25 CO Motion Detector with Light Control - 910501

Use of the application program

Product family:	Physical sensors
Product type:	Presence detector
Manufacturer:	Siemens
Name:	OPTISENS Office
Order no.:	5WG1 258-2DB11

Table of contents

1. Functional description

The UP 258D11 is a presence/motion detector with integrated 2-point light control. The UP 258D11 device communicates via KNX/EIB with actuators or other KNX devices. It is designed for mounting on the ceiling. Owing to its tilting sensor head, the UP 258D11 can be aligned with the required capture area. The main application for the device is automatic control of the lighting on an office workplace.

1.1 Presence / Motion detector

The detector senses the presence of a person or that there is no longer anyone in its detection area. The detector signal can be analyzed via two separate communication channels, termed motion detector and presence detector.

1.2 Presence detector (HVAC)

The detector has an additional control output for HVAC applications.

For example, this function can switch systems that are used for heating, ventilating and climate control (HVAC) of the room from "Energy saving mode" in an unused room to "Comfort mode" in an occupied room and back to "Energy saving mode" when the room is again unoccupied.

1.3 Functionality of the Presence detector / Motion detector / HVAC-detector

For each detector 4 communication objects are available, in sum 12 different communication objects. It is possible to send one or two KNX telegrams at the beginning and at the end of a detected presence, according to configuration. The values of the communication objects are configured for each functional block (motion detector, presence detector, HVAC-detector) via corresponding parameters.

Each time a presence is detected, the overshoot time is started. Its duration is configurable for each functional block separately. The end of presence is determined by the end of the overshoot time.

The duration of the dead time is also configurable per functional block. It is used to protect the actuators that are connected to the detector. If a presence is detected during the dead time, neither telegrams are sent nor the overshoot time is started.

In the following the telegrams, which are send at the beginning of a presence, are called **A** and **B**, the telegrams, which are sent at the end of a presence, are called **C** and **D**.

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma
3.12.1.7.1/1

**25 CO Motion Detector with Light Control - 910501**

Operating Sequence
After the device has detected a presence, telegram **A** is sent immediately. If it has been configured to send also a telegram **B**, then telegram **B** is sent after the configured time (optionally also cyclically).
If there are no motions any more, at the end of the over-shoot time telegram **C** and (if configured) telegram **D** are sent. Telegram **D** can also be sent cyclically.
If there are motions during the overshoot time is running, the overshoot time is restarted.

Flowchart:
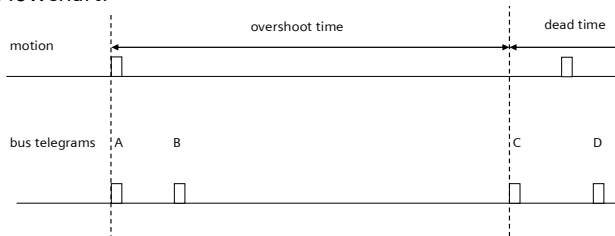
1.4 Use as single device or as main detector (master), respectively secondary detector (slave)
The detector can be operated as an independent device, as the main or secondary detector.
According to the requirement, additional presence detectors can be connected with the "main detector" via KNX/EIB as "secondary detectors" to extend the presence detection zone. "Secondary detectors" supply motion information only to the main detector.

1.5 Brightness measuring – adjustable via KNX/EIB
The UP 258D11 contains an independent light sensor. The signal measured there is available both at the KNX/EIB and internally.
Because the light sensor measures directly, it must be possible to calibrate it for indirect measurement, so that it can be adapted to the different installation sites. Rapid brightness fluctuations are filtered out. The measurement range of the internal light sensor is between 20 and 1000 lux.
The settings determine whether the brightness value computed by the device or a brightness value received from outside is used for the detector's remaining functional blocks.

1.6 Integrated light control (on – off)
If the brightness controller is enabled (automatic mode) the lighting is switched on as soon as the brightness falls below a set lower threshold. The lighting is switched off if the set upper brightness threshold is exceeded. The

brightness thresholds are variable either via parameters or via communication objects.
The controller can also be operated semi-automatically by separating into two individual switching objects for exceeding or falling below the threshold. In this way, it can be switched to "Only on" or "Only off."
If the controller receives a switching or dimming command via the associated communication object over KNX/EIB, then this is deemed an external override and the controller switches automatic mode off. This change of status is sent simultaneously on the bus via the "Automatic Status" object.

1.7 Operation via infrared (IR) remote control
The IR receiver integrated in the presence detector can control light and shade, as well as store and call up scenes via a special IR remote control.

The IR commands implemented can be combined via communication objects with the other function blocks or used to control other devices.

The IR decoder can be controlled only with one of the Siemens IR remote controls shown below. The remote controls have a range of 5 meters maximum.
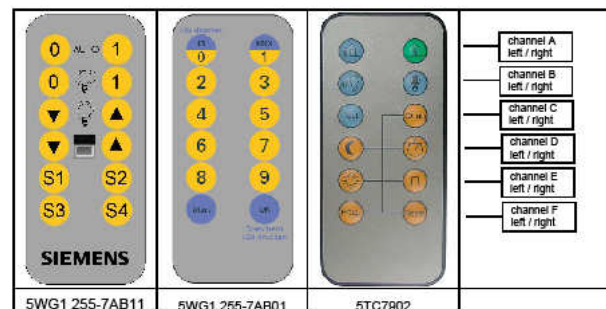
The IR decoder cannot distinguish between remote controls. The functionality of button pairs A to F (see above diagram) will be configured via the ETS.

1.8 Application program
You need the KNX Engineering Tool Software (ETS) version 3.0 f and higher to load the application program.

Technical manual

Update: http://www.siemens.de/gamma

3.12.1.7.1/2

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

---

25 CO Motion Detector with Light Control - 910501

2. Communication objects

The communication objects listed in the following paragraphs are available for the presence detector OPTISENS Office. Which of them are visible and can be linked with group addresses will be determined by setting the parameters.

Maximum number of group addresses: 160
Maximum number of assignments: 200

Note

The number and type of visible objects can vary. Never are all objects available together.

