ABB i-bus® EIB

Light Level Sensor, 3-channel, MDRC
LW/S 3.1, GH Q631 0010 R0001

The brightness sensor is a DIN rail mounted device for insertion in the distribution board. It is connected to the EIB via the data rail. The light sensor for recording the lighting level is connected by means of two screw terminals.

The brightness sensor can send switching telegrams to EIB actuators in the event of an overflow or underflow of the three threshold values.

The threshold values can be adjusted in steps between 20 and 2000 lux or 200 and 20000 lux using a potentiometer at the front of the device. A wire jumper enables you to switch between the two setting ranges.

The LEDs light up instantaneously when there is an underflow in the threshold values.

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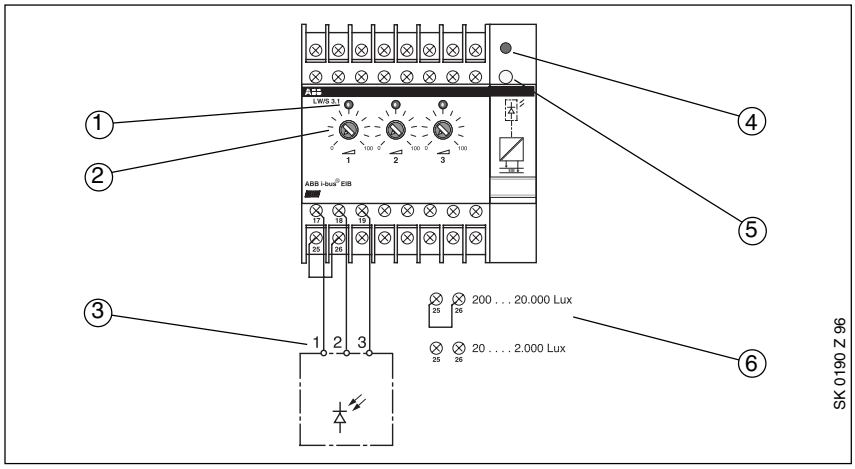
Technical Data

Power supply	– EIB	24 VDC, via the bus line
Inputs	– 1, for light sensor	
	– Brightness range	2 … 2000 lux or 20 … 20000 lux can be transferred with a wire jumper
	– Cable length	100 m
Operating and display elements	– red LED and push button	for assigning the physical address
	– 3 potentiometers	for setting the threshold values
	– red LED	for displaying the output states
Connections	– Light sensor	3 screw terminals Wire range 0.5 … 2.5 mm²
	– Wire jumper	2 screw terminals Wire range 0.5 … 2.5 mm²
	– EIB	Pressure contacts for the data rail
Type of protection	– Twilight switch	IP 20 according to EN 60529
Ambient temperature range	– Operation	- 5 °C … 45 °C
	– Storage	-25 °C … 55 °C
	– Transport	-25 °C … 70 °C
Design	– modular installation device, pro*M*	
Housing, colour	– Plastic housing, grey	
Mounting	– Twilight switch	on 35 mm mounting rail, DIN EN 50022
Dimensions	– 90 x 90 x 64 mm (H x W x D)	
Mounting depth/width	– 68 mm / 5 modules at 18 mm	
Weight	– 0.29 kg	
Certification	– EIB-certified	
CE norm	– in accordance with the EMC guideline and the low voltage guideline	

Application program	Number of communication objects	Max. number of group addresses	Max. number of associations
Switch Steps /1	3	3	3

Wiring diagram



1 LEDs
2 Adjustment potentiometers
3 Light sensor STL-LF 103
1: green, 2: red, 3: blue

4 Programming LED
5 Programming push button
6 Setting range with wire jumper

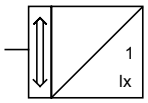
Note

The light sensor is fixed with a mounting bracket as supplied to a vertical surface. The intake for the signal cable must point downwards. When selecting the installation site, you should note the following,

The maximum cable length is 100 m. A standard two-core cable can be used.

Make sure that the light sensor is not in shadow. If the brightness sensor is to be used for switching external lighting, the light sensor should face eastwards. If it is to be used for room lighting, it should preferably face northwards.

Switch Steps /1



Selection in ETS2

– ABB
  └Phys. Sensors
    └Brightness

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Switch

The brightness sensor has three 1 bit communication objects. These objects can send switching telegrams when there is an overflow and/or underflow in the set brightness threshold values.

Steps

The setting of the three threshold values is carried out with the potentiometers at the front of the device.

The value of the telegrams can be set separately for each channel with the parameter “Reaction if higher/lower than setpoint”.
So that the brightness sensor does not immediately send telegrams if there are temporary fluctuations in the brightness due to clouds drifting past or car headlights, a delay time can be specified for each channel. For this purpose there is a common parameter “Time base …” and a separate “Factor ...” parameter for each channel.

The same time can also be used for cyclical sending. The parameter “Cyclical sending channel …” should be set to “yes” for channels that are to send cyclically.

So that the brightness sensor does not block the bus with too many telegrams during rapid changes in brightness, it is possible to set a limit, using the parameter “Max. number of telegrams in 17 s”.

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Communication objects

No.	Type	Name	Function
0	1 bit	Channel 1	Telegr. switch
1	1 bit	Channel 2	Telegr. switch
2	1 bit	Channel 3	Telegr. switch

Parameters
The default setting for the values is **printed in bold type.**

Common for all three channels:	
– Time base for delay time and cyclical sending	0.1 s / 1 s / 10 s / **1 min**
– Max. number of telegrams in 17 s	30 / 60 / **100** / 127
Separate for each channel:	
– Reaction if higher/lower than setpoint	brighter: ON brighter: OFF darker: ON darker: OFF **brighter: ON, darker: OFF** brighter: OFF, darker: ON no reaction
– Factor for delay time and cyclical sending (3 … 255)	**10**
– Cyclical sending channel …	**no** yes

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