

ESYLUX

www.esylux.com

GB OPERATING INSTRUCTIONS

Congratulations on your purchase of this high-quality ESYLUX product. To ensure correct device operation, please read these installation/operating instructions carefully and keep them in a safe place for future reference.

1 • SAFETY INSTRUCTIONS



WARNING! Work on electrical systems must be carried out by authorised personnel only, with due regard to the applicable installation regulations. Switch off the power supply before installing the system. Please observe the installation regulations laid out in the safety measure for separated extra-low voltage (SELV).

Use this product only as intended (as described in the user instructions). Do not make any changes or alterations as this will render any warranties null and void. You should check the device for damage immediately after unpacking it. If there is any damage, you should not install the device under any circumstances.

If you suspect that safe operation of the device cannot be guaranteed, you should turn the device off immediately and make sure that it cannot be operated unintentionally.

For correct use of the device, ensure that the UC network (or KNX/EIB) to be connected is designed for protection class 3.



NOTE: this device must not be disposed of as unsorted household waste. Used devices must be disposed of correctly. Contact your local town council for more information.

2 • DESCRIPTION

The ESYLUX PD-C360i/8 KNX UP is a presence detector with a 360° field of detection and integrated bus coupler for ceiling mounting. Follow the installation instructions provided when installing the device. The detector is able to control lighting ("switching" or "constant light control" features).

For additional features, please refer to the "Description of applications" section of the operating instructions. With a range of up to 8 m in diameter, the presence detector is suitable for use in offices, classrooms, conference facilities and halls with natural lighting.

The PD-C360i/8 KNX UP is intended to be used in a KNX (EIB), TP bus system in conjunction with other KNX components.

If the PD-C360i/8 KNX UP detects that persons are present in its field of detection, it transmits controlling telegrams for light outputs, depending on ambient brightness, and for HVAC (heating, ventilation and air conditioning) objects.

- Mixed light measurement is suitable for FL, PL, halogen and incandescent lamps.

Certified KNX/EIB training centres provide specialist training on how to plan, install, activate, document and use the ETS (Engineering Tool Software) that is required for parameter setting.

3 • INSTALLATION / ASSEMBLY / CONNECTION

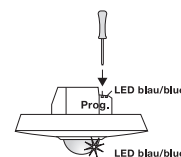


See separate installation instructions.

4 • START-UP

All parameter settings are carried out via the ETS (Engineering Tool Software). Pressing the programming button activates the programming status for the physical address on the PD-C360i/8 KNX UP. This is indicated by the **blue LED**.

The product database and application description are available to download at www.esylux.com.



5 • SWITCH-ON BEHAVIOUR / LED DISPLAY

• Connect the bus supply

This initiates a warm-up phase that lasts approx. 10 seconds. The **red LED** and **green LED** will slowly flash alternately ($f = 1 \text{ Hz}$).

• LED display after warm-up

Each time motion is detected, this is indicated by 2 flashes of the **preset LED colour**.

• In the "Master" function, the remote control entries will be acknowledged

by 3 flashes from the **blue LED**.

• In the "Slave" function, each detection is acknowledged by 2 flashes of the **green LED**.

NOTE: The green LED will only light up when motion is detected if it has been enabled by the ETS (Engineering Tool Software).

6 • TEST MODE

Parameters can be set via the ETS (Engineering Tool Software).

Test mode switches to the RUN status after "storing", or 10 minutes after activating the test mode. The **blue LED** flashes to indicate movement.

7 • REMOTE CONTROL

The optional user remote control Mobil-PDi/User (EM10425547) can be used to regulate/control the lighting.

The Mobil-PDi/User remote control adjusts the lighting value for the period that persons are present plus the switch-off delay time. Thereafter, the values set via the ETS (Engineering Tool Software) will apply.



NOTE: In the "Slave" function the detector does not respond to the remote control!

The Mobil-PDi/User can be used to control the lighting as follows:

- switching on or off
- dimming (only with "controlling" feature)
- storing and calling up of 2 scenes
- pressing the "Reset" button resets the KNX presence detector to the values set via ETS (Engineering Tool Software). The stored light scenes 1 + 2 are kept.



For further information, please refer to the operating instructions for the Mobil-PDi/User remote control.

Mobil-PDi/User

8 • ESYLUX MANUFACTURER'S GUARANTEE

ESYLUX products are tested in accordance with applicable regulations and manufactured with the utmost care. The guarantor, ESYLUX Deutschland GmbH, Postfach 1840, D-22908 Ahrensburg, Germany (for Germany) or the relevant ESYLUX distributor in your country (visit www.esylux.com for a complete overview) provides a guarantee against manufacturing/material defects in ESYLUX devices for a period of three years from the date of manufacture. This guarantee is independent of your legal rights with respect to the seller of the device. The guarantee does not apply to natural wear and tear, changes/interference caused by environmental factors or damage in transit, nor to damage caused as a result of failure to follow the user or maintenance instructions and/or as a result of improper installation. Any illuminants or batteries supplied with the device are not covered by the guarantee.

The guarantee can only be honoured if the device is sent back with the invoice/receipt, unchanged, packed and with sufficient postage to the guarantor, along with a brief description of the fault, as soon as a defect has been identified.

If the guarantee claim proves justified, the guarantor will, within a reasonable period, either repair the device or replace it. The guarantee does not cover further claims; in particular, the guarantor will not be liable for damages resulting from the device's defectiveness. If the claim is unfounded (e.g. because the guarantee has expired or the fault is not covered by the guarantee), then the guarantor may attempt to repair the device for you for a fee, keeping costs to a minimum.

LIGHT CHANNEL OBJECTS

Object 0: "Input: Lock light channel" (length = 1 bit)

The switching/dimming outputs for the light channel are locked with an ON telegram and unlocked with an OFF telegram.

Parameters can be set to determine the status of the light channel after locking and unlocking.

Object 1/2: "Input: Light channel manual ON/OFF" (length = 1 bit)**Note: essential when in semi-automatic mode!**

Manual operation is maintained when persons are present until the switch-off delay time has elapsed if "while presence" is set in the parameters. Light measurement is not active if the parameter "With disabled light processing during off-period" has been selected. After this, the detector switches to normal operating mode. Manual operation has no impact on motion detection. The function is transmitted to communication objects 5/6.

Object 3/4: "Input: Light channel manual dimming" (length = 4 bits)**Function: active when constant light control/regulation has been selected!**

Input for dim up/dim down KNX touch sensors. Writing on this object manually overrides the light channel and the commands are transmitted to the dimming actuator via object 7.

Manual operation is maintained when persons are present until the switch-off delay time has elapsed if "while presence" is set in the parameters. Light measurement is not active if "With disabled light processing during off-period" has been selected. After this, the detector switches to normal operating mode. Manual operation has no impact on motion detection.

Object 5/6: "Input: Light channel manual dim value" (length = 1 byte)**Function: active when constant light control/regulation has been selected!**

Input to preset dim values. Writing on this object manually overrides the light channel and the values are transmitted to the dimming actuator via objects 8 and 9.

