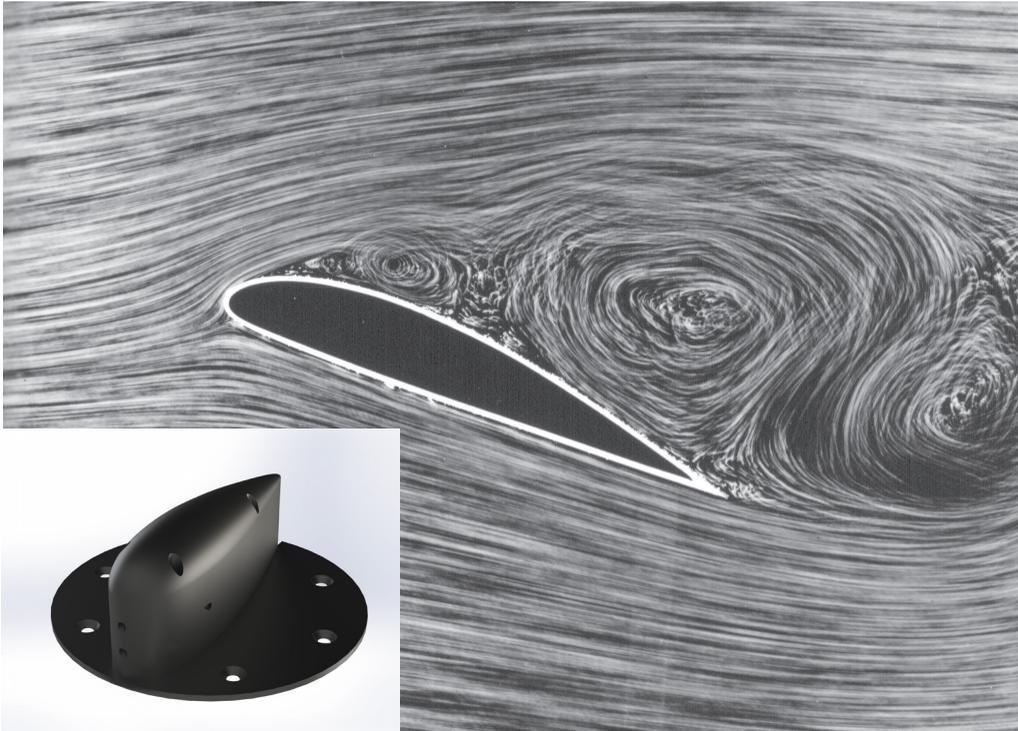




# Airfoil Performance Monitor



## Key Features

- **Directly measures aerodynamic performance at the source (lifting surface of the airfoil)**
- **Provides aircrew, UAS operators and avionics systems with vital information**
- **Provides margin to stall that can occur for any reason : Exceeding stall AoA, Contamination, Mach buffet**
- **Shows location of stall so pilot can take appropriate action**
- **Optimizes use of de-icing systems**

## Applications

- **Aircraft safety under icing, wing contamination and wing degradation conditions**
- **Appropriate for both Civil and Military applications**
- **Protects RPAS from loss due to icing encounters**
- **Extends RPAS range and payload in adverse weather environments by optimizing the ice protection system**
- **Detection of icing encounters to enable FIKI operations**
- **Works on any lifting surface for both fixed and rotary wing**

## Overview

Contaminated or iced airfoils have a critical effect on flight dynamics, particularly during or immediately after take-off, and have been known to cause numerous aircraft accidents. Existing stall warning and ice detection systems provide little or no advanced warning of impending stall conditions and little useful information about the actual contamination conditions at the airfoil surfaces.

Marinvent's Patented APM is an airflow monitoring technology that accurately assesses the "stress" on any airfoil at the airfoil surface itself by measuring the airflow turbulence intensity, which directly correlates to the airfoil's proximity to stall.

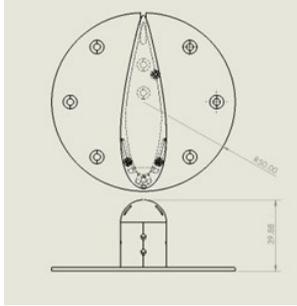
The APM system is the only system that measures the state of the airflow over any airfoil surface in all phases of flight and in all weather conditions. The APM tells the pilot or avionics systems the margin of lift remaining to the stall for that airfoil even when it is iced, contaminated, or degraded, and can additionally be used to optimize the use of any on-board, active de-icing system.

