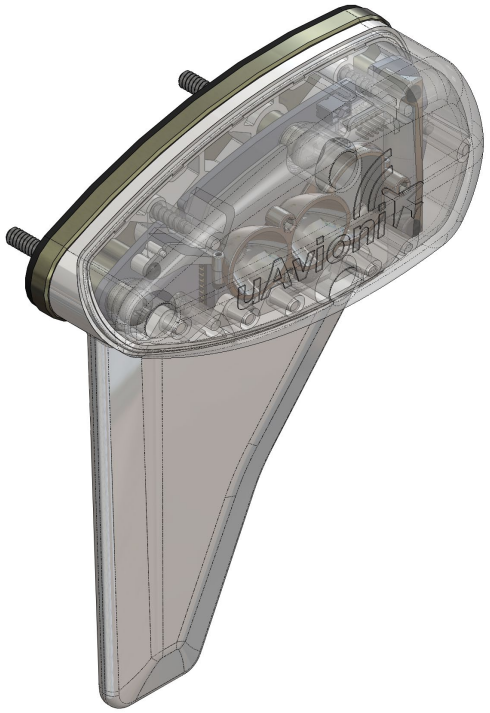
skySensor

Overview

skySensor is a dual-band ADS-B receiver built into a wing-tip, starboard position and anti-collision light. Intended as a companion product to skyBeacon, it includes a static pressure sensor and GPS receiver.
Traffic, weather and position are transmitted via Wi-Fi to GDL90 compatible EFB applications.



Features

ADS-B Receiver

- Dual-Link ADS-B receiver; receives legacy 1090MHz ADS-B traffic, UAT traffic and uplink data
- Meets the MOPS of DO-260B and DO-282B

Position Light

- Meets performance requirements of TSO-C30c Type II

Anti-collision Light

- Meets performance requirements of TSO-C96a Class II

Static Pressure

- Integrated precision, temperature controlled static pressure sensor accurate to 35,000ft

GPS

- Integrated RAIM processor for Security and Integrity protection
- SBAS corrections and health messages used to detect and correct satellite range errors
- Satellite pseudo range step errors detected and excluded
- SBAS fast and long-term corrections applied

Wi-Fi

- Integrated Wi-Fi to transmit In-flight weather, NEXRAD radar, METARs, TAFs, TFRs, AIRMETs, SIGMETs and NOTAMS to EFB applications.

Patents Pending

Technical Specifications

Specification	Value
Input Voltage	11-31V DC
Operating Power	3watts
Size	124x116x48mm
Weight	90grams
Operating Temp	-45 to 70°C
ADS-B receivers	
1090 Sensitivity	-93dBm
978 Sensitivity	-104dBm
GPS	
Tracking Reacquisition Cold Start	-166dBm -160dBm -148dBm
LED Position Light	
Color	Aviation Green
Intensity	40 candelas
LED Anti-collision Light	
Color	Aviation White
Intensity	400 candelas
Wi-Fi Configuration	
Physical	802.11b/g/n
App Compatibility	iOS, Android

Installation Procedures

skySensor is a wingtip, forward, right position light. The assembly should be mounted as far outboard on the aircraft as practical, parallel to the vertical and horizontal centerlines of the aircraft. Ensure that when mounted, the fin and top of the assembly are free from obstructions.

1. Remove the existing right position light.
2. Detach the power wire(s).
3. Connect the red wire to the switched power wire.
4. skySensor is grounded to the aircraft structure via the mounting screws.
   However, it may be necessary to connect the black wire to the airframe ground.
5. Mount skySensor using the three supplied 6-32 screws and o-rings.
   See diagram page 3

Changes to the existing position light circuit breaker rating are not required.

Wiring Considerations

Connect the red wire to the switched power wire.

Connecting the black wire to the aircraft structure should be suitable but it may be necessary to connect the black wire to the battery ground in some cases.

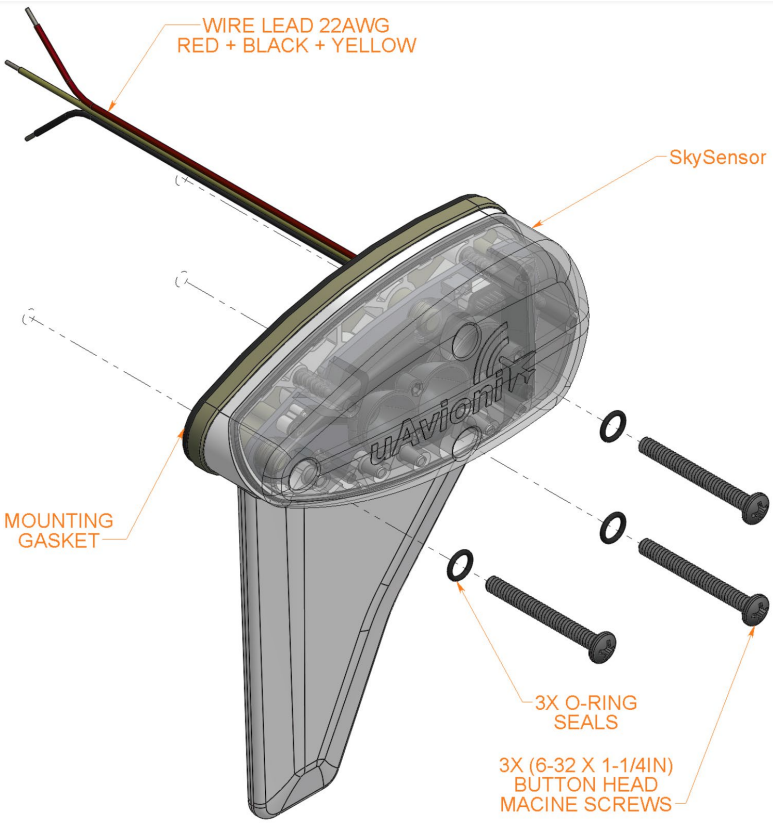
Connect the yellow wire to the strobe switch. The strobe high voltage power supply **must** be bypassed for the skySensor. Connecting skyBeacon to the HV strobe power supply will damage the device and **void the warranty.** The easiest way to bypass a strobe power supply is to jumper the 12-24V input side of the power supply to the skySensor yellow wire.
For more information visit uavionix.com/support