Manual operation is maintained when persons are present until the switch-off delay time has elapsed if "while presence" is set in the parameters. Light measurement is not active if "With disabled light processing during off-period" has been selected. After this, the detector switches to normal operating mode. Manual operation has no impact on motion detection.

Object 7: "Input: Light channel control/regulating without presence" (length = 1 bit)**Operating mode: controlling**

This object can be used to enable light control without presence.

Operating mode: regulating

This object can be used to enable light regulation without presence.

Object 8: "Output: Light channel ON/OFF" (length = 1 bit)

If artificial lighting is required (switching threshold 1/set value via parameter) and persons are present, the output sends an ON telegram.

If natural light is sufficient and/or no persons are present, an OFF telegram is sent once the switch-off delay time has elapsed.

Object 9: "Output: Light channel 2 ON/OFF" (length = 1 bit)**Function: switching - only available with switching function!**

If artificial lighting is required (difference between switching threshold 2 and switching threshold 1 via parameter) and persons are present, the output sends an ON telegram.

If natural light is sufficient and/or no persons are present, an OFF telegram is sent once the switch-off delay time has elapsed.

Object 10/11: "Output: Light channel dimming" (length = 4 bits)**Function: constant light control/regulation**

Telegrams can be transmitted to the dimming actuator via this object by manually pressing and holding down a touch sensor (object 2). Only active when "constant light control/regulation" has been enabled!

Object 12: "Output: Light channel dim value 1" (length = 1 byte)**Function: constant light control/regulation**

If artificial lighting is required and persons are present, the output sends a value telegram (1 byte).

If natural light is sufficient (controller to minimum) and/or no persons are present, the lighting is set to 0% or the device switches to orientation lighting once the switch-off delay time has elapsed. Only active when "constant light control/regulation" has been enabled!

Object 13: "Output: Light channel dim value 2" (length = 1 byte)**Function: constant light control/regulation**

If artificial lighting is required and persons are present, the output sends a value telegram (1 byte).

If natural light is sufficient (controller to minimum) and/or no persons are present, either 0% is sent or the device switches to orientation lighting once the switch-off delay time has elapsed.

Option to offset dim value 2 and dim value 1 via parameter. Only active when "constant light control/regulation" has been enabled!

Object 14: "Input: Light channel 1 switching threshold" (length = 2 bytes)

(Operating mode: switching)

This object can be used to specify the switching threshold (lux) for channel 1 via telegram. This is only available if "switching threshold via telegram" has been selected.

Object 14: "Input: Light channel set value control" (length = 2 bytes)

(Operating mode: controlling)

This object can be used to specify the set value (lux) for light control via telegram. This is only available if "switching threshold via telegram" has been selected.

Object 14: "Input: Light channel regulating lower light value" (length = 2 bytes)

(Operating mode: regulating)

This object can be used to specify the lower light value (lux) for light regulation via telegram. This is only available if "switching threshold via telegram" has been selected.

Object 15: "Input: Light channel 2 switching threshold" (length = 2 bytes)

(Operating mode: switching)

This object can be used to specify the switching threshold (lux) for channel 2 via telegram. This is only available if "switching threshold via telegram" has been selected.

Object 15: "Input: Light channel regulating upper light value" (length = 2 bytes)

(Operating mode: regulating)

This object can be used to specify the upper light value (lux) for light regulation via telegram. This is only available if "switching threshold via telegram" has been selected.

Object 16/17: "Input: Light channel 1/2 actuator feedback" (length = 1 bit)

This object can be used to evaluate the status object of an actuator. In the event that the actuator is not only controlled by the detector, the detector will be switched on with an ON telegram and then switched off once the switch-off delay time has elapsed (provided no further movement is detected). If an OFF telegram is sent, the detector will be switched off and will then revert immediately to standby mode. This is only available if "actuator feedback" has been enabled.

Object 18: "Input: Toggle light channel orientation light" (length = 1 bit)**Function: constant light control/regulation**

An ON telegram changes the setting from orientation light value 1 to orientation light value 2, while an OFF telegram switches it from value 2 to value 1.

Object 19: "Input: Light channel orientation light ON/OFF" (length = 1 bit)**Function: constant light control/regulation**

An OFF telegram is used to switch off the orientation light function, while an ON telegram switches it on.

Object 20: "Input: Snooze function ON/OFF" (length = 1 bit)**Function: constant light control/regulation**

If the snooze function is enabled and presence is detected, the detector sends a value specified in the parameters instead of controlling/regulating the light.

LIGHT VALUE OBJECTS**Object 21: "Input: Lock sending light value" (length = 1 bit)**

An ON telegram locks sending, while an OFF telegram enables sending of the internal light value. This is only active if "Behaviour at switching on lock" has been enabled.

Object 22: "Input: External light value" (length = 2 bytes)

This object can be used to mix an external light value with the internal one for the actual value for constant light control/regulation. This is evaluated using multipliers.

Object 23: "Output: Internal light value 1" (length = 2 bytes)

This object can be used to output the internal light value without offset or factor values.

Object 24: "Output: Internal light value 2" (length = 2 bytes)

This object can be used to output the internal light value without offset or factor values.

Object 25: "Output: Current light value" (length = 2 bytes)

This object can be used to output the light's current actual value. This takes into account the offset, the internal light value factor and the external light value factor and value. This value is used by the light channel and the twilight switch to evaluate the light value.

HVAC CHANNEL OBJECTS**Object 26: "Input: Lock HVAC channel" (length = 1 bit)**

The switching output for the HVAC channel is locked with an ON telegram and unlocked with an OFF telegram. Parameters can be set to determine the status of the channel after locking and unlocking.

Object 27: "Input: HVAC channel ON/OFF" (length = 1 bit)

If persons are detected, depending on the input delay, an ON telegram is sent. If no persons are detected, depending on the switch-off delay time, an OFF telegram is sent.

Object 28: "Output: HVAC channel ON/OFF" (length = 1 bit)

If persons are detected, depending on the input delay, an ON telegram is sent. If no persons are detected, depending on the switch-off delay time, an OFF telegram is sent.

Object 29: "Output: HVAC channel dim value" (length = 1 byte)

This communication object can be used to output a parametrisable dim value ranging from 0 - 100%.

Object 30 "Output: HVAC channel scene" (length = 1 byte)

Individual scenes (1 of 64) can be called up for switch ON and switch OFF.

MOTION OBJECTS**Object 31: "Input: Slave/Master motion" (length = 1 bit)**

Trigger input for parallel connection of Master/Master or input of Slave.

Object 32: "Input: Lock motion detection" (length = 1 bit)

An ON telegram locks the internal motion detection function, while an OFF telegram unlocks it again.

Object 33: "Output: Motion detection" (length = 1 bit)

Output of own PIR motion detection.

