

# **ICESAFE™ Carburettor Ice Warning System**



**User Guide**

**October 2013**

## Warning

This document describes the operation and installation of the ICESAFE™ Carburettor Ice warning system. ***ICESAFE™ has not undergone any Airworthiness approval and is only intended for use on permit (non-certified) aircraft that do not rely on the engine for flight safety. In some countries, installation of ICESAFE™ may be subject to approval requirements from a governing body. It is the aircraft owners/pilots responsibility to ensure that any approval necessary is obtained prior to installation and use.***

## Package Contents

Your package should contain the following items:

- 1 x ICESAFE™
- 1 x CR2032 battery (pre-installed)
- 3 x Cable ties
- 1 x User guide

## Introduction

Each year there are a number of accidents (including some fatalities), which are attributed to Carburettor icing. Ice formation is subtle and can occur even in warm conditions. It is often not identified in time due to a lack of knowledge or inexperience of the pilot.

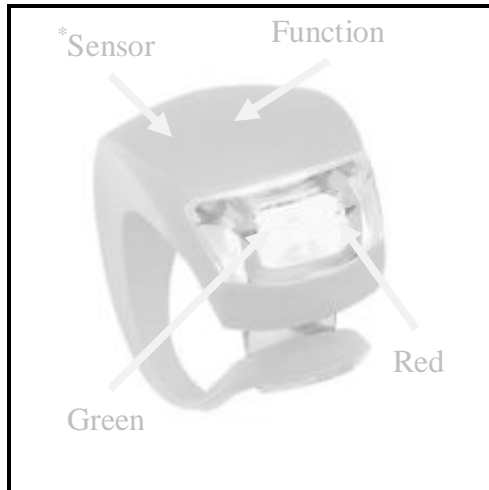
ICESAFE™ is a Carburettor Ice warning system designed to improve environmental awareness of the pilot, thereby enhancing the safety of the aircraft. ICESAFE™ uses precision sensor technology to monitor the atmosphere to detect and warn of conditions which are conducive to icing, **before** significant formation occurs.

## Features and functionality

### Features

- Uses highly accurate sensor technology.
- Low power consumption with automatic shutdown and low battery alert.
- Easy to install and simple use.
- Compact, aerodynamic design.
- Durable, water resistant case.
- Secure attachment facility.

### Functionality



\* Do not obscure the sensor aperture.

- **On/Off:** Pressing the function button toggles between on and off. A Green/Red indicator is shown momentarily when the unit is switched On/Off respectively. Whilst on, the Green indicator blinks once every 4s to indicate that the unit is running and monitoring for icing conditions.

- **Ice alert:** If serious icing conditions are detected then the Red indicator flashes eight times every 4s until the conditions have passed, the user initiates the snooze feature or the unit is switched off.
- **Snooze:** Pressing the function button once during an ice alert initiates the snooze feature. This will mask any further alerts for 15 minutes. Whilst snoozing, the Red indicator will blink once every 4s to remind the user that alerts are being masked.
- **Auto shutdown:** If the unit has been running for approximately two hours then it will automatically turn itself off to preserve battery life.
- **Low battery alert:** whilst running, the unit continuously monitors the battery to see if it is low. If this is the case then the Red indicator (instead of Green) will blink every 4s to alert the user that the battery is low. Battery life is dependent on use and is typically in excess of two years.

## Specifications

Temperature range	-20 °C to +70 °C
Measurement range	-5 °C to +40 °C
Sample timer	4 sec
Snooze timer	15 min
Shutdown timer	120 min
Battery low	≤ 2.25V
Cell type	CR2032, 3V
Dimensions	40mm x 30mm x 30mm
Weight	45g

## **Installation**

### **Step 1 – Installing/Replacing Batteries**

Your Carburettor Ice warning system should come with a CR2032 coin cell already installed and ready to go. If this is the case then you will need to remove the insulating clip prior to use. However, if this is not the case then you will need to remove the silicon housing by peeling it back. This will reveal a transparent inner case. Remove the battery cover and insert/replace the CR2032 battery. Replace the battery cover and silicon housing and continue use as normal.

### **Step 2 - Deciding on Placement**

You should carefully decide where you are going to put your Carburettor Ice warning system. Ideally, this should be a fixed position in your field of view to maximize visibility. It should also be in reach so that the function button is accessible. The unit should be placed in a thermally neutral area and have access to outside airflow.

### **Step 3 - Attaching**

Exactly how you attach your carburettor ice warning system will depend on what you are attaching it to. The unit is designed to be attached to rigid tubing with a diameter of at least 25mm. The silicon housing is designed to be stretched around the tube and hooked back onto itself. Tie wraps should be used to lock the device securely to the tube to prevent detachment during use.