

AL-443-03-868 EnoSense® LUX, CE

Sensor for light measurement / illuminance

Art. no. 12836

Interfaces:

Sensor for light measurement

EnOcean unidirectional (internal antenna), power supply: CR2032 / +3 V DC,

81 x 41 x 9 mm



The **EnoSense® LUX** offers the possibility of measuring the ambient brightness and transmitting this information wirelessly in accordance with the **EnOcean** radio standard.

It is powered by an internal CR2032 battery. The service life is at least 5 years until the battery has to be replaced.

The sensor is mounted on the surface (e.g. wall or shelf) using the enclosed double-sided adhesive pad. Alternatively, the sensor can also be hung on a screw head / nail.

Alternatively, the EEPs (EnOcean Equipment Profiles) **A5-06-01 (factory setting)**, **A5-06-02** or **A5-06-03** are used.

The evaluation is configured via the integrated service button and the green LED as feedback.

Technical data

Interfaces

Type	EnOcean
Quantity	1
Transmit/receive center frequency	868.3 MHz / ASK
Frequency range used	868.0 - 868.6 MHz
Maximum transmission power	Type. 6 dBm @ 868.300 MHz

Sensor: Brightness

Measuring range	0 lux ... 60,000 lux, depending on EEP
Dissolution	116 / 3.98 / 1 lux, depending on EEP
Accuracy	Type. +/- 3 % of the measuring range end value

User interfaces

Service button	Yes, front side
Service LED	Yes, back

Housing

Housing	Plastic, PC, white
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Power supply

Supply voltage	CR2032, +3 V DC
Power consumption	Type. 4 µA

Environmental conditions

Operating temperature	0 °C ... +60 °C
Storage temperature	-20 °C ... +70 °C
Air humidity	0..95% relative humidity, non-condensing
Protection class	IP20

Dimensions and weight

Weight	19 g
Dimensions	81 x 41 x 9 (+17) mm

Tests / approvals

CE	2014/53/EU RED Directive 2011/65/EU + Annex 2015/863/EU RoHS-3 Directive
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Table of supported EEP (EnOcean Equipment Profile)**Transmit / TX**

No.	EEP	Description	Tx-ID
1	A5-06-01	Sensor for light measurement, 300 lx to 60,000 lx (default)	BASE ID
2	A5-06-02	Sensor for light measurement, 0 lx to 1,020 lx	BASE ID
3	A5-06-03	Sensor for light measurement, 0 lx to 1,000 lx, resolution 1 lx	BASE ID

Receive / RX

No. No.	EEP	Description
-	-	-

Device description**Power supply**

The **EnoSense® LUX** is powered by the CR2032 battery included in the scope of delivery. The current consumption is approx. 2 to 4 µA depending on the operating mode.

EnOcean

The integrated EnOcean transceiver enables unidirectional communication with actuators or a higher-level control system.

Service LED

The **EnoSense® LUX** has a green LED on the back to indicate the status.

Service button

If the service button is pressed briefly (< 1 s), the **EnoSense® LUX** sends a learning telegram and exits flight mode if it was previously active. **Mode 1 = EEP A5-06-01** is also activated.

How the EnoSense® LUX works

Brightness measurement

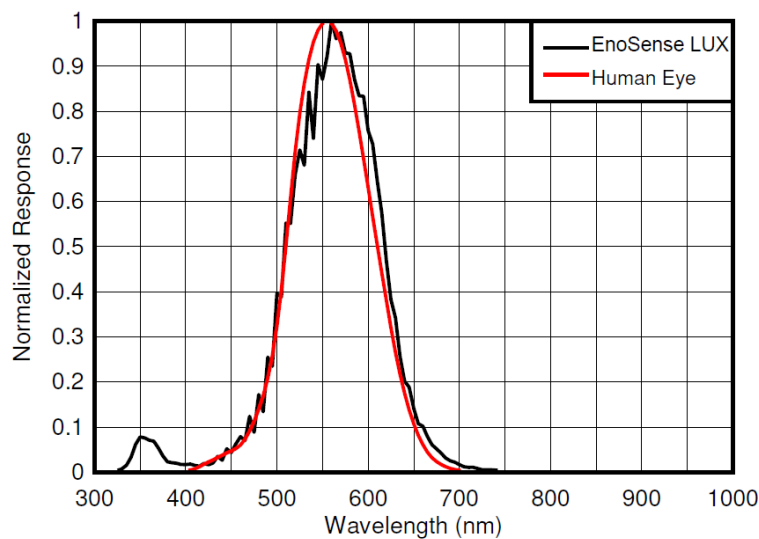
The **EnoSense® LUX** measures the brightness every 60 seconds and transmits the value with a resolution of 116 lx (A5-06-01), 3.98 lx (A5-06-02) or 1 lx (A5-06-03).

