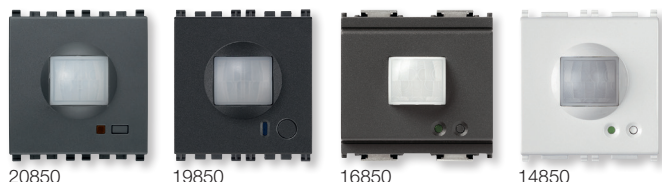


Motion detector: communication objects

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...	C	R	W	T	U	Tipo dati
0	Rivelatore di movimento	Comando su movimento			1 bit	C	R	-	T	-	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	-	-	T	-	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				
					C	R	W	T	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	X			X	
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	1 bit	X		X		
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	1 bit	X		X		
4	Twilight	Switch	if the "Twilight" parameter is enabled: the light turns on/off according to daylight brightness levels	1 bit	X			X	
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	1 bit	X		X		

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

Motion detector: communication objects

Twilight function

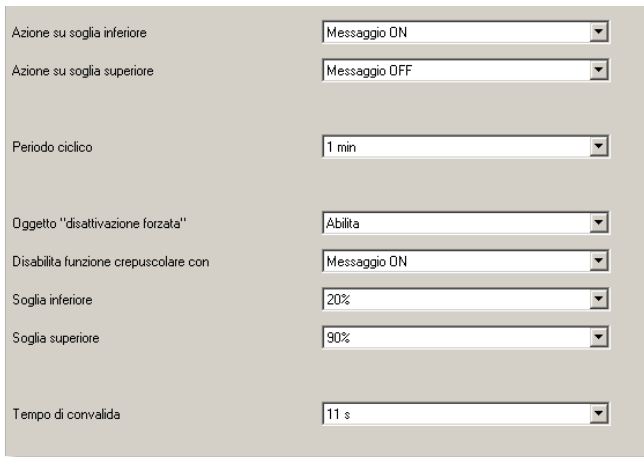
"Twilight function" parameters

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

ETS text	Available values [Default value]	Comment
Action at lower threshold	Nothing	The PIR operates with a lower and upper threshold; this parameter defines the behaviour below the lower threshold
	Off message	
	On cyclic message	
	Off cyclic message	
	[On message]	
Action at upper threshold	Nothing	The PIR operates with a lower and upper threshold; this parameter defines the behaviour below the upper threshold
	On message	
	On cyclic message	
	Off cyclic message	
	[Off message]	
Cyclic period	1 s...1 h	If a cyclic action is selected, otherwise it is ignored
	[1 m]	
Object "Forced disable"	Disable	To disable twilight sensor via the bus
	Enable	
	[Disable]	
Disable twilight function with	On message	If "forced disable" object is enabled. The message can be set to force deactivation of the sensor
	Off message	
	[On message]	
Lower threshold	10%...100%	Lower threshold value
	[20%]	
Upper threshold	10%...100%	Upper threshold value
	[90%]	
Confirmation time	1 s...5 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).



Azione su soglia inferiore: Messaggio ON

Azione su soglia superiore: Messaggio OFF

Periodo ciclico: 1 min

Oggetto "disattivazione forzata": Abilita

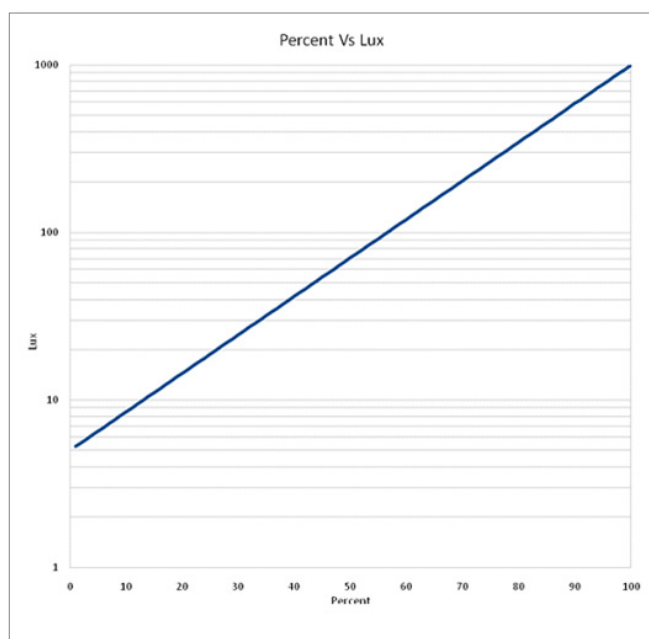
Disabilita funzione crepuscolare con: Messaggio ON

Soglia inferiore: 20%

Soglia superiore: 90%

Tempo di convalida: 11 s

"Twilight function" parameters



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

Motion detector: FAQs

(20850, 19850, 16850, 14850)

1. 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

2. 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.

Motion detector: communication objects

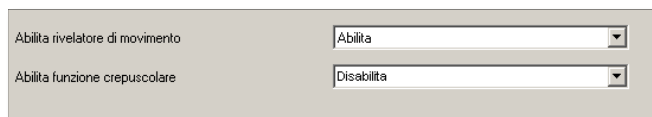
ETS reference parameters

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 detector	[Enable] Disable	To turn on a light when motion is detected
Enable twilight function	Enable [Disable]	To turn on a light when daylight brightness falls below a certain value



General settings

Motion detector

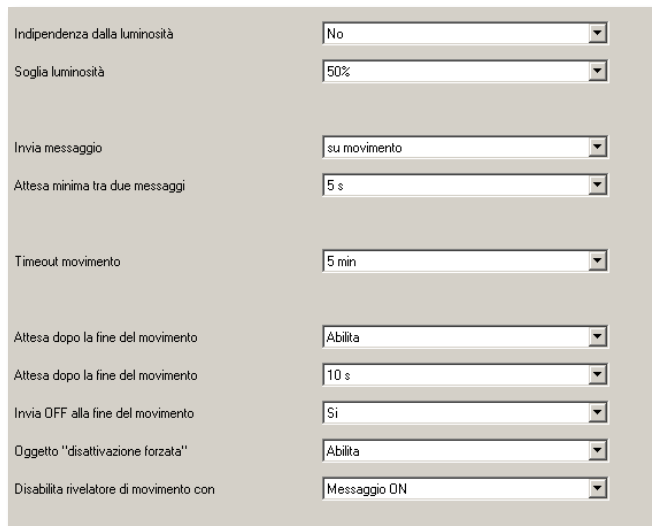
"Motion detector" parameters

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

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

Continued

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



"Motion detector" parameters

Continues