

Press Release

Acuity Introduces AT-10 Hybrid VTOL UAS

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This Document: www.acuitytx.com/pdf/AT-10_pr.pdf

AT-10 Brochure: www.acuitytx.com/pdf/AT-10%20Brochure.pdf

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Acuity Technologies Inc. introduced its AT-10 UAS at AUVSI 2010 today. The AT-10 is a Tier II / tactical size hybrid propulsion Vertical Takeoff and Landing UAS with a nose camera mount and a large payload bay. Propulsion is provided by twin electric motors and batteries installed in the wings. The inner section of each wing rotates for the transition between vertical and forward flight. For flights of two hours or less, additional batteries in the upper fuselage provide all-electric propulsion. For longer endurance a heavy fuel generator, fuel cell, or other energy conversion system may be included in the aft fuselage. Analysis shows that this configuration is lighter and more efficient than using internal combustion engine(s) for both VTOL and forward cruise, and this advantage will increase as electric power technology evolves. In addition, the electric power system can provide over 1000 Watts of power for payloads. Unlike many runway-independent UAS, the AT-10 requires no catapult or arresting gear.

Acuity has tested the AT-10 in hovering and forward flight and is seeking R&D / EMD funding to develop the AT-10 into an operational VTOL UAS based on fuel/electric hybrid propulsion. The components of the planned system are

- The air vehicle with electric motors, batteries, and battery charge/balance controller.
- An on-board heavy fuel base small engine based generator, which can be used in flight and on the ground.
- Flight control computer, sensors, and software for vertical and forward flight.
- Ground station for flight operations, simulation and pilot training.
- Payload: Sensors and communication equipment integrated with the vehicle and ground station.

A flight video is available at www.acuitytx.com/AT-10.htm



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