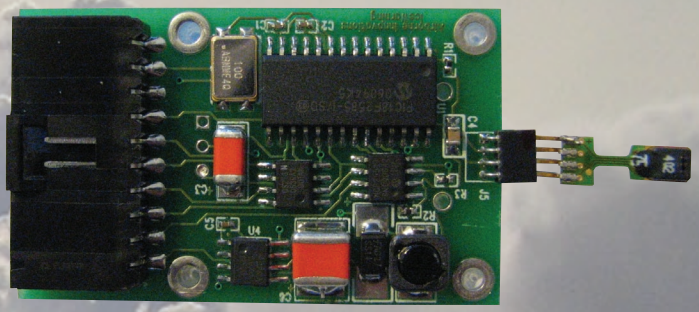
# Airborne Innovations LLC

www.airborneinnovations.com

## IceWarning



### Aircraft Icing Warning Sensor with potential icing conditions and carb ice warning outputs

RS232 / CAN Bus / TTL / Pulse outputs

Airborne Innovations has introduced new technology to aid in icing avoidance and situational awareness. This experimental sensor is designed to help detect potential icing conditions before ice accumulation becomes a problem.

In many icing situations the right thing to do is turn around and go back into icing free conditions. But pilots and UAV operators must keep situational awareness before they are out of options. Research flights have shown that icing conditions can form with ice accumulation rates that can quickly overwhelm most aircraft. A pilot may only have minutes to make a life saving decision to get out of those conditions. This sensor can provide a crucial head start in recognizing conditions conducive to ice formation, even before ice accumulation has begun.

Now with Carburetor Icing Warning feature, and temperature and humidity outputs.

The onboard computer in this miniature icing warning sensor runs an advanced algorithm which detects some potential icing conditions. Research and testing in this field continues and as we improve the algorithm we will provide user downloadable algorithm updates.

In some NTSB reports of in-flight icing events, aircraft crew were not aware of icing conditions before experiencing icing related performance or control degradation.

It is shocking that aircraft and lives are still lost due to flight in icing conditions and through poor awareness and bad piloting decisions. Several years of university research have culminated in this icing algorithm, and we feel a duty to release this product in the hopes that it will contribute to increased aircraft safety.

OEM Applications:
This sensor is ideal for unmanned aerial vehicle (UAV) applications and for experimental manned aircraft. UAV's are routinely lost due to icing conditions. Integration of this sensor provides one more tool that can be used to improve UAV operator situational awareness.

Specifications:
Input Power 7-30 V DC, Power Usage: Less than 0.5 Watt
Weight: 10 grams (processor and sensor element, bare board, not including cable / housing)
Size: 35mm x 56mm x 9 mm (Sensor element protrudes another 17 mm x 4 mm x 2 mm or can be mounted up to several feet from the processor).
Sensor element should be mounted with access to airstream conditions.

Outputs: Digital, RS232 and CAN Bus outputs. Also with tri-state pulse LED output for visual indication for experimental GA aircraft / pulse interface.

Disclaimer
This is an experimental sensor and is not certified. This sensor does not detect ice or supercooled liquid droplets (SLD) directly, but does detect some but possibly not all conditions conducive to ice formation.

*Manta UAV photo courtesy* advanced ceramics research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