Number	Name	Object Function	...	...	Length	C	R	W	T	U
0	Status of switching actuator	On / Off			1 bit	C	R	W	T	-
1	Switching, Start of Motion, A	On			1 bit	C	R	W	T	-
3	Switching, End of Motion, C	Off			1 bit	C	R	W	T	-
7	Extension input, Motion	On			1 bit	C	R	W	T	-
8	Extension input, Motion	Off			1 bit	C	R	W	T	-
9	Switching, Start of Presence, A	On			1 bit	C	R	W	T	-
11	Switching, End of Presence, C	Off			1 bit	C	R	W	T	-
15	Extension input, Presence	On			1 bit	C	R	W	T	-
16	Extension input, Presence	Off			1 bit	C	R	W	T	-
17	Switching, Start of HVAC-Presence, A	On			1 bit	C	R	W	T	-
19	Switching, End of HVAC-Presence, C	Off			1 bit	C	R	W	T	-
23	Extension input, HVAC-Presence	On			1 bit	C	R	W	T	-
24	Extension input, HVAC-Presence	Off			1 bit	C	R	W	T	-
25	Brightness value (internal)	value in LUX			2 Byte	C	R	W	T	-
26	Brightness value (external)	value in LUX			2 Byte	C	R	W	T	-
30	Dimming On/Off, IR-Channel A	On / Off			1 bit	C	R	W	T	-
31	Dimming, IR-Channel A	brighter / darker			4 bit	C	R	W	T	-
32	Dimming On/Off, IR-Channel B	On / Off			1 bit	C	R	W	T	-
33	Dimming, IR-Channel B	brighter / darker			4 bit	C	R	W	T	-
34	Dimming On/Off, IR-Channel C	On / Off			1 bit	C	R	W	T	-
35	Dimming, IR-Channel C	brighter / darker			4 bit	C	R	W	T	-
36	Dimming On/Off, IR-Channel D	On / Off			1 bit	C	R	W	T	-
37	Dimming, IR-Channel D	brighter / darker			4 bit	C	R	W	T	-
38	Dimming On/Off, IR-Channel E	On / Off			1 bit	C	R	W	T	-
39	Dimming, IR-Channel E	brighter / darker			4 bit	C	R	W	T	-
40	Dimming On/Off, IR-Channel F	On / Off			1 bit	C	R	W	T	-
41	Dimming, IR-Channel F	brighter / darker			4 bit	C	R	W	T	-
42	Blocking object for IR	On / Off			1 bit	C	R	W	T	U
44	Control unit On/Off (on-off)	On / Off			1 bit	C	-	W	T	-
45	Automatic mode (on-off)	On / Off			1 bit	C	-	W	T	-
48	Input switching value (on-off)	On / Off			1 bit	C	-	W	T	-
49	Input dimming value (on-off)	brighter / darker			4 bit	C	-	W	T	-
50	Input dimming value (on-off)	value			1 Byte	C	-	W	T	-
51	Switching (on-off)	On			1 bit	C	-	W	T	-
52	Switching (on-off)	Off			1 bit	C	-	W	T	-

2.1 General object

Object	Object name	Function	Type	Flags
0	Status of switching actuator	On/Off	1 bit	CRWT

This object notifies the detector whether the actuator has switched. If a change of status (1->0 or 0->1) has occurred, then the sensor is not analyzed for a configurable time. This prevents the detector sensing the fall in temperature of an incandescent lamp that has just been switched off as motion.

2.2 Functional block motion detector

Object	Object name	Function	Type	Flags
1	Switching, Start of Motion, A	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected motion or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0 ℃ – 40 ℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Note: After bus voltage recovery, there is a pause of approximately 30 seconds before the detector can send via this object.

Object	Object name	Function	Type	Flags
2	Switching, Start of Motion, B	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected motion or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0 ℃ – 40 ℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Telegram B is sent after telegram A, if this has been configured. The delay time between A and B is also configurable.

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/3

25 CO Motion Detector with Light Control - 910501

Object	Object name	Function	Type	Flags
3	Switching, End of Motion, C	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the end of a detected motion or on external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0 ℃ – 40 ℃) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall				
4	End of Motion, D	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the end of a detected motion or upon external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0 ℃ – 40 ℃) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall Telegram D is sent after telegram C, if this has been configured. The delay time between C and D is also configurable.				
5	Motion, Overshoot Time	Value	2 Byte	CRWT
		Over-shoot time 0 / Over-shoot time 1	1 bit	
This object controls the detector overshoot time. Depending on configuration (see 3.3.2 "Overshoot time") either an actual value (DPT 7.005, resolution 1 second) or one of the preconfigured overshoot times (overshoot time 0 or overshoot time 1) is selected. This object is saved at bus voltage failure and restored at bus voltage recovery.				
6	Motion Detector Lock	On/Off	1 bit	CRWT U
This object locks and releases the detector again. The parameter "Lock motion detector via object" is used to set whether the detector is locked when a "0" is received or when a "1" is received. It can also be determined that the detector is never locked, regardless of the above object. A locked detector does not evaluate detected motions. The start value after bus voltage recovery is configurable.				

Object	Object name	Function	Type	Flags
7	Extension input, Motion	On	1 bit	CRWT
The detector is triggered from external via this object. This means, as soon as the detector receives the value "1" via this object, telegram A and B (object 1 and 2) are sent, according to the configuration.				
8	Extension input, Motion	Off	1 bit	CRWT
The detector is switched off from external via this object. This means, as soon as the detector receives the value "0" via this object, telegram C and D (object 3 and 4) are sent, according to the configuration.				

2.3 Functional block presence detector

Object	Object name	Function	Type	Flags
9	Switching, Start of Presence, A	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected presence or on external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0 ℃ – 40 ℃) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall Note: After bus voltage recovery, there is a pause of approximately 30 seconds before the detector can send via this object.				
10	Switching, Start of Presence, B	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected presence or on external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0 ℃ – 40 ℃) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall Telegram B is sent after telegram A, if this has been configured. The delay time between A and B is also configurable.				

25 CO Motion Detector with Light Control - 910501

Object	Object name	Function	Type	Flags
11	Switching, End of Presence, C	Value	1 Byte/ 2 Byte	
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the end of a detected presence or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0℃ – 40℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Object	Object name	Function	Type	Flags
12	Switching, End of Presence, D	Value	1 Byte/ 2 Byte	
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the end of a detected presence or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0℃ – 40℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Telegram D is sent after telegram C, if this has been configured. The delay time between C and D is also configurable.

Object	Object name	Function	Type	Flags
13	Presence, Overshoot Time	Value	2 Byte	CRW T
		Overshoot time 0 / Overshoot time 1	1 bit	

This object controls the detector overshoot time. Depending on configuration (see 3.3.2 "Overshoot time") either an actual value (DPT 7.005, resolution 1 second) or one of the preconfigured overshoot times (overshoot time 0 or overshoot time 1) is selected.

This object is saved at bus voltage failure and restored at bus voltage recovery.

Object	Object name	Function	Type	Flags
14	Presence Detector Lock	On/Off	1 bit	CRWT U

This object locks and releases the detector again.

The parameter "Lock motion detector via object" is used to set whether the detector is locked when a "0" is received or when a "1" is received. It can also be determined that the detector is never locked, regardless of the above object.

A locked detector does not evaluate detected motions.

The start value after bus voltage recovery is configurable.

Object	Object name	Function	Type	Flags
15	Extension input, Presence	On	1 bit	CRWT

The detector is triggered from external via this object. This means, as soon as the detector receives the value "1" via this object, telegram A and B (object 9 and 10) are sent, according to the configuration.