OBJECTS FOR CONTROLLING/REGULATING TWILIGHT SWITCH FUNCTION**Object 37: "Input: Twilight switch manual ON/OFF" (length = 1 bit)**

Manual override remains active until the off-period has elapsed.

Object 38: "Output: Twilight switch ON/OFF" (length = 1 bit)

If ambient brightness falls below the threshold value, the twilight switch sends an ON telegram once the time delay has elapsed. If ambient brightness exceeds the threshold value, the twilight switch sends an OFF telegram once the time delay has elapsed. Hysteresis can be adjusted using the parameters.

Object 39: "Output: Twilight switch dim value" (length = 1 byte)

This communication object can be used to output a parametrisable dim value ranging from 0 - 100%.

Object 40: "Output: Twilight switch scene" (length = 1 byte)

Individual scenes (1 of 64) can be called up for switch ON and switch OFF.

PRESENCE SIMULATION OBJECT**Object 41: "Input: Presence simulation ON/OFF" (length = 1 bit)**

Presence simulation is switched on or off.

NIGHTLIGHT OBJECT**Object 42: "Input: Nightlight ON/OFF" (length = 1 bit)**

The nightlight function is switched on or off - the motion detection/locking display is retained.



ALARM OBJECTS

Object 43: "Input: Lock alarm" (length = 1 bit)

"1" locks the alarm function, while "0" unlocks the alarm function.

Object 44: "Input: Alarm ON/OFF manually" (length = 1 bit)

This object can be used to manually override the alarm, irrespective of motion detection. Note: If "Alarm must be acknowledged" is set in the parameters, the alarm can only be switched off via this object.

Object 45: "Output: Alarm ON/OFF" (length = 1 bit)

An alarm is triggered if a continuous number of movements are detected within a parametrisable time frame. If "Alarm must be acknowledged" is not set in the parameters, the alarm will be switched off if no movements are detected within a specific time frame.

Object 46: "Output: Sensor status" (length = 1 bit)

Indicates whether the sensor head is assembled. The types of telegram with or without sensor head, and cyclic sending can be adjusted.

RESET OBJECT

Object 47: "Input: Reset" (length = 1 bit)

An ON telegram via this object restarts the device.

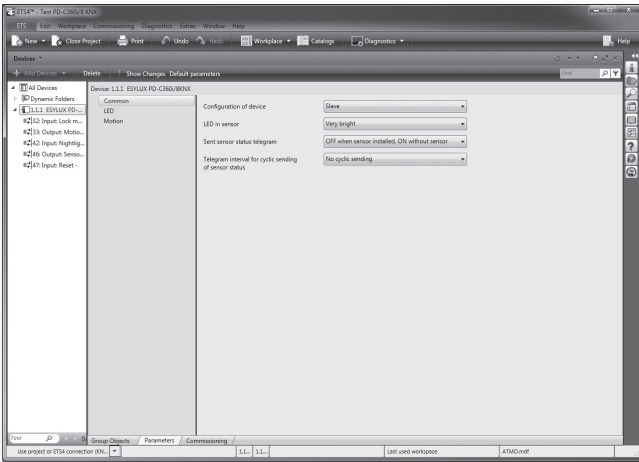
OBJECTS FOR SWITCHING FUNCTION

OBJECTS FOR CONTROLLING/REGULATING FUNCTION

Number	Name	Object Function	Descrpt.	Group Address	Length	R	W	T	U	Data Type	Priority
#210	Input Lock L	#210	Input Lock light channel		1 bit	C	-	W	-	-	Low
#211	Input Light...	#211	Input Light channel 1 manual ON/OFF		1 bit	C	-	W	-	-	Low
#212	Input Light...	#212	Input Light channel 2 manual ON/OFF		1 bit	C	-	W	-	-	Low
#213	Input Light...	#213	Input Light channel 1 manual dimming		4 bit	C	-	W	-	-	Low
#214	Input Light...	#214	Input Light channel 2 manual dimming		4 bit	C	-	W	-	-	Low
#215	Input Light...	#215	Input Light channel 2 manual dim value		1 byte	C	-	W	-	-	Low
#216	Input Light...	#216	Input Light channel 2 manual dim value		1 byte	C	-	W	-	-	Low
#218	Output Light...	#218	Output Light channel 1 ON/OFF		1 bit	C	R	-	T	-	Low
#219	Output Light...	#219	Output Light channel 2 ON/OFF		1 bit	C	R	-	T	-	Low
#220	Output Light...	#220	Output Light channel 1 dimming		4 bit	C	R	-	T	-	Low
#221	Output Light...	#221	Output Light channel 2 dimming		4 bit	C	R	-	T	-	Low
#222	Output Light...	#222	Output Light channel 1 dim value		1 byte	C	R	-	T	-	Low
#223	Output Light...	#223	Output Light channel 2 dim value		1 byte	C	R	-	T	-	Low
#218	Input Sele...	#218	Input Select orientation light		1 bit	C	-	W	-	-	Low
#219	Input Orient...	#219	Input Orientation light ON/OFF		1 bit	C	-	W	-	-	Low
#221	Input Lock...	#221	Input Lock sending light value		1 bit	C	-	W	-	-	Low
#222	Input Ester...	#222	Input External light value		2 byte	C	-	W	-	-	Low
#223	Output Intern...	#223	Output Internal light value 1		2 byte	C	R	-	T	-	Low
#224	Output Intern...	#224	Output Internal light value 2		2 byte	C	R	-	T	-	Low
#225	Output Cur...	#225	Output Current light value		2 byte	C	R	-	T	-	Low
#226	Input Lock...	#226	Input Lock presence (PIVAC)		1 bit	C	-	W	-	-	Low
#227	Input Presen...	#227	Input Presence (PIVAC) ON/OFF		1 bit	C	-	W	-	-	Low
#228	Output Pres...	#228	Output Presence (PIVAC) ON/OFF		1 bit	C	R	-	T	-	Low
#229	Output HVAC...	#229	Output HVAC channel dim value?		1 byte	C	R	-	T	-	Low
#230	Output HVAC...	#230	Output HVAC channel scene?		1 byte	C	R	-	T	-	Low
#231	Input Slave...	#231	Input Slave/master motion		1 bit	C	-	W	-	-	Low
#232	Input Lock...	#232	Input Lock motion detection		1 bit	C	-	W	-	-	Low
#233	Output M...	#233	Output Motion detection		1 bit	C	R	-	T	-	Low
#237	Input Twi...	#237	Input Twilight switch manual ON/OFF		1 bit	C	-	W	-	-	Low
#238	Output Twi...	#238	Output Twilight switch ON/OFF		1 bit	C	R	-	T	-	Low
#239	Output Twi...	#239	Output Twilight switch dim value		1 byte	C	R	-	T	-	Low

