12 S1 LuxValue 210D02

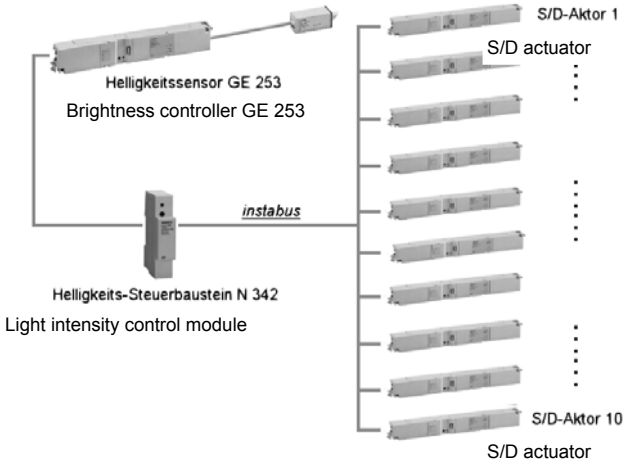
Devices Employing the Program

Product family: Physical Sensors
Product type: Brightness
Manufacturer: Siemens

Name: Brightness Controller GE 253
Order-no.: 5WG1 253-4AB01

Application Description

The brightness controller GE 253 consists of a converter and a light sensor with a 2 m connection cable. The converter is a rectangular device designed for building into fluorescent lights or for mounting separately. The light sensor is mounted with a mounting hanger (included) to measure the outside light intensity falling into the room. The brightness controller sends the light intensity value (no lux value) as a 2 byte telegram on the *instabus* EIB to make it available for display or daylight dependent light control in combination with a light intensity control module N 342 (see Technical Product information chapter for details). The brightness controller is connected to the bus cable and does not require auxiliary voltage or calibration.



The measured light intensity can be sent in the following modes:

Send on request:
The measured light intensity is sent only as a response to a request telegram.

Send on change:
The measured light intensity is automatically sent when it differs from the last value sent by more than the threshold specified in the parameter list.

Cyclic sending:
The measured light intensity is sent cyclically with a frequency that can be specified in the parameter list.

Cyclic sending on change only:
The measured light intensity is sent automatically when it differs from the last value sent by more than the threshold set in the parameter list. Furthermore, telegrams are not sent before the time passed since sending the previous telegram exceeds the time period as specified in the parameter list for cyclic sending.

With the locking object, sending can be locked and released via the bus.

Communication Objects

Phys.Addr.	Program		
no.	Object name	Function	Type
01.01.001	12 S1 LuxValue 210D02		
0	Send brightness value	Illuminance	2 Byte
1	Switch	Enabling/interlocking	1 Bit
2	Switch	Interlocking	1 Bit
3	Dimming	Interlocking	4 Bit
4	Value	Interlocking	1 Byte

Obj	Object name	Function	Type	Flag
0	Send brightness value	Illuminance	2 Byte	CTU
The group address of this object is used for sending the measured lux value and reading it via the bus.				
1	Switch	Enabling/ Interlocking	1 Bit	CWU
With the group address of this object the brightness controller can be released with a "1" telegram and locked with a "0" telegram. When the brightness controller is locked, no telegrams are sent via object [0]. The current status of this object is preserved on bus voltage failure and automatically restored on bus voltage recovery.				
2	Switch	Interlocking	1 Bit	CWU
When receiving a switching telegram at this object, the brightness controller is locked, ignoring any "on" or "off" telegrams until the brightness controller is released again with a "1" telegram at object [1].				
3	Dimming	Interlocking	4 Bit	CWU
When receiving a switching telegram at this object, the brightness controller is locked, ignoring any "brighten" or "darken" telegrams until the brightness controller is released again with a "1" telegram at object [1].				

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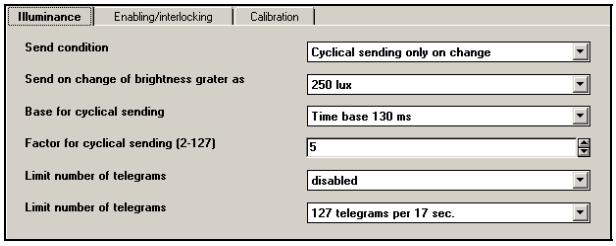
Obj	Object name	Function	Type	Flag
4	Value	Interlocking	1 Byte	CWU
When receiving a switching telegram at this object, the brightness controller is locked, ignoring any light intensity telegrams until the brightness controller is released again with a "1" telegram at object [1].				