Object	Object name	Function	Type	Flags
16	Extension input, Presence	Off	1 bit	CRWT

The detector is switched off from external via this object. This means, as soon as the detector receives the value "0" via this object, telegram C and D (object 11 and 12) are sent, according to the configuration.

2.4 Functional block HVAC-detector

Object	Object name	Function	Type	Flags
17	Switching, Start of HVAC-Presence, A	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected presence or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0℃ – 40℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Note: After bus voltage recovery, there is a pause of approximately 30 seconds before the detector can send via this object.

Object	Object name	Function	Type	Flags
18	Switching, Start of HVAC-Presence, B	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	

Depending on the setting, this object sends one of the following values to the bus at the beginning of a detected presence or on external triggering:
- Switch On/Off
- 8-bit value (decimal) (0 – 255)
- 16-bit value (decimal) (0 - 65 535)
- 16-bit value (temperature) (0℃ – 40℃)
- 16-bit value (brightness) (0lux – 2000lux)
- 8-bit scene recall

Telegram B is sent after telegram A, if this has been configured. The delay time between A and B is also configurable.

Siemens AG

Infrastructure & Cities Sector, Building Technologies

Control Products & Systems

P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012

Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/5

25 CO Motion Detector with Light Control - 910501

Object	Object name	Function	Type	Flags
19	Switching, End of HVAC-Presence, C	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the end of a detected presence or on external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0°C – 40°C) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall				
20	Switching, End of HVAC-Presence, D	Value	1 Byte/ 2 Byte	CRWT
		On/Off	1 bit	
		Scene recall	1 Byte	
Depending on the setting, this object sends one of the following values to the bus at the end of a detected presence or on external triggering: • Switch On/Off • 8-bit value (decimal) (0 – 255) • 16-bit value (decimal) (0 - 65 535) • 16-bit value (temperature) (0°C – 40°C) • 16-bit value (brightness) (0lux – 2000lux) • 8-bit scene recall Telegram D is sent after telegram C, if this has been configured. The delay time between C and D is also configurable.				
21	HVAC-Presence, Overshoot Time	Value	2 Byte	CRWT
		Overshoot time 0 / Overshoot time 1	1 bit	
This object controls the detector overshoot time. Depending on configuration (see 3.4.2 "Overshoot time") either an actual value (DPT 7.005, resolution 1 second) or one of the preconfigured overshoot times (overshoot time 0 or overshoot time 1) is selected. This object is saved at bus voltage failure and restored at bus voltage recovery.				
22	HVAC-Presence Detector Lock	On/Off	1 bit	CRWTU
This object locks and releases the detector again. The parameter "Lock motion detector via object" is used to set whether the detector is locked when a "0" is received or when a "1" is received. It can also be determined that the detector is never locked, regardless of the above object. A locked detector does not evaluate detected motions. The start value after bus voltage recovery is configurable.				

Object	Object name	Function	Type	Flags
23	Extension input, HVAC-Presence	On	1 bit	CRWT
The detector is triggered from external via this object. This means, as soon as the detector receives the value "1" via this object, telegram A and B (object 17 and 18) are sent, according to the configuration.				
24	Extension input, HVAC-Presence	Off	1 bit	CRWT
The detector is switched off from external via this object. This means, as soon as the detector receives the value "0" via this object, telegram C and D (object 19 and 20) are sent, according to the configuration.				

2.5 Functional block brightness measuring

Object	Object name	Function	Type	Flags
25	Brightness value (internal)	Value in Lux	2 Byte	CRWT
This object sends its brightness value in EIS5 (DPT9.004) format to the brightness measuring device. If cyclical sending is switched off, then the value can be determined via the bus with a read query. The measurement range for the internal light sensor is between 20 and 1000 lux. This value can be changed by calibration (see section 3.2 „Brightness measuring"). The upper limit for the internal brightness value after calibration is 20,000 lux.				
26	Brightness value (external)	Value in Lux	2 Byte	CRW
This object feeds a value in EIS5 (DPT9.004) format from an external brightness measuring device. This object is visible only if the relevant parameter for it has also been selected.				

Technical manual

910501, 21 pages

Siemens AG
Infrastructure & Cities Sector, Building Technologies

Update: http://www.siemens.de/gamma

© Siemens AG 2012
Subject to change without prior notice

Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

3.12.1.7.1/6

25 CO Motion Detector with Light Control - 910501

Object	Object name	Function	Type	Flags
27	Brightness value (calibration)	Value in Lux	2 Byte	CRW

Because the light sensor measures only the light reflected from the desk, it can be calibrated.

During calibration, the brightness value in the room in which the device has been mounted should be that used later as the setpoint for constant lighting control. This brightness value should as far as possible come from an artificial light source (not daylight). The lighting level (in lux) on the surface of the desk is recorded with a calibrated measuring device.

The ETS (diagnostic mode -> send telegram) is used to send the previously measured value to the device via the above object.

The measured value is entered as a decimal number in the entry field of the ETS. The ETS codes this value as DPT 9.004 (EIS5) and sends it to the device. As soon as the value has been received, the adjustment factor is computed from it (brightness value = adjustment factor * measured value).

If the parameter "Measuring method of the internal light sensor" (see section 3.2 "Brightness measurement") has been set to "indirect," the recomputed value is output as the internal brightness value.

Note 1: When calibrating via an object, plausibility checks are carried out. If the value communicated via the object is more than 20 times the value measured by the internal light sensor, the adjustment factor is set to 1. It is the same if a value above the internal brightness value (20,000 lux) is transferred.

Note 2: Owing to rounding errors, the measured and recomputed brightness value ("Internal brightness value") can differ slightly from the value recorded with the external measuring device.

2.6 Functional block light control (on-off)

Object	Object name	Function	Type	Flags
44	Control unit On/Off (on-off)	On/Off	1 bit	CWT

This object switches the controller on or off per group address. This information can come from a bus button or from the output object of a presence detector, for example.

Object	Object name	Function	Type	Flags
45	Automatic mode (on-off)	On/Off	1 bit	CWT

The controller notifies its internal status to the outside world via this object. The status can either have the value "On," i.e. the controller works in automatic mode, or the value "Off." Moreover, this does not differentiate between whether the controller was switched off manually or by override.

Describing this object has no effect.

Object	Object name	Function	Type	Flags
46	Setpoint for switching on	Value in Lux	2 Byte	CRW

This object notifies the brightness controller of the setpoint for switching on in automatic mode. Until the first occurrence of a value, the value from the parameter "Switch on if brightness value less than xx lux" (see section 3.5.1) is used as the setpoint.

This object is saved at bus voltage failure and restored at bus voltage recovery.

Object	Object name	Function	Type	Flags
47	Setpoint for switching off	Value in Lux	2 Byte	CRW

This object notifies the brightness controller of the setpoint for switching off in automatic mode. Until the first occurrence of a value, the value from the parameter "Switch off if brightness value greater than xx lux" (see section 3.5.2) is used as the setpoint.