Number	Name	Object Function	Descrpt.	Group Address	Length	R	W	T	U	Data Type	Priority
#210	Input Lock L	#210	Input Lock light channel		1 bit	C	-	W	-	-	Low
#211	Input Light...	#211	Input Light channel 1 manual ON/OFF		1 bit	C	-	W	-	-	Low
#212	Input Light...	#212	Input Light channel 2 manual ON/OFF		1 bit	C	-	W	-	-	Low
#218	Output Light...	#218	Output Light channel 2 ON/OFF		1 bit	C	R	-	T	-	Low
#219	Output Light...	#219	Output Light channel 1 scene		1 bit	C	R	-	T	-	Low
#220	Output Light...	#220	Output Light channel 2 scene		1 byte	C	R	-	T	-	Low
#221	Output Light...	#221	Output Light channel 1 dim value		1 byte	C	R	-	T	-	Low
#222	Output Light...	#222	Output Light channel 2 dim value		1 byte	C	R	-	T	-	Low
#223	Output Light...	#223	Output Light channel 2 dim value		1 byte	C	R	-	T	-	Low
#214	Input Light...	#214	Input Light channel 1 threshold		2 byte	C	-	W	-	-	Low
#215	Input Light...	#215	Input Light channel 2 threshold		2 byte	C	-	W	-	-	Low
#216	Input Light...	#216	Input Light channel 1 actuator feedback		1 bit	C	-	W	-	-	Low
#217	Input Light...	#217	Input Light channel 2 actuator feedback		1 bit	C	-	W	-	-	Low
#220	Input Lock...	#220	Input Lock sending light value		1 bit	C	-	W	-	-	Low
#222	Input Ester...	#222	Input External light value		2 byte	C	-	W	-	-	Low
#223	Output Intern...	#223	Output Internal light value 1		2 byte	C	R	-	T	-	Low
#224	Output Intern...	#224	Output Internal light value 2		2 byte	C	R	-	T	-	Low
#225	Output Cur...	#225	Output Current light value		2 byte	C	R	-	T	-	Low
#226	Input Lock...	#226	Input Lock presence (PIVAC)		1 bit	C	-	W	-	-	Low
#227	Input Presen...	#227	Input Presence (PIVAC) ON/OFF		1 bit	C	-	W	-	-	Low
#228	Output Pres...	#228	Output Presence (PIVAC) ON/OFF		1 bit	C	R	-	T	-	Low
#229	Output HVAC...	#229	Output HVAC channel dim value?		1 byte	C	R	-	T	-	Low
#230	Output HVAC...	#230	Output HVAC channel scene?		1 byte	C	R	-	T	-	Low
#231	Input Slave...	#231	Input Slave/master motion		1 bit	C	-	W	-	-	Low
#232	Input Lock...	#232	Input Lock motion detection		1 bit	C	-	W	-	-	Low
#233	Output M...	#233	Output Motion detection		1 bit	C	R	-	T	-	Low
#237	Input Twi...	#237	Input Twilight switch manual ON/OFF		1 bit	C	-	W	-	-	Low
#238	Output Twi...	#238	Output Twilight switch ON/OFF		1 bit	C	R	-	T	-	Low
#239	Output Twi...	#239	Output Twilight switch dim value		1 byte	C	R	-	T	-	Low
#240	Output Twi...	#240	Output Twilight switch scene		1 byte	C	R	-	T	-	Low
#241	Input D...	#241	Input Presence simulation ON/OFF		1 bit	C	-	W	-	-	Low

DESCRIPTION OF APPLICATIONS



1. MASTER/SLAVE

The Master detects presence and evaluates it according to set parameters.

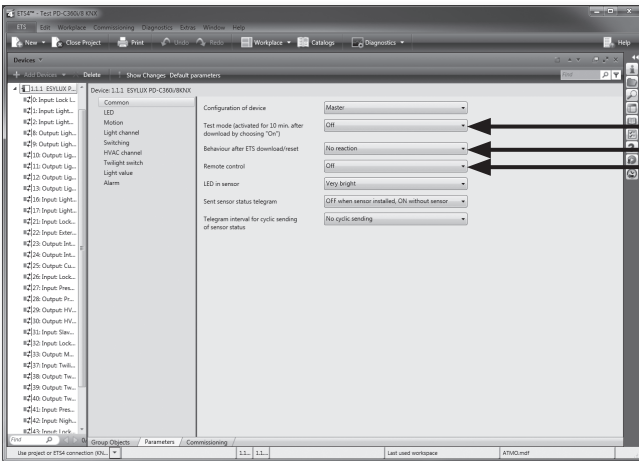
“Lighting ON/OFF” or “lighting light value higher/lower”

The Slave is used exclusively to extend the field of detection. Presence is transmitted to the Master (object 31) for evaluation according to the set parameters.

• **Master/Master selection**

Two Masters can work in parallel to extend the field of detection. Each Master evaluates the presence (object 33) according to its parameters set via the ETS (Engineering Tool Software) and regulates/controls the lighting appropriately.

Default setting: Master



2. TEST MODE

(only for Master device configuration)

When test mode is “ON” → light measurement is disabled.

When test mode is enabled, the connection with the lighting system is checked. If the motion sensor detects movement, the lighting will be “ON” for 5 seconds, followed by a dead time of 1 second “OFF”. The blue LED indicates that movement has been detected. Test ON switches to test OFF automatically after 10 minutes, or when the parameters are stored.

Note: During test → Slave input enabled.

3. BEHAVIOUR AFTER ETS DOWNLOAD/RESET

Choose from: “No reaction”, “ON”, “OFF”
During the process, the following objects are sent:

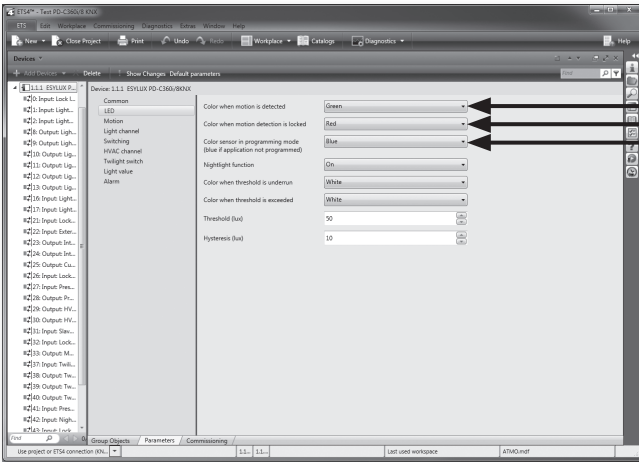
- Switching operating mode:**
- Object 8: “Output: Light channel 1 ON/OFF”
 - Object 9: “Output: Light channel 2 ON/OFF”
- “Controlling” or “regulating” operating mode:**
- Object 8: “Output: Light channel ON/OFF”
 - Object 12: “Output: Light channel dim value 1”
 - Object 13: “Output: Light channel dim value 2”
- Also, object 28: “Output: HVAC channel ON/OFF”

4. REMOTE CONTROL

This is where you can disable operation via the Mobil-PDi/User or X-REMOTE (iPhone).