SETP ETA Award



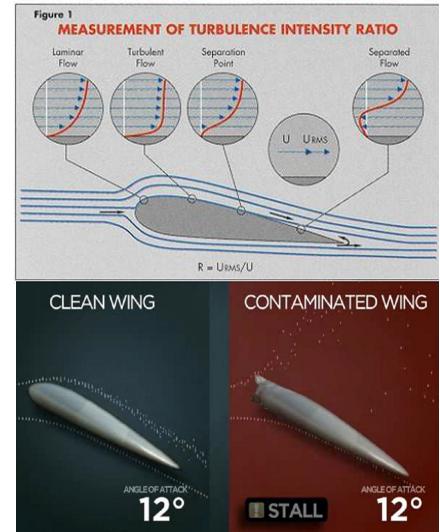
Visit us at [www.marinvent.com](http://www.marinvent.com)  
[info@marinvent.com](mailto:info@marinvent.com)





## Benefits:

- **Directly measure aerodynamic performance at wings, stabilizers, blades (micro APM - under development)**
- **Real-time data - all phases of flight**
- **Know when to activate/de-activate icing systems**
- **Advanced warning of impending stall**
- **RS485 or other standard data output for simple avionics integration**
- **Protect assets against icing encounter losses**



## Specifications:

- **Operating Voltage 28 VDC (16 to 32 VDC per MIL-STD-704A), < 10 Watts.**
- **Mating Connector J1 connector to mate with D3899926WD35SN.**
- **Pitot port as PER AS4395-4 (MS33656-4). Static port as PER AS4395-6 (MS33656-6).**
- **Input/Output ARINC 429 high-speed (100 kb/s); MIL-STD-1553 optional.**
- **Hardware Qualifications RTCA/DO-160D, MIL-461, MIL-810.**
- **Software Qualifications RTCA/DO-178B level B.**
- **Firmware compliant to RTCA/DO-254.**
- **Operating Temperature -40°C to +70°C.**
- **Storage Temperature -55°C to +85°C.**
- **Reliability MTBF 40,000 hours at 30°C ambient, airborne inhabited cargo.**

## About Marinvent

Marinvent is a privately held Canadian company that was founded in 1983. Marinvent is headquartered on the outskirts of Montreal, the leading aerospace center in Canada and one of the largest aerospace centers in the world. Marinvent exists to innovate in aerospace, particularly in the areas of safety, human factors optimization and certification. It undertakes its own research and development and collaborates with others to create valuable aerospace intellectual property aimed at reducing customers' program/product risk, cost and schedule, helping them to innovate quickly. Marinvent is a reliable and trusted partner for cutting edge collaborative research with companies large and small across Canada and beyond. Marinvent makes its own tools, test equipment and IP available to its customers and research partners under license. Marinvent is particularly experienced in leveraging available provincial and federal government funding assistance in order to minimize the private investment required to innovate. Marinvent's customers include aircraft OEMs, integrators, tier 1s, tier 2s and government customers around the world.

Marinvent prides itself in helping its customers bring their products to market and has a stellar track record of doing exactly that.

## Awards

- **Canadian American Business Achievement Award** - For leading a joint enterprise demonstrating strong business growth, remarkable innovation, noteworthy contributions to local communities and the capacity to provide their partners with a global advantage
- **Canadian Aeronautics & Space Institute: Trans Canada (McKee) Trophy** - Canada's oldest and most prestigious aeronautical trophy awarded to Marinvent for the Canadian whose achievements were most outstanding in promoting aviation in Canada
- **Aviation Week & Space Technology Laureate** - "...helping to transition from paper in the cockpit to a digital flight deck."
- **Canadian Business Aviation Association Industry Award (x2)** - Outstanding contribution to aviation. And, for the safety gains achieved through human factors enhancements, systems engineering and flight test services
- **Aerospace Association of Quebec (AQA) Prix de l'Entreprise**
- **Create the Future Award** - APM product winner
- **National Aeronautics and Space Administration (NASA) - Small Business Subcontractor of the Year (TASAR)**
- **AIAC James C Floyd Award** - Aerospace Company of the Year
- **New Zealand Ministry of Defense Award of Excellence to Industry** - Marinvent singled out as one of the two most valuable contractors from a pool of more than 800 contractors for contributions to C-130 LEP and P-3K capital programs
- **C2-MTL Annual Aerospace Award** - Marinvent's work on unmanned aerial systems flight test and evaluation with its Piaggio Avanti project singled out as aerospace innovation of the year
- **National Aeronautics and Space Administration (NASA) - LaRC 2014 Group Achievement Award**
- **Canadian Defense Executive of the Year** - Dr. John Maris
- **Canadian Aviation Hall of Fame** - Dr. John Maris
- **Canadian Defense Review** - Top 50 Defence Companies 2015-2024



Visit us at [www.marinvent.com](http://www.marinvent.com)

[info@marinvent.com](mailto:info@marinvent.com)