

Outside Light Level Sensor

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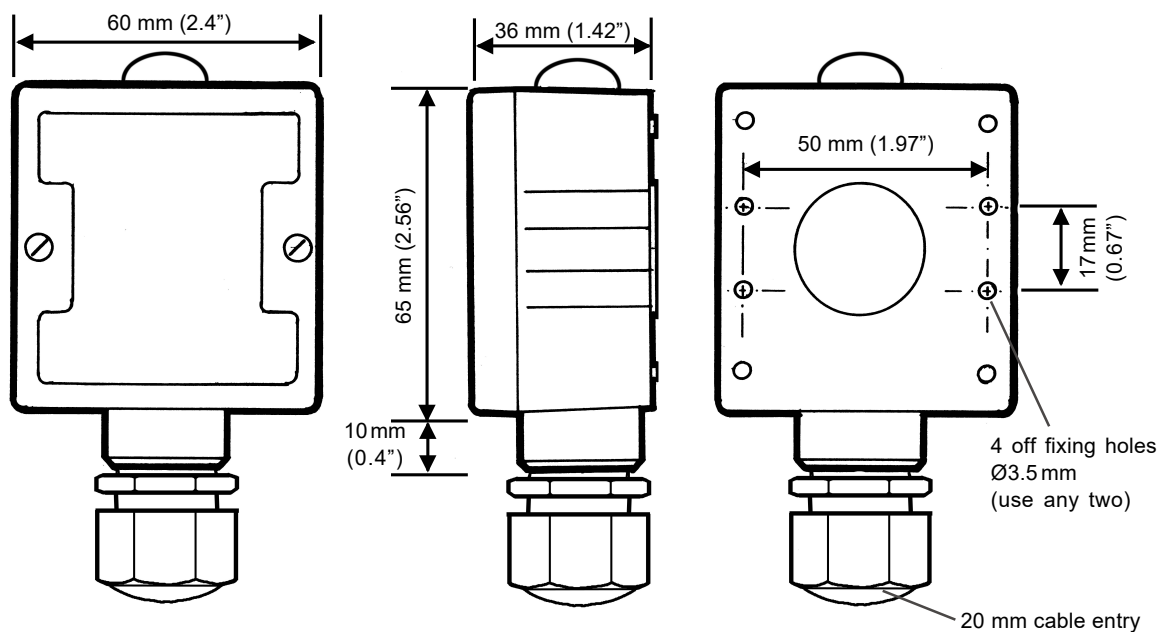
Description

The Outside Light Level Sensor is an accurate lux calibrated light level sensor which can be used for monitoring and control applications. The enclosure is IP65 rated complete with M20 cable gland making it ideal for external use. The signal output is 4 to 20 mA loop powered and the lux range is selectable at installation from the following: 0 to 1000, 0 to 2000, 0 to 4000, 0 to 8000, or 0 to 20000 lux.

Features

- multi-range, site selectable
- 4 to 20 mA output
- IP65 housing
- Ideal for outside light level measurement

Physical



FUNCTIONALITY

The sensor is mounted into a IP65 housing providing a polarity independent, loop powered 4 to 20mA signal proportional to the light level (lux) range selected.

OPERATIONAL DATA

Typical Daylight Conditions

illuminance (lux)	Description
15 to 20	dusk
2000	reasonable daylight
20000+	bright sunlight

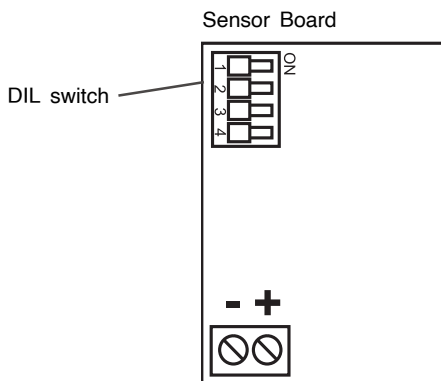
Recommended Service Illuminations

illuminance (lux)	Description
20	minimum service illuminance in outside circulation areas
30	outdoor stores, stockyards
50	exterior walkways, and car parks
75	docks and quays
150	circulation areas in industry, stores, and stockrooms
200	minimum service illuminance on task
500	general office and retail sales areas
1500	fine bench and machine work, and precision assembly

Note:- Hand held meters generally have $\pm 10\%$ error

Switch Settings

Inside the sensor is a 4way DIL switch which can be used to select the lux range.