This object is saved at bus voltage failure and restored at bus voltage recovery.

Object	Object name	Function	Type	Flags
48	Input switching value (on-off)	On/Off	1 bit	CWT

If a value (logical 0 or 1) is received via this object, the controller switches off (automatic mode off), because it has been overwritten from outside.

Only by receiving "logical 1" via object no. 44 will the controller be switched on again (automatic mode on).

Object	Object name	Function	Type	Flags
49	Input dimming value (on-off)	brighter / darker	4 bit	CWT

If a value is received via this object, the controller switches off, because it has been overwritten from outside.

Only by receiving "logical 1" via object no. 44 will the controller be switched on again (automatic mode on).

Object	Object name	Function	Type	Flags
50	Input dimming value (on-off)	Value	1 Byte	CWT

If a value (0-255) is received via this object, the controller switches off, because it has been overwritten from outside.

Only by receiving "logical 1" via object no. 44 will the controller be switched on again (automatic mode on).

Object	Object name	Function	Type	Flags
51	Switching (on-off)	On	1 bit	CWT

This object is one of the outputs of the two-point controller. It sends the value "On" if the brightness is below the defined brightness value in a given period of time. (see section 3.5.1 „Switch-On").

Object	Object name	Function	Type	Flags
52	Switching (on-off)	Off	1 bit	CWT

This object is one of the outputs of the two-point controller. It sends the value "Off" if the brightness is below the defined brightness value in a given period of time. (see section 3.5.2 „Switch-Off").

Siemens AG
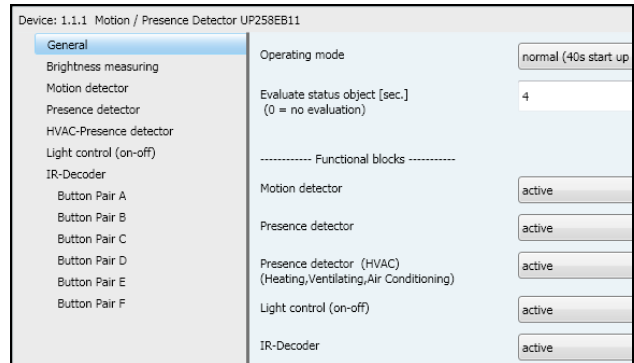Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/7

25 CO Motion Detector with Light Control - 910501

2.7 Functional block IR – Decoder

Object	Object name	Function	Type	Flags
30 (32, 34, 36, 38, 40)	IR-Channel A (B, C, D, E, F) left	Value	1 Byte/ 2 Byte	CRWT
		On / Off / Toggle	1 bit	
		Up / Down	1 bit	
		Recall/ Save	1 Byte	
These objects send the switching, dimming or shutter telegrams from channel [X]. How the telegrams are interpreted depends on the setting of the associated parameter "Function" (see section 3.6.1).				
31 (33, 35, 37, 39, 41)	IR-Channel A (B, C, D, E, F) right	Value	1 Byte/ 2 Byte	CRWT
		On / Off / Toggle	1 bit	
		Up / Down	1 bit	
		Brighter/ Darker	4 bit	
		Recall	1 Byte	
These objects send the switching, dimming or shutter telegrams from channel [X]. How the telegrams are interpreted depends on the setting of the associated parameter "Function" (see sections 3.6.1).				
42	Blocking object for IR	On/Off	1 bit	CRWT U
This object locks and releases the detector again. The parameter "Lock motion detector via object" is used to set whether the detector is locked when a "0" is received or when a "1" is received. It can also be determined that the detector is never locked, regardless of the above object. A locked detector does not evaluate detected motions. The start value after bus voltage recovery is configurable.				

3. Parameter windows

3.1 „General"

Parameter	Settings
Operating mode	**normal (40s start up time)** test mode (5s ramp up without LED) test mode (5s ramp up with LED)
Use these parameters to determine the mode. During the test phase the test mode with or without LED can be selected. If "test mode (5s ramp up without LED)" is selected, the LED of the detector does not flash. In "test mode (5s ramp up with LED)", the integrated programming LED shows the status of the motion detector: • LED stays on: Programming mode • LED flashes (clocking sequence): Device running up • LED comes on for a short time: Motion has been detected After the test phase has been finished, the operating mode "normal" should be selected. Afterwards the software has to be downloaded again to the device.	
Evaluate status object [sec.]	0 – 255 **4**
When switching lights on and off in a detector's detection area, the change of temperature of the lighting may lead to motion being detected incorrectly. To prevent this, the sensor is disabled for a certain time (0 - 255 seconds).	

3.1.1 „Functional blocks"

Parameter	Settings
Motion detector	**active** deactivated
This parameter determines whether an analysis has to be carried out according to the motion detector criteria. If it is set to "inactive" all relevant additional parameters and objects are invisible.	

Technical manual

Update: http://www.siemens.de/gamma

3.12.1.7.1/8

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

---

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Presence detector	active **deactivated**
This parameter determines whether an analysis has to be carried out according to the presence detector criteria. If it is set to "inactive" all relevant additional parameters and objects are invisible.	
Presence detector HVAC (Heating, Ventilating, Air Conditioning)	active **deactivated**
This parameter determines whether an analysis has to be carried out according to the criteria for HVAC control. If it is set to "inactive" all relevant additional parameters and objects are invisible.	
Light control (on-off)	active **deactivated**
This parameter determines whether an analysis has to be carried out according to the criteria for light control. If it is set to "inactive" all relevant additional parameters and objects are invisible.	
IR-Decoder	active **deactivated**
This parameter determines whether an analysis has to be carried out according to the signals received from the IR decoder. If it is set to "inactive" all relevant additional parameters and objects are invisible.	

3.2 „Brightness measuring"

Parameter	Settings
Measuring method of internal light sensor	**direct** indirect
The internal light sensor can only measure directly. The light level on the desk can be determined indirectly by recomputing, if the parameter is set accordingly. For this, the detector's brightness measurement function must be calibrated.	
Calibration	Via object **With adjustment factor**
This parameter is visible only if the parameter "Measuring method of internal light sensor" is set to "indirect." Calibration is carried out either via an object (no. 27) or via adjustment factor.	

Parameter	Settings
Adjustment factor (x 0,1)	1 – 200 **10**
This parameter is visible only if the parameter "Calibration" is set to "with adjustment factor." In this case, the light measured by the light sensor is multiplied by 0.1 of the set adjustment factor.	
Number of values for calculation of average	1; **2**; 4; 8
The internal light sensor measures every second. For brightness measurement, the mean value can be formed from several values measured consecutively. The number of values to be used to form the mean value is determined via the above parameter.	
Send brightness value cyclically	**No** 1 Second 5 Seconds 10 Seconds 30 Seconds 1 Minute
This parameter determines whether and at what intervals the brightness value determined is sent via the bus.	
Send brightness value on change	**No** at small change at medium change at large change
This parameter determines whether the brightness value is sent automatically and immediately when it changes.	