The "send on request" mode is not affected by the status of the release/lock object.
The actual status of the release/lock object is preserved on bus voltage failure.

Maximum number of group addresses: 18
Maximum number of assignments: 18

Parameters

Illuminance



Parameters	Settings
Send condition	**Cyclical sending only on change** Send on change Send on request Cyclical sending
This parameter governs the sending of the lux value: "Delayed send on change"(cyclic send on change): The measured actual light intensity is sent automatically when it differs from the last value sent by more than the threshold set in the parameter list. To prevent multiple bus telegrams from being sent due to considerable fluctuations in the light intensity, telegrams are not sent before the time passed since sending the previous telegram exceeds the time period as specified in the parameter list for cyclic sending. "Send on change": The measured light intensity is automatically sent when it differs from the last value sent by more than the threshold specified in the parameter list. Fluctuations in the light intensity that might lead to a significant rise in bus traffic cannot be countered. "Send on request": The measured actual light intensity is not sent automatically. It must be manually read via the bus e.g. with the menu item "Testing, Groups, Read value" of the ETS commissioning tool or visualization software. "Cyclic send": The measured light intensity is sent cyclically with a frequency that can be specified in the cyclic send parameters below.	

Parameters	Settings
Send on change of brightness greater as	60, 125, 185, **250**, 315, 375, 440, 500, 565, 625, 690, 750, 815, 875, 940, 1000, 1065, 1130, 1190, 1255 - lux
This parameter indicates the change by which the current measured value must deviate from the sent measured value until a transmission occurs.	
Base for cyclical sending	**Time base 130 ms** 260; 520 ms 1; 2.1; 4.2; 8.4; 17; 34 sec 1.1; 2.2; 4.5; 9; 18; 35 min 1.2 hr
This parameter governs the frequency for repeating the sending of lux values when using an appropriate sending condition. The cyclic send period is generated by multiplying the cyclic send base and factor. i.e. the default value is approx. 650 ms.	
Limit number of telegrams	**disabled** enabled
Limit number of telegrams	**127 telegrams per 17 sec.** 30 telegrams per 17 sec. 60 telegrams per 17 sec. 100 telegrams per 17 sec.
This parameter governs the maximum number of telegrams that can be sent per 17 s period when the telegram rate limit is enabled. To reduce bus traffic caused by fluctuating light intensity, the "Telegram rate limit" should be enabled when using the "send on change" mode. "Disabled": The number of telegrams that can be sent per 17 s period is not limited. "Enabled": According to the above setting, no more than 30, 60, 100 or 127 telegrams can be sent per 17 seconds.	

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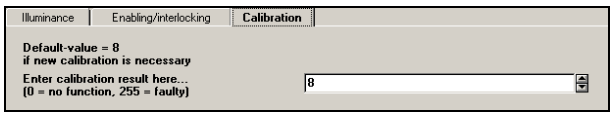
Enabling/Interlocking

Parameters	Settings
Behaviour after commissioning	**send telegrams** do not send any telegrams
This parameter defines the locking status when commissioning the brightness controller with the ETS. On bus voltage failure, the current status is preserved and re-established on bus voltage recovery. "Sending enabled": The brightness controller is released during commissioning. "Sending disabled": The brightness controller is locked during commissioning.	

Calibration



Parameters	Settings
Default value = 8 if new calibration is necessary Enter calibration result here... (0 = no function, 255 = faulty)	**8** 0 … 255
In the standard application, the brightness sensor does not need to be calibrated (setting = 8). It can however occur that the installation conditions of the brightness sensor are so unfavourable that this default gain value (8) results in measurements not being carried out. In these cases, the program “12CO Calibration brightness sensor 710501” is required. It supplies the calibration result which is dependent on the mounting location and which must be entered in this parameter.	

Examples

For application examples, see the description of the light intensity control module N 342 in the Technical Product Information chapter.

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Notes:

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