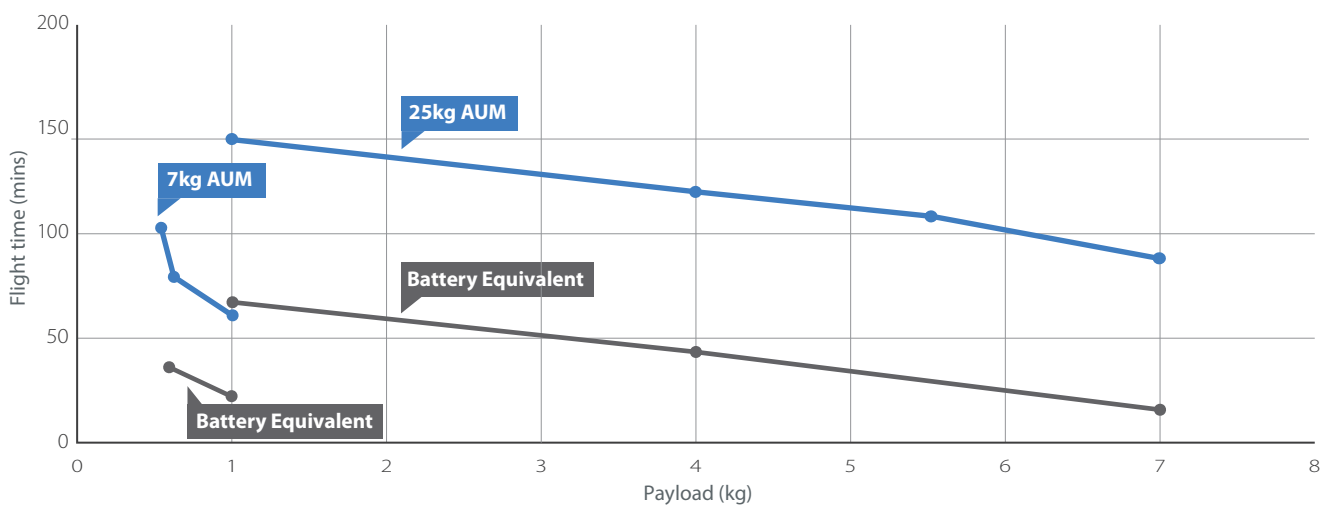
7kg payload – **90 minute** flight time



A medium sized hex rotor, designed to stay within the 25kg (55lb) category. Balances the redundancy of a hex rotor and the lift efficiency suited to long flight times and larger payloads.

Spec:

- IE-Soar™ 2.4kW
- Pixhawk/Here 2 GPS OR DJI A3 controller
- T-Motor U8 Lite KV100
- T-Motor Flame 60A ESC
- T-Motor G28 x 9.2 propellers
- Gryphon HX-1600-VX
- Gryphon LG-3039HX landing gear



For more information, email: sales@intelligent-energy.com
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