3.3 „Motion detector" / „Presence detector"

In the following paragraphs the parameters for the functional block „Motion detector" are described. The configuration for the functional block „Presence detector" is performed similar.

Parameter	Settings
Lock motion sensor via comm-object	**No** Yes, if blocking object = 0 Yes, if blocking object = 1
This parameter determines how the value of the blocking object is analyzed.	

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/9

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Motion detection	Up to brightness level 2Lux up to brightness level 5Lux **up to brightness level 10Lux** up to brightness level 15Lux up to brightness level 20Lux up to brightness level 50Lux up to brightness level 100Lux up to brightness level 200Lux up to brightness level 500Lux up to brightness level 1000Lux brightness independent
This parameter controls the reporting of a motion dependent on the ambient brightness. If a movement has already been detected (overshoot time running), then there is no further analysis of the ambient brightness. In other words, if further motions are detected during a detected motion, then the overshoot time is restarted.	
Source for brightness value	**internal value** external value
This parameter determines which brightness value is used for analyzing the brightness threshold. If this parameter is set to "Internal value" the value of the brightness sensor inside the device is used. If "External value," the value from the communication object is used. This value is reproduced at bus voltage recovery and used until it is overwritten by the bus.	
Device works as	**single or master device** slave
This parameter determines whether the detector is used as a standalone device or as a master or as a slave in conjunction with other motion sensors.	
Value of blocking object after bus voltage recovery	**off** on as before bus voltage failure query via bus
This parameter is visible only if the parameter "Lock motion detector via object" is not set to "No." This parameter determines with which value the object "Motion detector lock" is initialized.	

3.3.1 „Begin of motion"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
If motion is detected, send (A)	No telegram **On** Off 8-bit value scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)

This parameter determines whether a telegram is sent after a motion is detected and what format the telegram has.

Parameter	Settings
Send second telegram (B)	**No** Yes
This parameter determines whether a second telegram is sent after a delay to the first.	
Value	0 – 255, **0**
This parameter is visible only if the preceding parameter "If motion is detected, send (A)" is set to "8-bit value." This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "If motion is detected, send (A)" is set to "scene recall." This parameter determines the number of the 8-bit scene to be called up.	
Value	0 – 65 535, **0**
This parameter is visible only if the preceding parameter "If motion is detected, send (A)" is set to "16-bit value (decimal)." This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "If motion is detected, send (A)" is set to "16-bit value (temperature)." This sets the 16-bit value to be sent in the range 0°C - 40°C.	
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "If motion is detected, send (A)" is set to "16-bit value (brightness)." This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Delay for second telegram (in sec.)	0 - 255, **0**
This parameter is visible only if the preceding parameter "Send second telegram (B)" is set to "Yes." This determines the time interval between sending the first telegram (A) and the second telegram (B).	
Second telegram (B)	**On** Off 8-bit value Scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)
This parameter is visible only if the preceding parameter "Send second telegram (B)" is set to "Yes." This determines the format of the second telegram (B).	
Value	0 - 255, **0**

25 CO Motion Detector with Light Control - 910501

This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "8-bit value."

This sets the 8-bit value to be sent in the range 0 – 255.

Parameter	Settings
Scene number	**Scene 1**, Scene 2, ... Scene 64

This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "scene recall."

This parameter determines the number of the 8-bit scene to be called up.

Value	0 - 65 535, **0**

This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (decimal)."

This sets the 16-bit value to be sent in the range 0 – 65,535.

Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C

This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (temperature)."

This sets the 16-bit value to be sent in the range 0°C - 40°C.

Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux

This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (brightness)."

This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .

Send second telegram (B) cyclically	**No** 1 Second 5 Seconds 10 Seconds 30 Seconds 1 Minute

If you want the second telegram (B) to be sent cyclically after a motion is detected, then this parameter must be set to the corresponding value.

The following parameter is visible only if the device is working as a slave (parameter "Device works as" is set to "Slave").

Parameter	Settings
Send trigger telegrams cyclically	No 1 Second **5 Seconds** 10 Seconds 30 Seconds 1 Minute

A device in slave mode can only send an "On telegram" to the master if motion has been detected to trigger this via the secondary input. The internal overshoot time of 10 seconds is fixed, i.e. a telegram can be sent every 10 seconds to the master at most.

If the slave detector is triggered permanently, then a telegram is sent to the master only on the first triggering. However, if the user in this case wants to send further telegrams, then this can be achieved, but the above parameters must be set accordingly.

3.3.2 „Overshoot time"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
Timer	**One overshoot time** two overshoot times variable overshoot time

This parameter determines whether the overshoot time is always the same ("One overshoot time") or can be changed via a bus telegram (object no. 5).

If "Two overshoot times" are set, then overshoot time 0 or overshoot time 1 can be selected via the telegram. If the "Timer" parameter is set to "variable overshoot times," then the telegram stipulates a value.

Hours	0 – 23, **0**
Minutes	0 – 59, **0**
Seconds	0 – 59, **10**

These parameters determine the minimum time for a detected motion. At the end of the overshoot time, one or two telegrams are sent on the bus (configurable). If a movement has already been detected (overshoot time running) and further motion occurs, then the overshoot time is restarted.

If the "Timer" parameter described above is set to "Two overshoot times," then these parameters are available twice (overshoot time and overshoot time 2).

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/11

25 CO Motion Detector with Light Control - 910501

3.3.3 „End of motion"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
If motion is no longer detected, send (C)	No telegram On **Off** 8-bit value scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)
This parameter determines whether a telegram or which telegram is sent, if no further movement has been detected by the end of the overshoot time.	
Send second telegram (D)	**No** Yes
This parameter determines whether a second telegram is sent after a delay to the first.	
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "If motion is no longer detected, send (C)" is set to "8-bit value." This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "If motion is no longer detected, send (C)" is set to "scene recall." This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "If motion is no longer detected, send (C)" is set to "16-bit value (decimal)". This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "If motion is no longer detected, send (C)" is set to "16-bit value (temperature)." This sets the 16-bit value to be sent in the range 0°C - 40°C.	
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "If motion is no longer detected, send (C)" is set to "16-bit value (brightness)." This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	

Parameter	Settings
Delay for second telegram (in sec.)	0 - 255, **0**
This parameter is visible only if the preceding parameter "Send second telegram (D)" is set to "Yes." This determines the time interval between sending the first telegram (C) and the second telegram (D).	
Second telegram (D)	On **Off** 8-bit value Scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)
This parameter is visible only if the preceding parameter "Send second telegram (D)" is set to "Yes." This determines the format of the second telegram (D).	
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "8-bit value." This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "scene recall." This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (decimal)." This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (temperature)." This sets the 16-bit value to be sent in the range 0°C - 40°C.	
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (brightness)." This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Send second telegram (D) cyclically	No 1 Second **5 Seconds** 10 Seconds 30 Seconds 1 Minute
If you want cyclical sending after a motion is detected, then this parameter must be set to the corresponding value.	

