

Ambient Light Sensor

ALS-2

INTRODUCTION

The ALS-2 Ambient Light Sensor is designed to measure background luminance as part of an instrumented Runway Visual Range (RVR) system. Mounted alongside the runway and typically deployed with a visibility sensor, it provides the ambient light data required for accurate RVR calculation.

Developed to comply with ICAO, WMO and FAA specifications and guidelines, the ALS-2 meets all requirements for use in typical aviation RVR systems. Direct connection to a Senseca visibility or present weather sensor allows background luminance data to be embedded into the visibility sensor data string, simplifying system design, cabling and data processing, and making the ALS-2 suitable for both new and legacy installations.

FEATURES

Background luminance for RVR systems

Provides background luminance specifically for instrumented Runway Visual Range (RVR) applications.

Stand-alone aviation compliant sensor

Designed to meet ICAO, WMO and FAA guidance for use in aviation RVR systems.

Flexible data interfaces

Supports integration into both legacy and new RVR installations via configurable digital outputs.

Simple runway-side installation

Compact sensor with pole-mounting bracket and integral alignment scale for quick, accurate positioning.

Robust operation and low maintenance

Heated window, contamination adjustment and extensive self-test functions help ensure reliable performance with reduced maintenance effort.

CONFIGURATION & MEASUREMENT

RVR-compliant luminance measurement

Measures background luminance in accordance with ICAO, WMO and FAA guidance, providing data suitable for use in RVR calculations.

Combined output with Senseca sensors

When connected to our visibility or present weather sensor, ALS-2 luminance values are embedded in the host sensor's data string, delivering a single integrated output for the RVR system.

Interfaces and system integration

A choice of serial data outputs allows straightforward connection to RVR controllers and monitoring systems, supporting both retrofit and new installations.

Field calibration procedure

Using the ALS-2 Field Calibrator accessory, calibration checks and adjustments are carried out on site via an IR link through the optical window, without disconnecting cables or using specialist laboratory equipment.



- **DESIGNED TO FAA AND ICAO REQUIREMENTS**
- **0 TO 40,000 CDM-2 MEASUREMENT RANGE**
- **CHOICE OF SERIAL DIGITAL RS232 OR RS422 DIGITAL OUTPUTS**
- **SIMPLE AND QUICK IN FIELD CALIBRATION**
- **DIRECT CONNECTION TO SENSECA VISIBILITY AND PW SENSORS**
- **EXTENSIVE SELF-TEST CAPABILITIES**
- **-60°C TO 70°C OPERATING RANGE**
- **2 YEARS WARRANTY**

General specifications

OUTPUTS

Serial data outputs **RS232, RS422 OR RS485**

POWER REQUIREMENTS

Sensor power **9-36 Vdc**

Hood heating power **24 Vac or dc**

Sensor & window heater **2 W**

Hood heater **12 W**

Extended heating **18 W (includes hood heater)**

ADDITIONAL FEATURES

Window heater **Fitted as standard**

Window contamination monitoring and compensation **Fitted as standard**

ENVIRONMENTAL

Operating temperature **-40 °C to +70 °C**
with extended heating **-60 °C to +70 °C**

Operating humidity **0 – 100% RH**

Protection degree **IP 65**

PHYSICAL

Material **Aluminium. Powder paint finish, with hard anodize base layer**

Weight **1.5 kg**

Elevation angle range **0° to 45°**
from horizontal

Warranty **2 years**

Lifetime **>10 years**

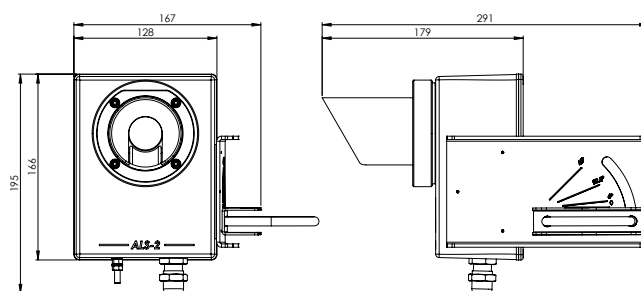
CERTIFICATION & COMPLIANCE

- CE Certified
- EMC compliance with EN61326-1997, 1998, 2001
- RoHS and WEEE compliant

Measurement specifications

Measures	Luminance (ambient light)	
Output	Serial data	
Measurement range	0-40,000 cd m⁻²	(0.5-11,700 fL)
Resolution	1 cd m⁻²	(0.29 fL)
Measurement error	≤ 10% of value or 2 cd m⁻² (0.58 fL), whichever is greatest	
Spectral response	Wavelength sensitivity range 420-675 nm, peak 565 nm. Analogous to CIE luminous spectral efficiency.	
Field of view	6°	
Averaging period	60 s	

Dimensions



ALS-2 Calibrator connected to the ALS-2 for in situ calibration



Optional heated hood prevents snow accumulating around the optical window.

Ordering codes

ALS2.		
		Configuration RC = regular configuration SC = special configuration
		Data output B. = VPF connector - 1.5m cable with connector D. = SWS/RS232 output - 1.5m cable with flying leads E. = RS422/RS485 output - 1.5m cable with flying leads
		Hood heating EH. = Extended heating HV.= With heating NH. = Without heating

Example: ALS2.**HV.D.RC**

Accessories – Optional

ALS-2.CAL	Ambient Light Sensor Calibrator
ALS2.WTY	1 year extended warranty

The sensor is delivered in sturdy recyclable foam filled packaging with Pole mounting kit (1 x U-bolt and saddle), user manual and calibration certificates