SW1	SW2	SW3	SW4	Range (lux)
On	On	On	On	1000
Off	On	On	On	2000
Off	Off	On	On	4000
Off	Off	Off	On	8000
Off	Off	Off	Off	20000

Default settings are for 2000 Lux

INSTALLATION

The sensor should be located on a north facing wall, out of direct sunlight. It should not be close to a light source such as street lighting.

The installation involves:

Choose location

Remove lid and mount sensor through the 2 mounting holes (do not drill the sensor box)

Route cable through cable gland

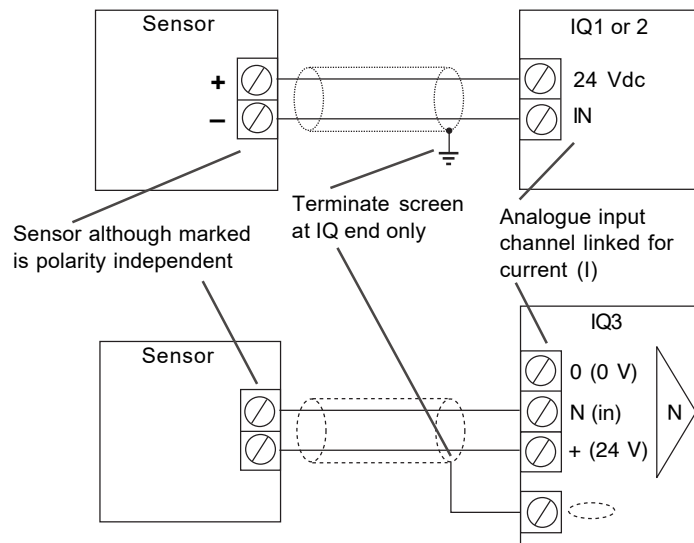
Select required range (see table above)

Connect to IQ controller

Set up strategy

Test


CONNECTIONS



PRODUCT CODE

LLO

DISPOSAL



WEEE Directive :

At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre.

Do not dispose of with normal household waste.

Do not burn.

SPECIFICATION

Range	:Selectable see table
Output	:4 to 20 mA
Accuracy	:±5 % (of selected range)
Power supply	:12 to 33 V
Spectral range	:330 nm to 720 nm
Cosine response	:Typically ±50°
Ambient Limits	
temperature	:-25 to +70 °C (-13 ° to +158°F)
humidity	:0 to 95 %RH
Connections	:1.5 mm ² cross sectional area cable (16 AWG) maximum
Dimensions	:60 mm w x 75 mm h x 36 mm d (2.4" x 2.95" x 1.42")
Weight	:90 gms (2.93 ozs)
Enclosure	:Flame retardant polycarbonate
Environmental protection	:IP65 (NEMA 4)

Input channels and sensor scaling

For IQ controllers link input channel for current, I, and set up the sensor type scaling; the recommended method of setting up the sensor type scaling is to use SET.

For all IQ2 series controllers with firmware of version 2.1 or greater, or IQ3 series controllers, one of the following SET Unique Sensor References should be used:

Light I 1k	(1000 lux)
Light I 2k	(2000 lux)
Light I 4k	(4000 lux)
Light I 8k	(8000 lux)
Light I 20k	(20000 lux)

Alternatively, or for the other lux ranges, set scaling mode to 5 (characterise) and enter the scaling manually as defined in the table below. Note that for IQ3 the scaling mode and exponent (E) do not need to be set up.

Range (lux)		1000	2000	4000	8000	20000
Y	input type	2 (current mA)				
E	Exponent	4	4	5	5	5
U	Upper	1000	2000	4000	8000	20000
L	Lower	0	0	0	0	0
P	Points	2				
x	lx	Ox				
1	4	0	0	0	0	0
2	20	1000	2000	4000	8000	20000

System Accuracy (including controller):

1000	:± 50 lux
2000	:± 100.5 lux
4000	:± 201 lux
8000	:± 402 lux
20000	:± 1005 lux

For all other IQ controllers see the Sensor Scaling Reference Card TB100521A.

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