Ambient Light Sensor

The Biral ALS-2 is a sensor designed to provide an accurate and reliable determination of the amount of background light during all weather conditions.

Such a sensor is usually referred to either as an Ambient Light Sensor (ALS) or Background Luminance Sensor. Such sensors are typically used as part of a system to determine the Runway Visual Range at an aerodrome. The ambient light received by the sensor's 6° field of view is focussed onto a photodiode of similar spectral response to the human eye. The output from the photodiode is used to determine the ambient light level using the standard (SI) units of candela per square metre (cd m-2), averaged over one minute.

Features

- Provides an accurate and reliable determination of the amount of background light during all weather conditions.
- Designed to Federal Aviation Authority (FAA) requirements
- Built to existing Biral HSS and SWS design standards.
- Optical response to mimic a human observer
- Stand alone or integrated to Biral HSS or SWS sensors
- Digital and/or Analogue outputs
- Extensive self-checking
- Field calibration without additional calibrator

SPECIFICATIONS	
Specifications subject to change without notice	
Parameters	**Specifications**
Dynamic range	2-40,000 Cdm-2 (0.5-11,700 fL)
Resolution	Digital O/P: 2 Cdm-2 Analogue O/Ps: 2 Cdm-2 for low mode (2 - 4,000 Cdm-2) 10 Cdm-2 for high mode (10 - 40,000 Cdm-2)
Measurement accuracy	<10% of value
Field of view	6°
Spectral response	Wavelength sensitivity range 420-675 nm, peak 565 nm Analogous to CIE luminous spectral efficiency.
Window contamination monitoring	Yes
Window hood and enclosure heaters	Window heater is standard, but may be disabled Hood heaters is optional Enclosure heater is optional
In-field calibration capability	Yes
Automatic self-checking	Yes

Interfacing	Sensor can operate either stand alone or integrated with Biral HSS and SWS visibility and present weather sensors
Output connections	Digital: RS232, or RS422, or RS485 Analogue : Two outputs – Low Mode 0 - 4,000 Cdm-2 (0 – 10V) High Mode 10 – 40,000 Cdm-2 (0 – 10V)
Operating environment	-40°C (-55°C with optional internal heater) to +70°C 0 to 100% (condensing) relative humidity
Enclosure rating	IP66 (water and dust tight), corrosion resistant
Power	9-36 VDC for sensor and window heater, 24-28V AC or DC for hood and internal heaters. Can draw power directly from Biral HSS or SWS sensor
ORDERING	