Caution: Remote control is disabled in test mode.

DESCRIPTION OF APPLICATIONS



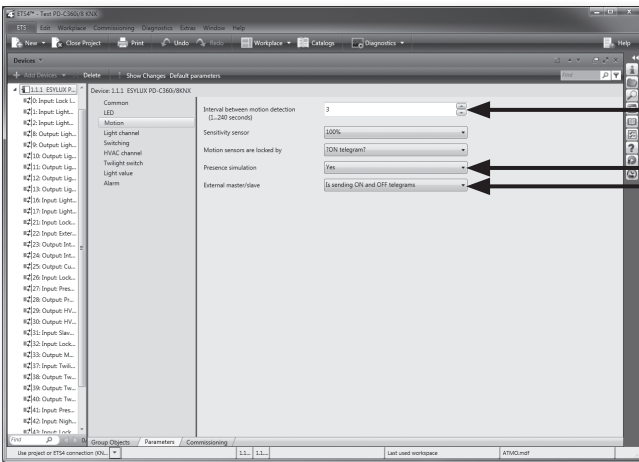
5. LEDS IN SENSOR

Options: choose between one of the LED brightness levels or "OFF"

If the LED is not switched off, you can specify its colour when motion is detected (2 x flashes) and when motion detection is locked via object 32. You can use the parameters to set the brightness of the LED to 1 of 5 different levels.

5.1 Night-light feature

This function allows you to use the LED as a nightlight. It will switch to one of the preset colours as soon as the light value falls below or exceeds the threshold. You can use object 42 to disable the nightlight.



6. MOTION DETECTION

When movement is detected, this status is maintained for the preset time period. Then, several requests are sent to the sensors each second to determine whether further motion has been detected (object 33). You can use one of the parameters to set the sensor's level of sensitivity.

Object 32 can be used to lock motion detection. The LED will display the colour selected to indicate this.

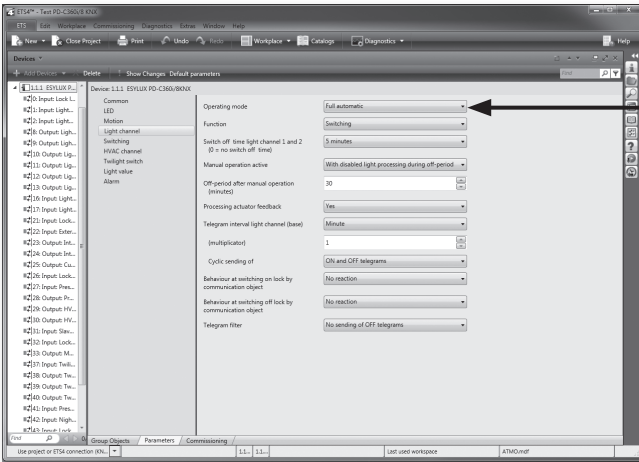
7. PRESENCE SIMULATION

The detector keeps a constant record of if and when movement has been detected, for a period of 1 week. An ON telegram via object 41 can then be used to switch the channels on or off according to this weekly record. The stored time lapse is taken into account. Normal motion detection also remains active during this process.

8. EXTERNAL MASTER/SLAVE

This parameter can be used to determine whether the external Master/Slave only sends ON telegrams when motion is detected, or whether the external device sends an ON telegram when motion is detected and OFF telegrams when no movement is detected.

DESCRIPTION OF APPLICATIONS



9. LIGHT CHANNEL

9.1 Light channel operating mode

• “Fully automatic” operating mode

Lighting is automatically switched on if the detector detects presence and the ambient lighting level has fallen below the preset brightness threshold or set value. The lighting is automatically switched off if no persons are present and once the preset switch-off delay time has elapsed. The lighting will also switch off automatically if the preset brightness threshold or set value is exceeded, regardless of presence. When persons are present, in order to avoid sudden changes in brightness caused by undesired switching on/off of the lighting, the detector will only be triggered after a time delay. Example: a passing cloud could potentially cause unnecessary switching. Time delay from “light to dark”: 30 seconds Time delay from “dark to light”: 5 minutes

• Additional manual lighting control in fully automatic mode

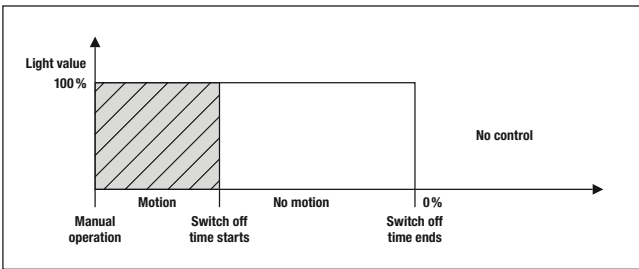
The lighting can be switched on or off manually using infrared remote control (Mobil-PDi/User, please also refer to separate Mobil-PDi/User operating instructions) or by telegrams, e.g. by pressing external KNX/EIB buttons.

If “Manual operation active while presence” is set, the light can be switched on manually. This will remain switched on for as long as the detector continues to detect movement, regardless of the ambient brightness.

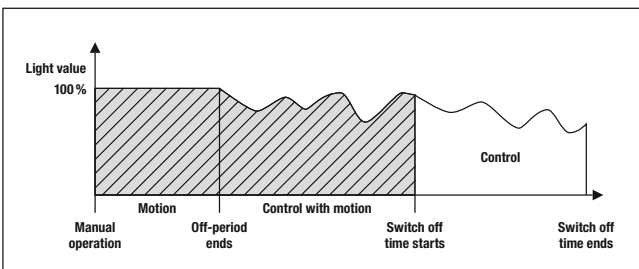
If “Manual operation active during off-period” is set, the detector turns the lighting to 100% during this period. Once the off-period comes to an end and if there are persons present, the device will start controlling the lighting according to the preset target value. If no more movement is detected, the detector will revert to the previous automatic mode after the switch-off delay time has elapsed.

Note: Applies to all light channel operating modes.

