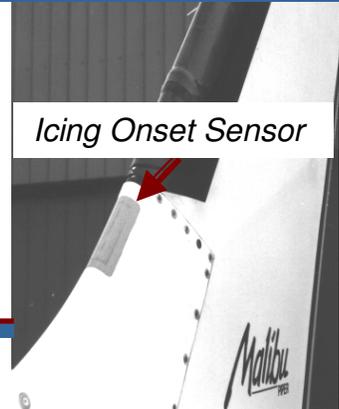




# Icing Onset Sensor

Flush Mount Aircraft Icing Sensor



Icing Onset Sensor

## Features

- Detects initial onset of icing and indicates when critical ice levels are reached
- Distributed ice measurement over the sensor area provides wide area sensing
- Flush mount installation
- Deice output available for autonomous deicing application



Display



Electronics Unit

## Overview

The *Icing Onset Sensor* is a flush mount sensor for aviation applications that detects initial onset of icing and indicates when critical ice levels are reached. It uses capacitance based technology to continuously monitor for the onset of icing.

The sensor consists of a copper electrode pattern embedded in a polyimide laminate which is attached to the airfoil surface. A typical sensor patch measures 1.5" chord-wise x 4.5" span-wise. In custom applications, these dimensions are tailored in accordance with the leading edge curvature, angles of attack, and icing prone region.

A small electric field is setup on the surface of the sensor. The presence of ice on the sensor alters the field characteristics. A small electronics box contains circuitry that monitors and interprets the electric field signals. The box can be located remotely from the sensor and connected via small coaxial cables.

A display is provided as a small cluster of indicator lights. A *Trace* light comes on when 0.05" ice is detected and remains on as long as ice is present on the sensor. An *Ice* light comes on when the ice pack becomes thicker than 0.25".

## Applications

- General Aviation
- Engine Inlets
- Unmanned Air Vehicles
- Windmills
- Commercial Refrigeration
- Antenna Towers

## Specifications

### Ice Sensor:

Sensor Area.....1.5" x 4"  
 Sensitivity.....0.05" ice

### Electronics Unit:

Size.....4" x 7" x 2"  
 Power.....28VDC @ 0.18A  
 Weight.....1.5 lbs  
 Interface.....RS-232, Discreet Logic

### Display:

Size.....1" x 3.5"  
 Indicator lights.....Ice, Trace, Error  
 Push-button light test