Connecting an Electronic Flight Bag

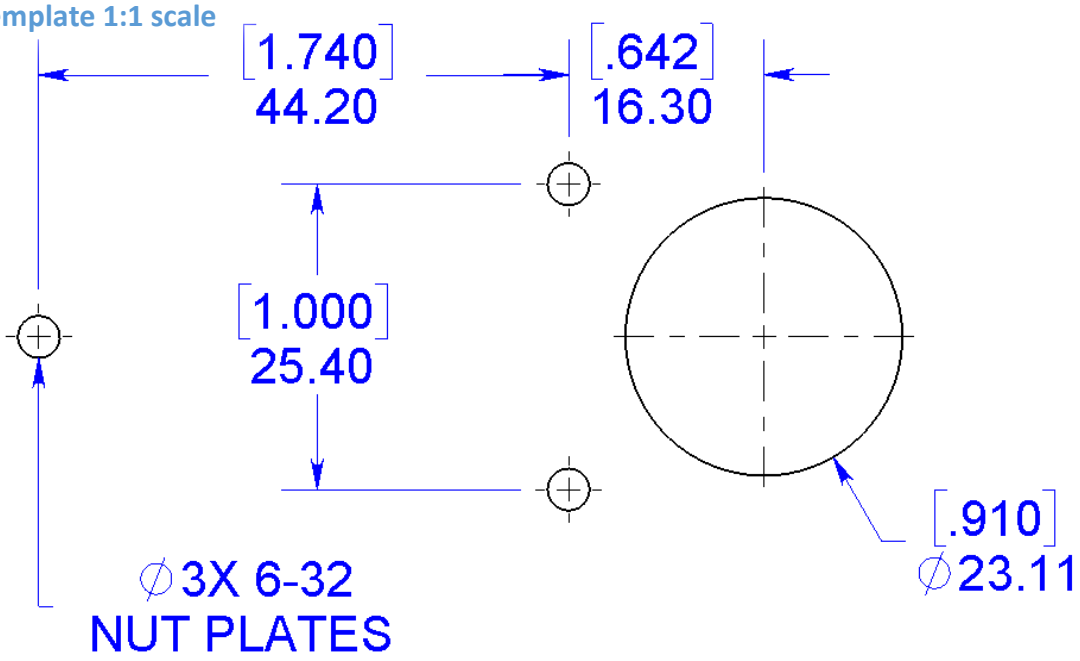
1. Apply power to skySensor by turning the position lights on.
2. Connect your wireless device to the skySensor SSID.
3. Once connected follow the instructions for your electronic flight bag application.
4. Traffic, weather and GPS data will be available to the application.

Applications supporting GDL90

Installation Diagram



Mounting template 1:1 scale



Environmental Specifications

Conditions	DO-160G	Description of Conducted Tests
Temperature and Altitude	4.0	Equipment tested to Category B2
Low temperature ground survival	4.5.1	-55°C
Low Temperature Short-Time Operating	4.5.1	-45°C
Low Temperature Operating	4.5.2	-45°C
High Temperature Operating	4.5.4	+70°C
High Temperature Short-Time Operating	4.5.3	+70°C
High Temperature Ground Survival	4.5.3	+85°C
Loss of Cooling	4.5.5	Cooling air not required (+70°C operating without cooling)
Altitude	4.6.1	35,000feet
Decompression	4.6.2	Equipment identified as Category B2 – no test
Overpressure	4.6.3	Equipment identified as Category B2 – no test
Temperature Variation	5.0	Equipment tested to Category B2
Humidity	6.0	Equipment tested to Category B2
Operation Shocks	7.2	Equipment tested to Category B
Crash Safety	7.3	Equipment tested to Category B type 5
Vibration	8.0	Aircraft zone 2: type 3, 4, 5 to Category S level M, type 1
Explosion	9.0	Equipment identified as Category X – no test
Waterproofness	10.0	Equipment identified as Category X – no test
Fluids Susceptibility	11.0	Equipment identified as Category X – no test
Sand and Dust	12.0	Equipment identified as Category X – no test
Fungus	13.0	Equipment identified as Category X – no test
Salt Spray	14.0	Equipment identified as Category X – no test
Magnetic Field	15.0	Equipment identified as Category Z
Power Input	16.0	Equipment identified as Category ZX
Voltage Spike	17.0	Equipment identified as Category B
AF Conducted Susceptibility	18.0	Equipment identified as Category B
Induced Signal Susceptibility	19.0	Equipment identified as Category AC
RF Susceptibility	20.0	Equipment identified as Category TT
RF Emissions	21.0	Equipment identified as Category B
Lightning Induced Transient Susceptibility	22.0	Equipment identified as Category XXXX – no test
Lightning Direct Effects	23.0	Equipment identified as Category X – no test
Icing	24.0	Equipment identified as Category X – no test
Electrostatic Discharge	25.0	Equipment identified as Category X – no test
Fire, Flammability	26.0	Equipment identified as Category C