The transmission interval of the measured value is as follows:

- Every 60 seconds if the measured value has changed compared to the last transmitted value.
- Every 15 minutes if the measured value has not changed.

Measuring method

The **EnoSense® LUX** measures the ambient light that illuminates the device. The sensor used measures the light with a spectral sensitivity that is very close to that of the human eye and has very good infrared suppression.



Matching the spectral sensitivity of the sensor to that of the human eye is crucial as light sensors such as the **EnoSense® LUX** are used to measure and shape the human lighting experience.

A strong suppression of infrared light, which humans cannot see, is a crucial component of this adaptation.

Selecting the operating mode / switching EEP

The **EnoSense® LUX** can be adapted to the respective application by selecting one of three device profiles (EEP):

Mode 1: EEP = A5-06-01

Mode 2: EEP = A5-06-02

Mode 3: EEP = A5-06-03

The mode is selected via the service button as follows:

:- Mode 1 = A5-06-01

- Service LED flashes 1x

2x briefly within 3 seconds:

- **Mode 2 = A5-06-02**
- Service LED flashes 2x

3x briefly within 3 seconds:

- **Mode 3 = A5-06-03**
- Service LED flashes 3 times

1x briefly if currently in flight mode :- **Mode 1 = A5-06-01**
- Service LED flashes 1x

Battery status

After every tenth data telegram, the **EnoSense® LUX** also sends a so-called signal telegram (0x06 : Energy status of the device) with the current battery voltage.

Sending EnOcean radio telegrams

The measured values are continuously transmitted from the sensor as described above, provided it is not in flight mode.

Sending the learning telegram

The **EnoSense® LUX** has a service button in the device. This is located on the front and can be operated with a paper clip, for example:

If the button is pressed once, twice or three times briefly for less than one second, a learning telegram is sent.

Important: Please note that this also switches the operating mode or the EEP!



Flight mode

Entering flight mode

If the service button is pressed and held, the LED starts flashing after approx. 4 seconds. If the button is released again as soon as the LED stops flashing, the sensor switches to flight mode. The LED flashes again briefly as confirmation. In addition, the **EnoSense® LUX** transmits a signal telegram 0x0E (TX MODE OFF) as confirmation.

Exit flight mode

If the service button is briefly pressed once when a sensor is in flight mode, the LED flashes briefly three times to confirm that flight mode has been exited.

In addition, the **EnoSense® LUX** sends a learning telegram and activates **mode 1** by default: **EEP = A5-06-01**

Order information

Article name	Item no.	Article description
AL-443-00-868 EnoSense LUX white / CE	12836	EnOcean "EnoSense Lux" sensor, for mounting on walls and smooth surfaces; measuring range 300 ... 60,000 lx / 0 ... 1,020 lx / 0 ... 1,000 lx, switchable Ambient temp.: 0 °C ..+60 °C / 0 ... 95% r.H.; Dimensions: 81 x 41 x 9 mm; EEP: A5-06-01 / A5-06-02 / A5-06-03, selectable, battery CR2032, included; EnOcean 868 MHz, CE, Housing: PC, color: similar to signal white (RAL 9003)

Note according to FuAG §20 para. 4:

This device is only approved for operation within the member states of the European Union.

EU Declaration of Conformity

DEUTA Controls GmbH hereby declares that the radio equipment type
AL-443-00-868 EnoSense LUX white / CE complies with Directive 2014/53/EU. The full text of the EU
Declaration of Conformity is available at the following Internet address: www.deuta-controls.de in
the Service/Downloads section (Doc. EUDC2024_110).

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