

# smart-house Light Intensity Sensor Type BSH-LUX-U

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- Light intensity sensor for building automation applications
- Measuring range: 0 to 20 kLux
- Easily mountable
- Supplied by Bus Dupline®, no external supply required

## Product Description

The BSH-LUX-U is a luxmeter sensor for indoor and outdoor installation which transmits the light level to the smart-house controller.

It is part of the smart-house concept and it can be used in all the functions where a light level is needed.

## Ordering Key

**BSH LUX-U**

Decentral module

Luxmeter

Smart Dupline®

## Type Selection

### Housing

55 x 53 mm

### Colour

White

### Supply by Dupline®

BSH-LUX-U

## Input Specifications

<b>Luxmeter</b>	
Characteristic deviation	-3% to + 3%
<b>Connected to SH2WEB24</b>	
Response time	It depends on the number of variables in the system
Sensor range	0 to 20 kLux
Accuracy over temperature	0° to 40° ± 10% -30° to 0° ± 15% 40° to 60° ± 20%
<b>Connected to BH8-CTRLX-230</b>	
Response time	256 Dupline® frame
Sensor range	
Fail safe - bit = 0	5 to 5000 lux
Fail safe - bit = 1	3000 - 300.000 lux

## Dupline® Output Specifications

<b>Voltage</b>	8.2 V
<b>Maximum Dupline® voltage</b>	10 V
<b>Minimum Dupline® voltage</b>	5.5 V
<b>Maximum Dupline® current</b>	6.3 mA

## Supply Specifications

Power supply

Supplied by bus

## LEDs Indication

**Yellow LED:** if the Dupline® bus is working properly, it is always ON.  
It is OFF if the bus is OFF or not connected.



## General Specifications

<b>Address assignments / channel programming</b>	If it is used with the SH2WEB24 the address assignment is automatic: the controller recognises the module through the SIN (Specific Identification Number) that has to be inserted in the SH tool. If it used with the BH8-CTRLX-230, the channels have to be programmed by the BGP-COD-BAT.	<b>Weight</b>	110 g
<b>Environment</b> Degree of protection Operating temperature Storage temperature Humidity (non-condensing)	IP 44 -30° to +60°C (-22° to 140°F) -50° to +85°C (-58° to 185°F) 20 to 80%	<b>Approvals</b>	cULus, according to UL60950 <b>UL notes:</b> Max room temperature: 40°C
<b>LED's indication</b> Dupline® LED	1 yellow	<b>CE Marking</b>	Yes
<b>Connection</b> Screwless detachable D+ D-	0.2 to 1.5 mm <sup>2</sup> Signal GND	<b>EMC</b> Immunity - Electrostatic discharge - Radiated radiofrequency - Burst immunity - Surge - Conducted radio frequency - Power frequency magnetic fields - Voltage dips, variations, interruptions Emission - Conducted and radiated emissions - Conducted emissions - Radiated emissions	EN 61000-6-2 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6  EN 61000-4-8  EN 61000-4-11 EN 61000-6-3  CISPR 22 (EN55022), cl. B CISPR 16-2-1 (EN55016-2-1) CISPR 16-2-3 (EN55016-2-3)
<b>Housing</b> Dimensions Material Color	ENSTO Housing Plug  55 x 53 x 36 mm Cubo D 050504 Lexan (polycarbonate) Nylon Translucent / offwhite		

## Mode of Operation

### Sunlight protection

As a rule, the BSH-LUX-U sensor should be mounted where the outdoor light comes into the room to be monitored, e.g. on the wall where the windows are to be darkened by roller blinds. If the sensor is overshadowed by an overhang of the roof or similar, this will increase the darkness at the sensor, which in connection with a dimmer function will cause the dimmer to switch on prematurely and to switch off too late.

### Twilight

In twilight mode the BSH-LUX-U must be mounted on the wall pointing northwards, so that the sun light cannot reach the luxmeter. If it is used to control a light

source, an optical feedback from the light must be avoided to the greatest extent, since the light level will affect the LUX sensor and that can cause unwanted on/off cycles. This can be avoided by placing the LUX sensor so that the light source will not affect the sensor. When selecting the place of monitoring, environmental effects (dust, dirt, snow) must also be taken into consideration, since in the long run they can influence the light sensitivity of the LUX.

### BSH-LUX-U connected to the SH2WEB24 Coding/Addressing

If the sensor module is connected to the SH2WEB24 controller, no addressing is

needed since the module is provided with a specific identification number (SIN): the user has only to insert the SIN number in the SH tool when creating the system configuration.

### BSH-LUX-U connected to the BH8-CTRLX-230 Coding/Addressing

If the input module is connected to the BH8-CTRLX-230 controller, the user has to program the channels using the BGP-COD-BAT: this module has 1 analink output channel.

### Smart-house channel allocation

The LUX sensor transmits the light value using the Analink principle, i.e. the sensor transmits the value

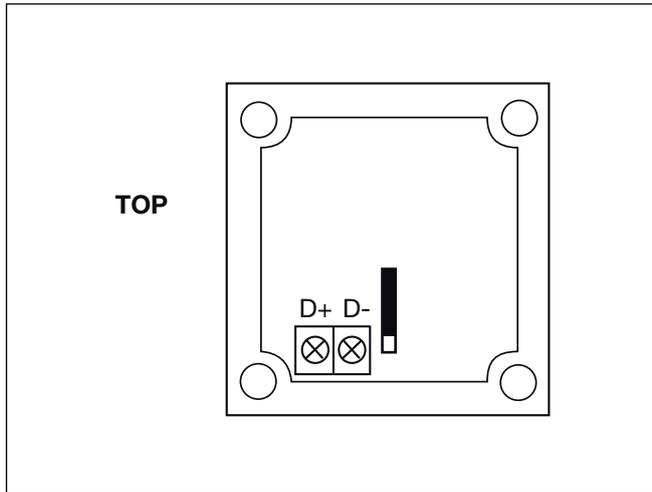
serially on one channel. The LUX sensor transmits its Analink value logarithmically. If the LUX value is transferred to an external unit, this unit must support the following logarithmic function:

$$\text{Range A: } \left( \frac{3 \cdot \text{Analink}}{255} \right) \quad \text{and} \quad \text{LUX} = 5 \cdot 10$$

$$\text{Range B: } \left( \frac{2 \cdot \text{Analink}}{255} \right) \quad \text{LUX} = 3000 \cdot 10$$

The two ranges can be selected programming the fail safe bit:  
0 = range A; 1 = range B.

### Wiring Diagram



### Dimensions

