BUILDING AUTOMATIONS



Motion detector: communication objects

Motion detector

20850, 19850, 16850, 14850

Passive infrared motion detector, KNX standard, grey – 2 modules.









Functionality

This device detects motion within the sensor's range of action. When the movement has been validated by an internal filter, a "presence message" is sent over the KNX bus and the green LED lights up. This is done according to the set brightness threshold. Note that the green LED does not light up every time a movement is detected, but only when a "presence message" is sent.

The device is capable of activating a movement event from an external source or from any KNX device.

A twilight sensor is also present which causes the lights to be turned on or off according to daylight brightness levels. It is possible to set two types of threshold (upper and lower) and to perform various operations according to the current level.

These actions allow individual or cyclical On/Off messages to be sent. It is also possible to postpone message sending to validate the effective level of the light sensor. For MASTER-SLAVE operation with multiple motion detectors, refer to the explanation of KNX object no. 2 "External trigger".

Behaviour after bus on/off

Bus off: data are not saved.

Bus on: motion detection is enabled after 30 seconds, the time necessary for the IR sensor to stabilise.

Behaviour after reset

As for bus on.

Communication objects

List of existing communication objects

Communication objects

Numero	Nome	Funzione oggetto	Descrizione	Indirizzi di gruppo	Lung	С	R	W	Т	U	Tipo dati
⊒‡o	Rivelatore di movimento	Comando su movimento			1 bit	C	R	-	Т	-	1 bit D
⊒ ‡1	Rivelatore di movimento	Disattivazione forzata			1 bit	C	-	W	-	-	1 bit D
⊒ ‡ 2	Rivelatore di movimento	Trigger esterno			1 bit	C	-	W	-	-	1 bit D
■ ₽4	Crepuscolare	Commutatore			1 bit	C	-	-	Т	-	1 bit D
⊒ ‡ 5	Crepuscolare	Disattivazione forzata			1 bit	C	-	W	-	-	1 bit D

KNX objects: motion detector in detail.

Motion detector communication objects

Number	ETS name	Function	Description	Length	Flag 1				
Hamber	LIGHAME	Tanotion	Description	Longin	С	R	W	Т	U
0	Motion detector	Movement switch	(if the "Motion Detector" parameter is enabled) - a bit that goes to "1" if a movement is detected	1 bit	Х			Χ	
1	Motion detector	Forced Disabled	(if the "Motion Detector" parameter is enabled) to deactivate the motion detector via the bus so that the device does NOT send multiple messages on detecting a moving body		×		Χ		
2	Motion detector	External trigger	(if the "Motion Detector" parameter is enabled) if there are multiple PIRs set as "Motion detector" controlling the same light, choose one as MASTER and associate its "Command on movement" object with the "Trigger" objects of the other SLAVE PIRs in the same group as the relay to be controlled (so for the SLAVE PIRs the "Command on movement" object will be unused). This way each SLAVE PIR will be able to reset the time count of the MASTER PIR, which via the "Command on movement" object effectively activates/deactivate the light relay of the same group. For example, in a long corridor this ensures that the light does not go out during the time it takes to walk from the detection zone of one PIR to that of another	4 10.14	×		X		
4	Twilight	Switch	if the "Twilight" parameter is enabled: the light turns on/off according to daylight brightness levels	1 bit	X			Χ	
5	Twilight	Forced Disabled	(if the "Twilight" parameter is enabled) to deactivate the twilight sensor via the bus so that the device does not send multiple messages on reaching the set daylight brightness threshold		Х		Χ		

C = Communication; R = Read; W = Write; T = Transmission; U = Enable update

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Motion detector: communication objects

Twilight function

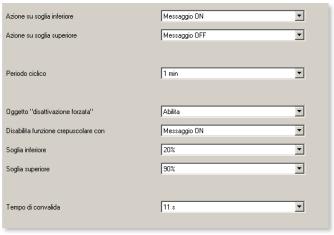
"Twilight function" parameters

For automatic power on/off according to daylight brightness levels.

