

LL-ALS1E High Accuracy External Light Level Transmitter



Technical Overview

The **LL-ALS1E** is a light level transmitter designed for use in the active control of artificial lighting, both to optimise light levels and to achieve maximum energy efficiency.

The **LL-ALS1E** transmitter uses a photo-diode cell to detect light levels in a selection of lux ranges, providing a linear 0-10Vdc output signal.

The **LL-ALS1E** is designed for outdoor mounting for the measurement of external light levels.

Features:

- Link selectable ranges
- 24Vac/dc supply
- 0-10Vdc output

Supplied by Greenlite Controls Ltd.



Specification:

Sensor reference	Photo-diode
Accuracy	±5% across range
Field of view	60 Degrees
Ranges (Switch selectable):	
0-2000 Lux	
0-4000 Lux	
0-10000 Lux	
0-20000 Lux	
Housing material	Polycarbonate
Dimensions	See page 2
Ambient range:	
Temp. 0°C - 50°C	
RH 0 - 100% non-condensing	
Power supply	24Vac/dc (±10%)
Connections	3-wire
Output	0-10Vdc
Protection	IP65
Weight	250g
Country of origin	UK

Operational Data :

Typical Daylight Conditions: Lux

Dusk	15-20
Average daylight	2000
Bright sunlight	20000+

Service Illuminations: Lux

Minimum for outdoor areas	25
Exterior walkways & car parks	50
Industrial circulation areas, stores etc.	150
Minimum task lighting	200
General offices & retail areas	500
Fine task, machine operation, precision assembly etc.	1500

Product code:

LL-ALS1E

Datasheet: LL-ALS1E Iss. 5.0 26/05/1999



Installation and connection details:

All connections to BEMS controllers, data recorders etc. should be made using screened cable. Normally, the screen should be earthed at one end only (usually the controller end) to avoid earth hum loops which can create noise. Low voltage signal and supply cables should be routed separately from high voltage or mains cabling. Separate conduit or cable trays should be used. Where possible, the controller's earth should be connected to a FUNCTIONAL EARTH, rather than the mains safety earth. This will provide better immunity to high frequency noise. Most modern buildings have a separate earth for this purpose.

Mounting:

It is recommended that the unit be mounted with the cable entry at the bottom. If the cable is fed from above then into the cable gland at the bottom, it is recommended that a rain loop be placed in the cable before entry into the sensor.

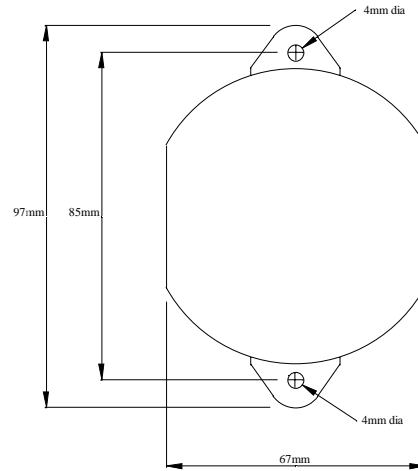
Remove the front cover by twisting the lid and separating from the main body. Using the base of the housing as a template mark the hole centres. Drill two pilot holes at 85mm centres in the surface on which the sensor is to be mounted, and fix the sensor with appropriate screws. The housing is designed to make it easy for an electric screwdriver to be used if desired.

Feed the cable through the waterproof gland and terminate the cores at the terminal block. Leaving some slack inside the unit, tighten the cable gland onto the cable to ensure watertightness. Replace the lid after the electrical connections have been made.

Connections:

- +V = Supply
- 0v = Gnd
- O/P = 0-10Vdc output

Housing dimensions:



The slug link is used to reduce the speed of response of the photo-diode to prevent spurious reaction to transitory light level changes, such as passing clouds etc. The slugging effect operates when the slug link is fitted.

Setting the light level range:

The range of the light level is selected by moving the light level jumper to the required 2-way header. Four ranges are available:

- 0 - 2000 Lux
- 0 - 4000 Lux
- 0 - 10000 Lux
- 0 - 20000 Lux

