

AWA - ALS

Background Luminance Sensor

The AWA-ALS is an ambient light sensor specifically designed to measure background luminance in Mesotech's Runway Visual Range (RVR) systems. Its output is used to assess day and night conditions and to calculate the illumination threshold in visual range determination. The ALS is usually installed near the airport runway in the vicinity of a visibility sensor. The equipment is constructed with corrosion resistant materials and can withstand the harshest weather conditions.

The output of the ALS is a continuous analog signal proportional to light level. This output connects to Mesotech's Data Collection Platform (MicroDCP) or any other data acquisition system with I/O capability. The output signals are two channels, both with a range of 0 to 3 volts, providing a luminance range of 0 to 100 Foot-Lambert and 0 to 12,000 Foot-Lambert (30,000 cd/m²).

The ALS consists of an optical head assembly and a power supply interface. The head assembly mounts outdoors on a 25 to 50 mm poll using stainless steel U-bolts. The leveling fixture on the head assembly assists in setting a tilt angle of 3° to 6° above the horizon. The power supply connects to AC mains power and provides the DC voltages required by the optical head assembly. Fuses and 3 stages of lightning transient protection are installed at the AC connection terminals. A lug is provided on the enclosure for connection to the earth-grounding electrode. Both the head assembly and the power supply are weatherproof.

The ALS can be ordered with the optional Remote Maintenance Monitoring equipment. This includes sensors to detect lens contamination and photocell degradation, and to monitor the temperatures of the lens, hood, and case when the heaters are active.

Ordering Information

AWA-ALS	Background luminance and ambient light sensor with optical head assembly and power supply interface.
ALS-RMM	Remote monitoring option for AWA-ALS



Technical Specifications

Detector:	Silicon photodiode
Active area:	14.8 mm ²
Temperature coeff:	<0.1% / °C
Peak response:	555 nm, photometric
Filter:	IR rejection
Luminance range:	0 to 100 and 0 to 12,000 ft-L
Field of view:	6 degrees
Operating temperature:	-40°C to +60°C
Relative humidity:	0 to 100%
Transient protection:	3 stages and fuses
Power	
Supply interface:	110 VAC to 240 VAC, 50/60 Hz
Optical sensor:	+12 VDC
No dew heater:	+12 VDC
Deicing heater:	+42 VDC
Built-in test equipment	
Optical:	Lens contamination, detector degradation
Thermal:	Window, case, & hood temperature
Dimensions:	
Head assembly:	22 cm x 28 cm
Power supply:	25 cm x 30 cm
Mounting:	25 to 50 mm diameter pipe
Weight:	12 kg