Manual operation active while presence



Manual operation active during off-period

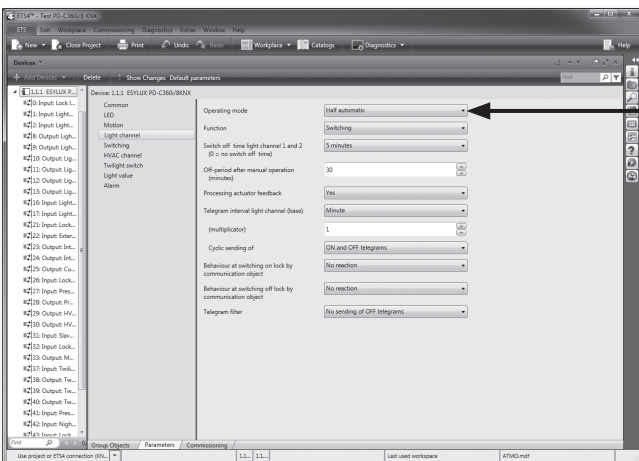


• “Semi-automatic” operating mode

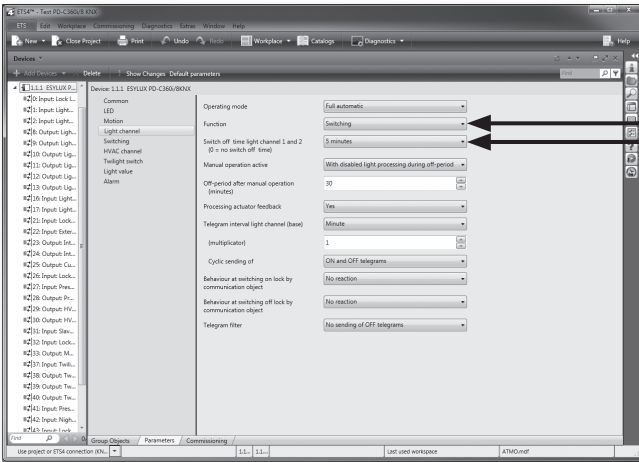
If “semi-automatic” mode has been selected, the lighting must be switched on manually using infrared remote control (Mobil-PDi/User) or by telegrams, e.g. by pressing external KNX/EIB buttons. This means that the detector does not automatically switch “ON” the lighting when persons are present. However, should the natural lighting level increase and the ambient lighting level exceed the preset light value, the detector will automatically switch the lighting off 5 minutes after reaching the preset light value, regardless of any presence. The lighting can subsequently be switched back on manually at any time. If “Manual operation active during off-period” is set, during this time the detector behaves in the same way as when the setting “Manual operation active while presence” is set. The detector then switches to normal operating mode. This means that the light can be switched on by the user even if the threshold value has been exceeded, but will then be automatically switched off again once the preset time has elapsed.

Note: External ON telegram, e.g. through KNX/EIB button, is essential in semi-automatic mode! Applies to all light channel operating modes.

Default setting: Fully automatic



DESCRIPTION OF APPLICATIONS



9.2 Light channel function

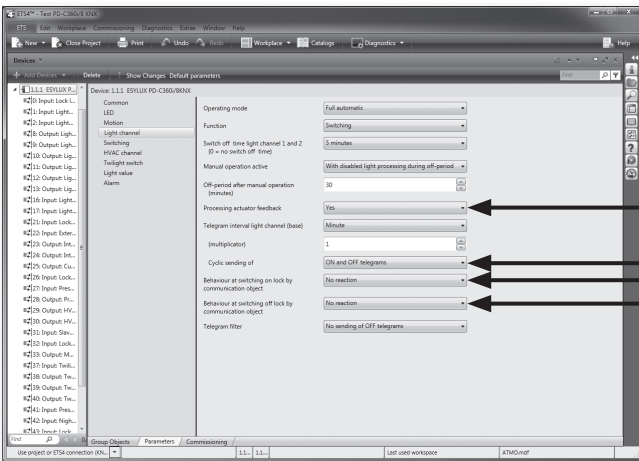
Options:
Switching: ON/OFF to a defined threshold.
Controlling: ON/light control to a defined set value/(OFF) constant light control.
Regulating: Light is regulated via linear correlation between the dim value and the light value.

Default setting: Switching

9.3 Light channel switch-off delay time

• **Light channel switch-off delay time**
 Options: 0 seconds, 30 seconds – 12 hours

Default setting: 5 minutes



9.4 Processing actuator feedback

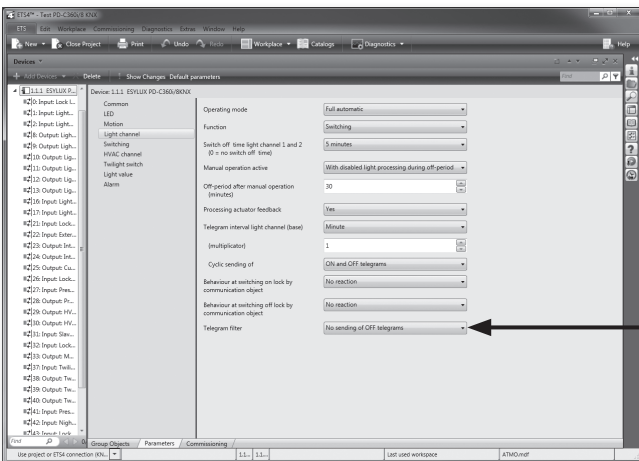
Objects 16 and 17 (or object 16 when “controlling” or “regulating” is selected) can be used to evaluate the status object of an actuator. In the event that the actuator is not only controlled by the detector, the light channel switches to standby mode if the status of the channel differs from that of the actuator.

9.5 Cyclic sending

The light channel sends its current status in cycles according to specified time intervals. At the same time, it is also possible to determine whether it repeatedly sends OFF or ON telegrams in cycles.

9.6 Behaviour at switching lock ON or OFF

Options for each include: “No reaction”, “Switch off” or “Switch on” the light channel.



9.7 Telegram filter

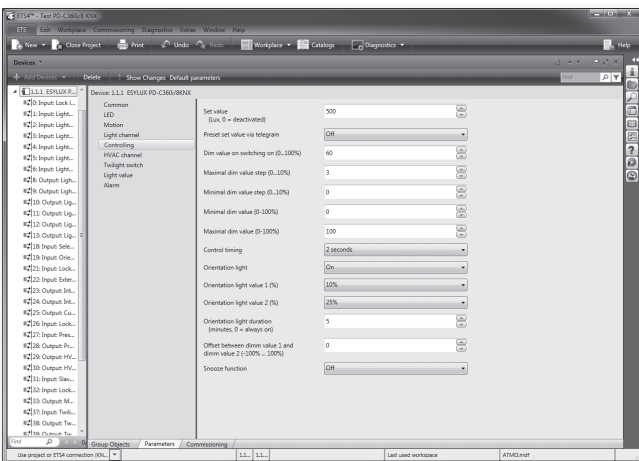
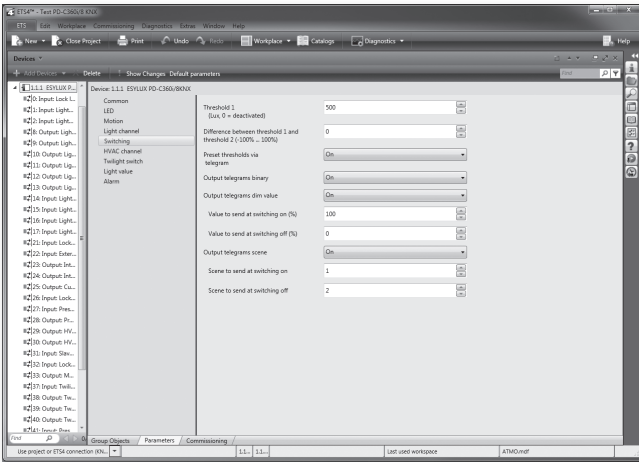
This can be used to prevent OFF or ON telegrams from being sent through the light channel.