Technical manual

910501, 21 pages

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Update: http://www.siemens.de/gamma

© Siemens AG 2012
Subject to change without prior notice

Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

3.12.1.7.1/12

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Send telegram (C) [and D] after bus voltage recovery	**No** yes
This parameter determines whether telegram C and (if configured) telegram D are also sent automatically after bus voltage recovery.	
Dead time after end of detection (in sec.)	0 -59, **5**
The dead time is used to protect the actuator that is connected to the motion detector. If a motion occurs in the dead time, the motion detector does not switch on. Note 1: The dead time should be set to a longer time than the delay time between telegrams C and D, because otherwise telegram D may fail. Note 2: Because the sensor is enabled internally for approximately 3 seconds after detecting a motion, it can be that a motion detected during the dead time also triggers a telegram. This is the case if the motion is detected during the last 3 seconds of the dead time. To guarantee that the dead time is effective, it should be chosen to be as large as possible.	
Dead time is also applied for extension input	**No** Yes
If the dead time is configured such that it also acts on the secondary device, then a trigger received from the secondary device is "interim stored" by the detector. The corresponding telegrams A to D will be sent after the dead time has elapsed. If the parameter is set to "No", then the triggers received from the secondary device, take effect immediately.	

3.4 „HVAC-Presence detector"

Parameter	Settings
Lock HVAC sensor via comm-object	**No** Yes, if blocking object = 0 Yes, if blocking object = 1
This parameter determines how the value of the blocking object is analyzed.	
Interval time for HVAC-presence detection (minutes)	0 – 15; **5**
This parameter determines the time interval in which the motion pulses are counted.	
Minimum number of detected motions during interval time	1 – 50; **3**
This parameter determines the number of motions that have to be detected during the monitoring time to meet the criterion for starting the HVAC presence. This ensures that a HVAC presence starts only if persons remain in the capture area of the detector for a longer period.	

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/13

---

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Device works as	**Single or master device**
	Slave
This parameter determines whether the detector is used as a standalone device or as a master or as a slave in conjunction with other motion sensors.	

3.4.1 „Begin of HVAC presence"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
If HVAC-presence is detected, send (A)	No telegram
	On
	Off
	8-bit value
	Scene recall
	16-bit value (decimal)
	16-bit value (temperature)
	16-bit value (brightness)
This parameter determines whether a telegram is sent after a presence is detected and what format the telegram has.	
Send second telegram (B)	**No**
	Yes
This parameter determines whether a second telegram is sent after a delay to the first.	
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "If HVAC presence is detected, send (A)" is set to "8-bit value."	
This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "If HVAC presence is detected, send (A)" is set to "scene recall".	
This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "If HVAC presence is detected, send (A)" is set to "16-bit value (decimal)".	
This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "If HVAC presence is detected, send (A)" is set to "16-bit value (temperature)".	
This sets the 16-bit value to be sent in the range 0°C - 40°C.	

Parameter	Settings
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "If HVAC presence is detected, send (A)" is set to "16-bit value (brightness)".	
This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Delay for second telegram (in sec.)	0 - 255, **0**
This parameter is visible only if the preceding parameter "Send second telegram (B)" is set to "Yes".	
This determines the time interval between sending the first telegram (A) and the second telegram (B).	
Second telegram (B)	**On**
	Off
	8-bit value
	Scene recall
	16-bit value (decimal)
	16-bit value (temperature)
	16-bit value (brightness)
This parameter is visible only if the preceding parameter "Send second telegram (B)" is set to "Yes".	
This determines the format of the second telegram (B).	
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "8-bit value".	
This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "scene recall".	
This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (decimal)".	
This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (temperature)".	
This sets the 16-bit value to be sent in the range 0°C - 40°C.	

Technical manual

910501, 21 pages

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

Update: http://www.siemens.de/gamma

© Siemens AG 2012
Subject to change without prior notice

3.12.1.7.1/14

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "Second telegram (B)" is set to "16-bit value (brightness)". This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Send second telegram (B) cyclically	No 1 Second 5 Seconds 10 Seconds 30 Seconds 1 Minute
If you want cyclical sending after a motion is detected, then this parameter must be set to the corresponding value.	

The following parameter is visible only if the device is working as a slave (parameter "Device works as" is set to "Slave").

Parameter	Settings
Send trigger telegrams cyclically	No 1 Second **5 Seconds** 10 Seconds 30 Seconds 1 Minute
A device in slave mode can only send an "On telegram" to the master if motion has been detected to trigger this via the secondary input. The internal overshoot time of 10 seconds is fixed, i.e. a telegram can be sent every 10 seconds to the master at most. If the slave detector is triggered permanently, then a telegram is sent to the master only on the first triggering. However, if the user in this case wants to send further telegrams, then this can be achieved, but the above parameters must be set accordingly.	

3.4.2 „Overshoot time"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
Timer	**one overshoot time** two overshoot times variable overshoot time
This parameter determines whether the overshoot time is always the same ("One overshoot time") or can be changed via a bus telegram (object no. 21). If "Two overshoot times" are set, then overshoot time 0 or overshoot time 1 can be selected via the telegram. If the "Timer" parameter is set to "variable overshoot times," then the telegram can stipulate a value.	
Hours	0 – 23, **0**
Minutes	0 – 59, **0**
Seconds	0 – 59, **10**
These parameters determine the minimum time for a detected HVAC presence. At the end of the overshoot time, one or two telegrams are sent on the bus (configurable). If a HVAC presence has already been detected (overshoot time running) and further motion occurs, then the overshoot time is restarted. If the "Timer" parameter described above is set to "Two overshoot times," then these parameters are available twice (overshoot time and overshoot time 2).	

3.5.3 „End of HVAC presence"

The following parameters are visible only if the device is working as a standalone device or as a master (parameter "Device works as" is set to "Single or master device").

Parameter	Settings
If HVAC-Presence is no longer detected, send (C)	No telegram On **Off** 8-bit value Scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)
This parameter determines whether a telegram or which telegram is sent, if no further HVAC presence has been detected by the end of the overshoot time.	
Send second telegram (D)	**No** Yes
This parameter determines whether a second telegram is sent after a delay to the first.	