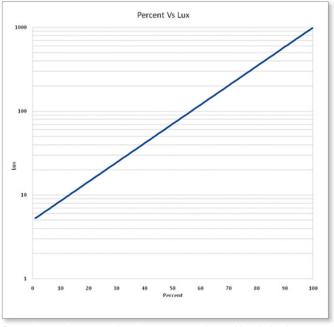
ETS text	Available values [Default value]	Comment		
	Nothing	The PIR operates with a		
Action at lower	Off message	lower and upper threshold;		
threshold	On cyclic message	this parameter defines the		
ti ii oorioid	Off cyclic message	behaviour below the lower		
	[On message]	II II GOI IOIU		
	Nothing	The PIR operates with a		
Action at upper	On message	lower and upper threshold;		
threshold	On cyclic message	this parameter defines the		
	Off cyclic message	behaviour below the upper threshold		
	[Off message]	tilleshold		
Cyclic period	1 s1 h	If a cyclic action is selected,		
	[1 m]	otherwise it is ignored		
Object "Foresed	Disable	To disable trailight someon is		
Object "Forced disable"	Enable	To disable twilight sensor via the bus		
	[Disable]	110 500		
	On message	If "forced disable" object is		
Disable twilight function with	Off message	enabled. The message can be set to force deactivation		
	[On message]	of the sensor		
Lower threshold	10%100%	Lower threshold value		
Lower trieshold	[20%]	Lower threshold value		
Upper threshold	10%100%	I less ou thousand and visit is		
Opper uneshold	[90%]	Upper threshold value		
Confirmation time	1 s5 min.	Time delay for action when the daylight brightness value exceeds the threshold value		
	[10 s]			

Note.

MASTER-SLAVE operation: if you want the light to be turned on by the SLAVE PIRs and turned off by a PIR defined as MASTER, in the relay group you must associate the "Command on movement" object of the MASTER PIR and the "Trigger" objects of the SLAVE PIRs (in which the "command on movement" object will remain unused).



"Twilight function" parameters



Detection performance: the data are approximate (the device is not a LUX measuring instrument)

Motion detector: FAQs

(20850, 19850, 16850, 14850)

 The sensor has turned the light on but it does not detect me if I walk in front of it and after a while the light goes off.

You need to set a lower value for the "Movement timeout" parameter, which is the delay time before further ON commands are sent if the sensor continues to detect movement

Once the sensor has turned oFF the light, it does not turn it on even when someone walks directly in front of it.

You need to set a lower value for the "Minimum wait before sending new message" parameter, which is the delay time before further ON commands are sent if the sensor continues to detect movement.

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Motion detector: communication objects

ETS reference parameters

General

You can choose to enable a different device function. The two functions (Motion detector and Twilight sensor) must not be enabled together.

General parameters

ETS text	Available values [Default value]	Comment				
Enable motion	[Enable]	To turn on a light when				
detector	Disable	motion is detected				
Enable	Enable	To turn on a light when day- light brightness falls below a				
twilight function	[Disable]	certain value				

	bilita rivelatore di movimento bilita funzione crepuscolare	Abilita Disabilita	•
G	eneral settings		

Motion detector

"Motion detector" parameters

To turn on the light when a moving person is detected.

ETS text	Available values [Default value]	Comment		
Motion detector	Yes - No	If "Yes" the daylight bright-		
independent from light	[No]	ness threshold is ignored (see "Brightness threshold")		
Motion detector	10%100%	If the motion detector de- pends on the light: defines the threshold below which		
below brightness threshold	[50%]	motion is to be detected (0%= operates only in the dark)		
	on movement			
Send message	cyclically	How to send		
	[in the case of move- ment]	a presence message		
Minimum wait before sending new	1s1 h	If send message "on movement" is selected, this is the delay time before sending the "On" message		
message	[5 s]	on detecting movement after the sensor has sent a move- ment end "Off" message		
Cyclic period	1s1 h	If send message "cyclically"		
Cyclic period	[1 m]	is selected		
Movement timeout	1s1 h	Time for which the sensor must not detect any type of		
Wovernent timeout	[30 s]	movement if one has just been detected		
147.11.61	Disable			
Wait after move- ment finish	Enable	Sensor off time		
THORIC III IIOH	[Disable]			
Time wait after	1s5 m	If "Wait after movement finish" is enabled, this is the time the device waits after detecting the end of move-		
movement finish	[10 s]	ment and before sending an "Off" (if the corresponding parameter is enabled)		

Continued

ETS text	Available values [Default value]	Comment		
Send OFF mes-	Yes			
sage on movement	No			
finish	[Yes]			
Ol-:	Disable	To bring up an object to be		
Object "forced disable"	Enable	used for disabling the mo-		
uisable	[Disable]	tion detector via the bus		
	Off message	If the		
Disable motion	On message	"forced disable" object is enabled.		
detector with	[On message]	It is possible to set the message to force sensor deactivation		

Indipendenza dalla luminosità Soglia luminosità	No 🔻
Invia messaggio Attesa minima tra due messaggi	su movimento 5 s
Timeout movimento	5 min
Attesa dopo la fine del movimento	Abilita
Attesa dopo la fine del movimento	10 s
Invia OFF alla fine del movimento	Si
Oggetto "disattivazione forzata"	Abilita
Disabilita rivelatore di movimento con	Messaggio ON ▼

Continues

[&]quot;Motion detector" parameters