9.8 Lighting controlled regardless of presence

9.9 Lighting controlled/regulated regardless of presence

An ON telegram can be sent via object 7 to initiate light control/regulation regardless of presence if this function has been enabled in the parameters (only visible in controlling/regulating operating mode).

DESCRIPTION OF APPLICATIONS



10. LIGHT CHANNEL FUNCTION

10.1 Switching

Threshold 0 = disabled, motion detection only
 Threshold 1 - 2,000 lux (using the up/down menu) or directly enter a value between 0 and 2,000 lux
 Default setting: 500 lux
 There is an option of determining an offset (can also be assigned using objects 14 and 15) between "switching threshold ON/OFF 1" and "switching threshold ON/OFF 2"
 -50% to +50%

Default setting: ±0%

Output telegrams can be sent in binary form (objects 8 and 9), as dim values (objects 12 and 13), (0-100%), or as scenes (objects 3/4 and 5/6), (1-64). Individual parameters can be set for the switch ON and OFF values.

10.2 Controlling

• Dim value when controlling begins

Options: 0 - 100% (using the up/down menu) or direct entry 0 - 100%
 Default setting: 60%

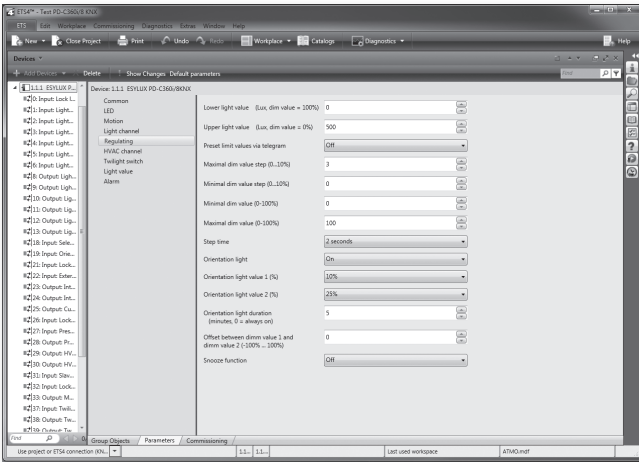
Control timing: Options: 0.5 - 10 seconds (up/down menu)

If the snooze function is enabled and presence is detected, the detector sends a value specified in the parameters instead of controlling/regulating the light.

⚠ Note: If the control loop exhibits a hunting tendency, the sensor can be adjusted to various illuminants and ballasts using the "control timing" parameter.

As a rule of thumb: the slower the lighting responds, the longer the control timing (0.5-10 seconds).

DESCRIPTION OF APPLICATIONS



10.3 Regulating

Lower light value: 0 - 2,000 lux
 Upper light value: 0 - 2,000 lux

Lower minimal dim value: 0 - 100%
 Upper maximal dim value: 0 - 100%

Caution: Always ensure that the maximal value selected is higher than the chosen minimal value.

Step time: Options: 0.5 - 10 seconds (up/down menu)

If the snooze function is enabled and presence is detected, the detector sends a value specified in the parameters instead of controlling/regulating the light.

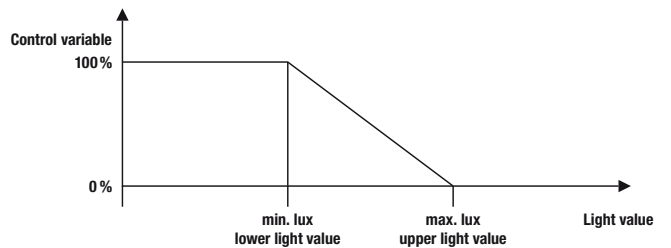
Note: If the control loop exhibits a hunting tendency, the sensor can be adjusted to various illuminants and ballasts using the "step time" parameter.

As a rule of thumb: the slower the lighting responds, the longer the step time (0.5-10 seconds).

Default setting: 2 seconds

You can specify 2 light values for light regulation using parameters or telegrams (communication objects 14 and 15). If the maximal light value is reached, a telegram is sent with a value of 0%. If the lower light value is measured, a telegram is sent with a value of 100%. In between this, the control variable is calculated on a linear basis and sent to the dimming actuator (objects 12 & 13). The externally connected or internal light sensor must be positioned in such a way to ensure that it receives a large amount of natural light, but little artificial light.

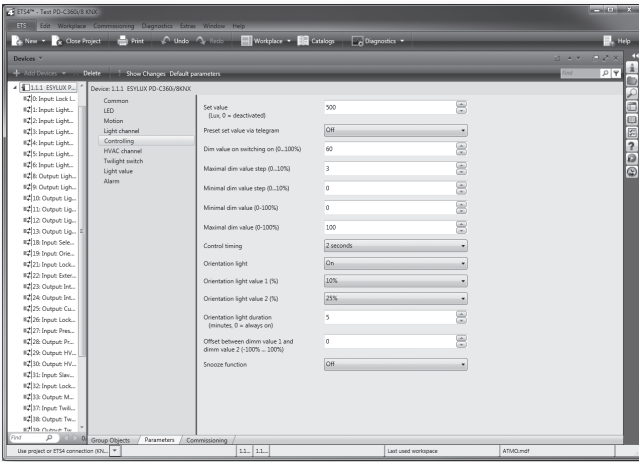
Example



Setting of minimal and maximal dim value step (0 - 10%), enabled during controlling and regulating

Setting of minimal and maximal dim value (0 - 100%), enabled during controlling and regulating

DESCRIPTION OF APPLICATIONS



10.4 Orientation light value

• Orientation light value 1

Options: 0/5 - 50% (up/down menu) in 5% steps

Note: only active for "Controlling" and "Regulating"! The orientation light value 1 is active as standard. Via object 18, an ON telegram changes the setting to orientation light value 2 and an OFF telegram changes the setting to orientation light value 1. This is only active if the orientation light has been set to "ON".