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/15

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "If HVAC presence is no longer detected, send (C)" is set to "8-bit value". This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "If HVAC presence is no longer detected, send (C)" is set to "scene recall". This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "If HVAC presence is no longer detected, send (C)" is set to "16-bit value (decimal)". This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "If HVAC presence is no longer detected, send (C)" is set to "16-bit value (temperature)". This sets the 16-bit value to be sent in the range 0°C - 40°C.	
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "If HVAC presence is no longer detected, send (C)" is set to "16-bit value (brightness)". This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Delay for second telegram (in sec.)	0 - 255, **0**
This parameter is visible only if the preceding parameter "Send second telegram (D)" is set to "Yes." This determines the time interval between sending the first telegram (C) and the second telegram (D).	
Second telegram (D)	On **Off** 8-bit value Scene recall 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness)
This parameter is visible only if the preceding parameter "Send second telegram (D)" is set to "Yes". This determines the format of the second telegram (D).	

Parameter	Settings
Value	0 - 255, **0**
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "8-bit value". This sets the 8-bit value to be sent in the range 0 – 255.	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "scene recall". This parameter determines the number of the 8-bit scene to be called up.	
Value	0 - 65 535, **0**
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (decimal)". This sets the 16-bit value to be sent in the range 0 – 65,535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (temperature)". This sets the 16-bit value to be sent in the range 0°C - 40°C.	
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the preceding parameter "Second telegram (D)" is set to "16-bit value (brightness)". This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Send second telegram (D) cyclically	No 1 Second **5 Seconds** 10 Seconds 30 Seconds 1 Minute
If you want cyclical sending after a motion is detected, then this parameter must be set to the corresponding value.	
Send telegram (C) [und D] after bus voltage recovery	**No** Yes
This parameter determines whether telegram C and (if configured) telegram D are also sent automatically after bus voltage recovery.	

Technical manual

910501, 21 pages

Siemens AG
 Infrastructure & Cities Sector, Building Technologies

Update: http://www.siemens.de/gamma

© Siemens AG 2012
 Subject to change without prior notice

Control Products & Systems
 P.O. Box 10 09 53, D-93009 Regensburg

3.12.1.7.1/16

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Dead time after end of detection (in Sec.)	0 -59, **5**

The dead time is used to protect the actuator that is connected to the presence detector. If a motion occurs in the dead time, the presence detector does not switch on.

<u>Note 1:</u> The dead time should be longer than the delay time between telegrams C and D, because otherwise telegram D may fail.

<u>Note 2:</u> Because the sensor is enabled internally for approximately 3 seconds after detecting a motion, it can be that a motion detected during the dead time also triggers a telegram. This is the case if the motion is detected during the last 3 seconds of the dead time. To guarantee that the dead time is effective, it should be chosen to be as large as possible.

Parameter	Settings
Dead time is also applied for extension input	**No** Yes

If the dead time is configured such that it also acts on the secondary device, then a trigger received from the secondary device is "interim stored" by the detector. The corresponding telegrams A to D will be sent after the dead time has elapsed.

If the parameter is set to "No", then the triggers received from the secondary device, take effect immediately.

3.5 „Light control (on-off)"

Parameter	Settings
Source for brightness value (actual value)	**Internal value** external value

This parameter selects the source for the brightness value.

Parameter	Settings
Setpoint value via	**Parameter** Parameter changeable via object

This parameter determines whether the setpoints for light control are set to a fixed value, which in each case can be changed only using the ETS, or whether the corresponding factory-provided values can be changed via the bus, via a communication object.

The value received via the communication object overwrites the factory-provided parameter value and is stored permanently.

3.5.1 „Switch-On"

Parameter	Settings
Switch on, if brightness is lower than xx LUX	100 – 1600, **500**

This parameter determines the starting brightness value from which the "Switching on" telegram (object no. 51) will be sent.

If the brightness value for switching on is greater than the brightness value for switching off, then the value for switching on will be set by the controller to the value for switching off, i.e. both values are then identical. This means that the controller only has to send a telegram to switch on. Switching off in this case is a manual process.

<u>Note 1:</u> The internal light sensor has a measurement range from 20 to 1000 lux. It is therefore sensible to set a threshold above 1000 lux only if an external sensor, having a corresponding measurement range, is used for brightness measurement, or indirect measurement has been configured (Parameter "Measurement principle of the internal light sensor" is at "indirect," see section 3.2 „Brightness measuring") .

<u>Note 2:</u> Depending on the internal recalculation of the value, this can cause an impreciseness when resolving of approximately 5%.

Parameter	Settings
Switch on, not before xx seconds.	0 -59, **10**

This parameter determines the interval at which the corresponding telegram for switching on is sent after falling below the nominal brightness value.

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/17

25 CO Motion Detector with Light Control - 910501

3.5.2 „Switch-Off"

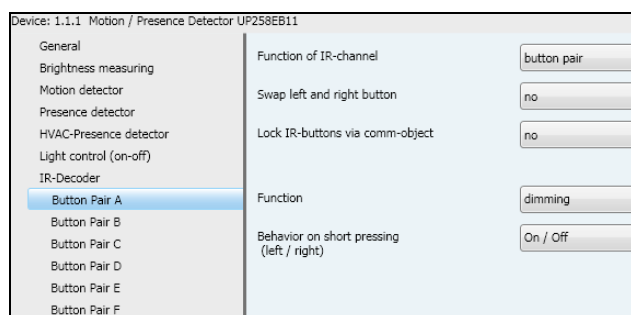| Parameter	Settings
Switch off, if brightness is higher than xx LUX	250 - 1600, **900**
This parameter determines the starting brightness value from which the "Switching off" telegram (object no. 52) will be sent. Note 1: The internal light sensor has a measurement range from 20 to 1000 lux. It is therefore sensible to set a threshold above 1000 lux only if an external sensor, having a corresponding measurement range, is used for brightness measurement, or indirect measurement has been configured (Parameter "Measurement principle of the internal light sensor" is at "indirect," see section 3.2 „Brightness measuring") . Note 2: Depending on the internal recalculation of the value, this can cause an impreciseness when resolving of approximately 5%.	
Switch off, not before xx seconds.	0 -59, **20**
This parameter determines the interval at which the corresponding telegram for switching off is sent after exceeding the nominal brightness value.	

3.6 „IR-Decoder"
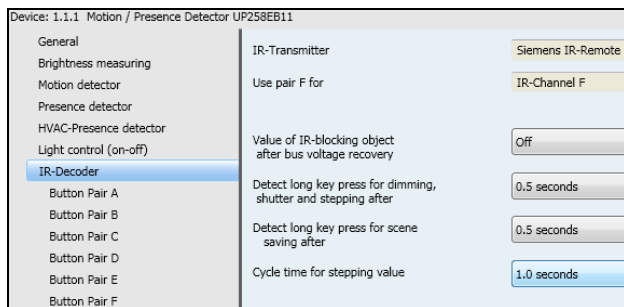
Parameter	Settings
Value of IR-blocking object after bus voltage recovery	**Off** On as before bus voltage failure query via bus
This parameter determines which value the blocking object for the IR decoder will take when bus voltage returns.	

Parameter	Settings
Detect long key press for dimming, shutter and stepping after	**0,5 seconds** 0,6 seconds 0,8 seconds 1,0 seconds 1,2 seconds 1,5 seconds 2,0 seconds 2,5 seconds 3,0 seconds 4,0 seconds 5,0 seconds 6,0 seconds 7,0 seconds 10,0 seconds
This parameter determines the time from which holding down a key for the dimming, shutter or dimming with value is deemed a long key press.	
Detect long key press for scene saving after	**0,5 seconds** 0,6 seconds 0,8 seconds 1,0 seconds 1,2 seconds 1,5 seconds 2,0 seconds 2,5 seconds 3,0 seconds 4,0 seconds 5,0 seconds 6,0 seconds 7,0 seconds 10,0 seconds
This parameter determines the time from which holding down a key for the scene saving function is deemed a long key press.	
Cycle time for stepping value	0,5 seconds 0,6 seconds 0,8 seconds **1,0 seconds** 1,2 seconds 1,5 seconds 2,0 seconds 2,5 seconds 3,0 seconds 4,0 seconds 5,0 seconds 6,0 seconds 7,0 seconds 10,0 seconds
This parameter determines the cycle time after which, during a long key press, an increased or reduced value is sent for the stepping value.	

Technical manual

910501, 21 pages

Siemens AG
 Infrastructure & Cities Sector, Building Technologies

Update: http://www.siemens.de/gamma

© Siemens AG 2012
 Subject to change without prior notice

Control Products & Systems
 P.O. Box 10 09 53, D-93009 Regensburg

3.12.1.7.1/18

25 CO Motion Detector with Light Control - 910501

3.6.1 „Button Pair A"

Parameter	Settings
Function of IR-Channel	disabled button pair **single buttons**
This parameter selects whether button pair A is assigned functions jointly or individually. Alternatively, the button pair can be locked completely.	

The following parameters are visible only if the IR channel mode is set to "Button pair."

Parameter	Settings
Swap left and right button	**No** Yes
These parameters exchange the initialized functions of the right and left buttons.	
Lock IR-buttons via comm-object	**No** Yes, if blocking object = 0 Yes, if blocking object = 1
This parameter determines how the value of the blocking object is analyzed.	
Function	**dimming** shutter 8-bit value, variable scene recall/store
This parameter sets the function for the buttons on the remote control.	
Behavior on short pressing (left/right)	**On / Off** toggle / toggle
This parameter is visible only if the parameter "Function" is set to "Dimming". It sets which telegram is sent via the corresponding object when the buttons are pressed. "On" or "Off": On pressing, an "On" or an "Off" telegram is sent. "Toggle": With each press, the inverse object value for the corresponding switching object is sent (toggling).	

Parameter	Settings
Upper limit	0 – 255, **255**
Step value (increase)	0 – 255, **1**
These two parameters are visible only if the parameter "Function" has been set to "8-bit value, variable". If the left key is given a long press, beginning with the last status value, an 8-bit value is sent cyclically on the bus, which is increased by the step value until the threshold is reached. If the last status value was already above the upper limit, it is not sent.	
Lower limit	0 – 255, **0**
Step value (decrease)	0 – 255, **1**
These two parameters are visible only if the parameter "Function" has been set to "8-bit value, variable". If the right key is given a long press, beginning with the last status value, an 8-bit value is sent cyclically on the bus, which is decreased by the step value until the threshold is reached. If the last status value was already below the lower limit, it is not sent.	
Scene number left button	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the parameter "Function" has been set to "Scene recall/store". It sets the sent scene number when the left key is pressed. A short button press calls up the relevant scene, a long button press saves the current scene under the corresponding number.	
Scene number right button	Scene 1, **Scene 2**, ... Scene 64
This parameter is visible only if the parameter "Function" has been set to "Scene recall/store". It sets the sent scene number when the right key is pressed. A short button press calls up the relevant scene, a long button press saves the current scene under the corresponding number.	

The following parameters are visible only if the IR channel mode is set to "Single buttons."

Parameter	Settings
Lock IR-buttons via comm-object	**No** Yes, if blocking object = 0 Yes, if blocking object = 1
This parameter determines how the value of the blocking object is analyzed.	

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/19

25 CO Motion Detector with Light Control - 910501

Parameter	Settings
Function (button left)	Off **on** toggle 8-bit value 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness) scene recall
This parameter sets the function for the buttons on the remote control.	
Function (button right)	**Off** on toggle 8-bit value 16-bit value (decimal) 16-bit value (temperature) 16-bit value (brightness) scene recall
This parameter sets the function for the buttons on the remote control.	
Bell function: press = off, release = on	**No** Yes
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "Off". The result is that a corresponding telegram is sent when the button is released.	
Bell function: press = on, release = off	**No** Yes
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "On". The result is that a corresponding telegram is sent when the button is released.	
Value	0 – 255, **0**
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "8-bit value". This sets the 8-bit value to be sent in the range 0 – 255.	
Value	0 – 65535, **0**
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "16-bit value (decimal)". This sets the 16-bit value to be sent in the range 0 – 65535.	
Value	0°C; 0,5°C; 1°C; 1,5°C; ... **16,5°C**; ... 39,5°C; 40°C
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "16-bit value (temperature)". This sets the 16-bit value to be sent in the range 0°C - 40°C.	

Parameter	Settings
Value	0Lux; 1Lux; 2Lux; 3Lux; 4Lux; 5Lux; 7Lux; 10Lux; 20Lux; 50Lux; 100Lux; 150Lux; 200Lux; 250Lux; 300Lux; 350Lux; 400Lux; 450Lux; **500Lux**; 550Lux; 600Lux; 650Lux; 700Lux; 750Lux; 800Lux; 850Lux; 900Lux; 950Lux; 1000Lux; 2000Lux
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "16-bit value (brightness)". This sets the 16-bit value to be sent in the range 0 lux - 2000 lux .	
Scene number	**Scene 1**, Scene 2, ... Scene 64
This parameter is visible only if the parameter "Function" (button left)" or "Function (button right)" have been set to "scene recall". This parameter determines the number of the 8-bit scene to be called up.	

3.7.2 „Button Pair B [C, D, E, F]"

Parameter	Settings
Function of IR-Channel	**disabled** button pair single buttons
This parameter selects whether button pair B [C, D, E, F] is assigned functions jointly or individually. Alternatively, the button pair can be locked completely.	

All other parameter settings are performed similar to button pair A (see section 3.6.1) and are therefore not mentioned here again.

25 CO Motion Detector with Light Control - 910501

Space for notes

Siemens AG
Infrastructure & Cities Sector, Building Technologies
Control Products & Systems
P.O. Box 10 09 53, D-93009 Regensburg

910501, 21 pages

© Siemens AG 2012
Subject to change without prior notice

Technical manual

Update: http://www.siemens.de/gamma

3.12.7.7.1/21