Default setting: 10%

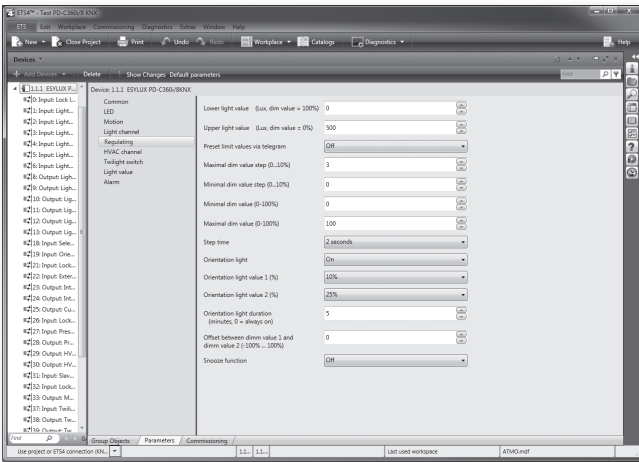
• Orientation light value 2

Options: 0/5 - 50% (up/down menu) in 5% steps

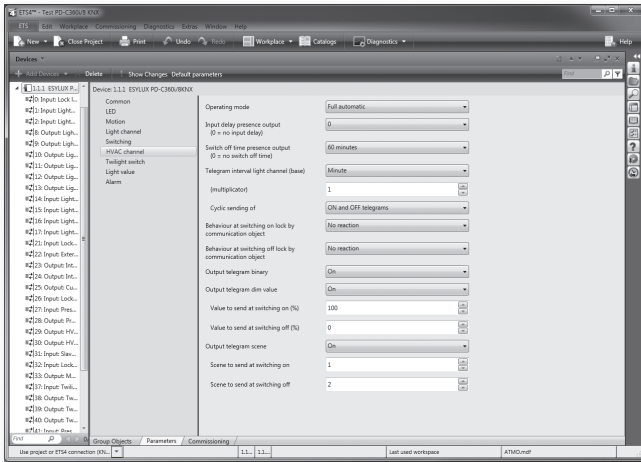
Note: only active for constant light control/regulation! Only active if orientation light has been set to "ON".

Default setting: 25%

An OFF telegram via object 19 is used to switch off the orientation light function, while an ON telegram switches it on. If the orientation light function is switched off, the detector switches to OFF/0% once there is no more presence and once the switch-off delay time has elapsed.



DESCRIPTION OF APPLICATIONS



11. HVAC CHANNEL

Note: the presence output is independent of the set light values.

Option of selecting input delay of 0 minutes or 2 minutes – 30 minutes.
Default setting: 0 minutes

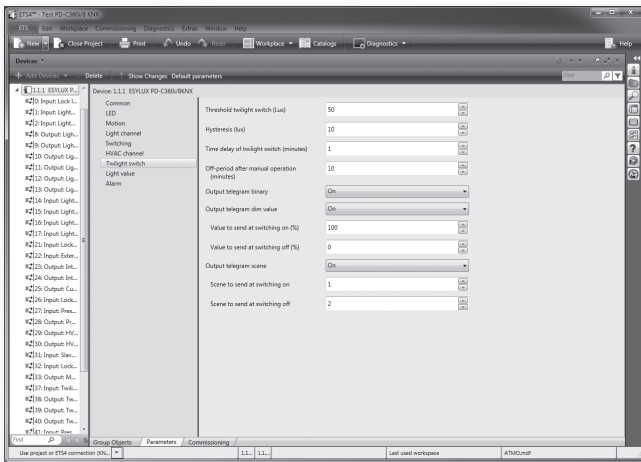
Option of selecting a switch-off delay time of 0, 1 - 60 minutes or up to 12 hours.
Default setting: 60 minutes

11.1 Cyclic sending

The HVAC channel sends its current status in cycles according to specified time intervals. At the same time, it is also possible to determine whether it repeatedly sends OFF or ON telegrams in cycles.

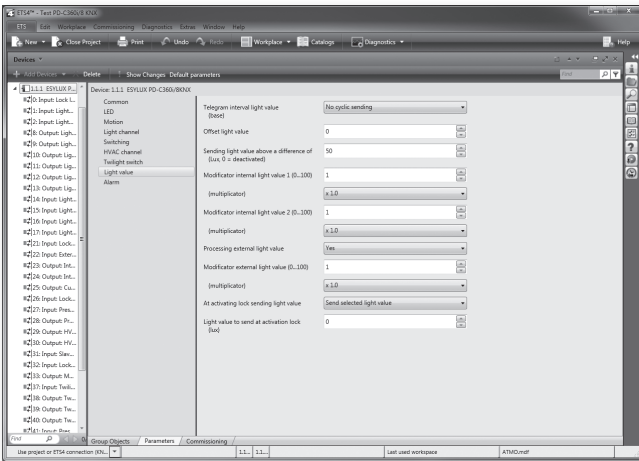
11.2 Behaviour at switching lock ON or OFF

Options for each include: "No reaction", "Switch off" or "Switch on" the light channel.



12. TWILIGHT SWITCHES

In normal operating mode, the twilight switch sends an ON telegram if the threshold value is not reached during the entire switching time and an OFF telegram if the threshold value is exceeded (plus hysteresis) during the entire switching time (via communication object 38). The output telegram can be sent in binary form (object 38), as a dim value (object 39), (0-100%) or as a scene (object 40), (1-64). Individual parameters can be set for the switch ON and OFF values. The twilight switch remains inactive if it is manually switched using communication object 37 until the off-period has elapsed, at which point it reverts to normal operating mode.



13. LIGHT VALUE

13.1 Current light value

The current light value can be transmitted either in cycles or from a specified offset to the last actual value sent. This value is calculated as follows:

$$\text{Value} = [\text{light value from sensor} \times \text{modifier} \times \text{multiplier}] + \text{offset}$$

Object 21 can be used to lock sending of the current light value. This allows you to send either the current value or a value specified in the parameters.

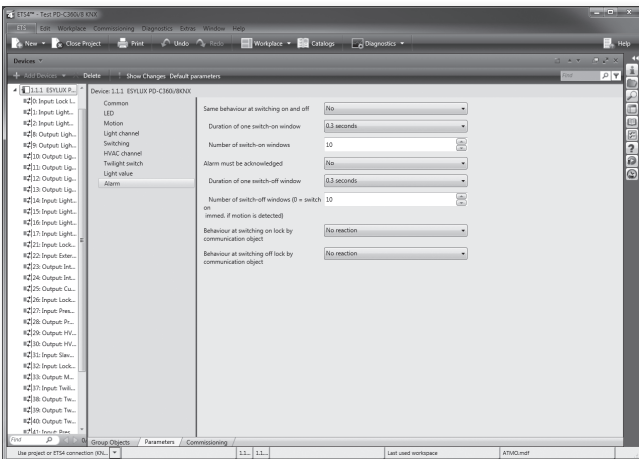
13.2 External light value

An external sensor can also be integrated and assessed via KNX for internal light control/regulation. The actual value for controlling/regulating is then:

$$\text{Value} = \text{actual light value} + [\text{external light value} \times \text{modifier} \times \text{multiplier}]$$

13.3 Internal light value

You can also check light control/regulation by using objects 23 and 24 to output the internal light value directly from the sensor without factor or offset values. This value is always sent along with the current light value via communication object 25.



14. ALARM

The alarm function can be set to react differently or the same at switch ON and switch OFF.

The alarm output (object 45) can be locked using object 43. Options for behaviour at switching lock ON or OFF via object 43 include "no reaction", "switch OFF", "switch ON".

The number of detected movements within a time frame can be set.

ESYLUX

ESYLUX GmbH

An der Strusbek 40, 22926 Ahrensburg/Germany



Internet: www.esylux.com

e-mail: info@esylux.com

MA00486900 • KAT 07/14