

Operating Instructions Pushbutton 'Universal' Light Management

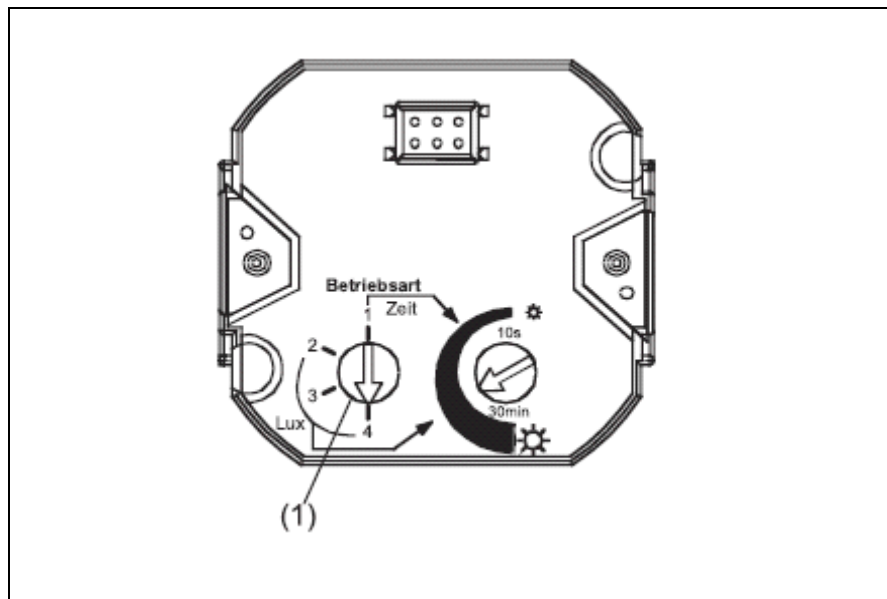


1 Safety Instructions

Attention: The installation and assembly of electrical equipment may only be performed by a qualified electrician. Not suitable for safety disconnection. Depending on the type of switching or dimmer insert, the load will not be electrically isolated from the mains, even though the device is off. To prevent electric shocks, disconnect the mains supply (by cutting out the circuit breaker) before working on the pushbutton 'Universal' or on the Light-Management insert. Non-observance of these installation instructions may cause fire or other hazards.

2 Functional principle

The pushbutton 'Universal' is used for manual or automatic switching of lamps. Four different modes of operation can be selected with switch (1).



1. Timer switch

The lights are switched on for a predefined time span.

2. Twilight switch

The lights are switched on during darkness.

3. Memory switch

The lights are switched on during stored times (simulation of presence).

4. Random switch

The lights are switched on randomly during darkness (simulation of presence)

In combination with a „3-wire“ extension insert, Art. no. 1223NE, and a presence detector or an automatic switch, the light can also be switched depending on movement (not in the twilight switch mode).

The different functions are described in the following chapters.

3 Fitting

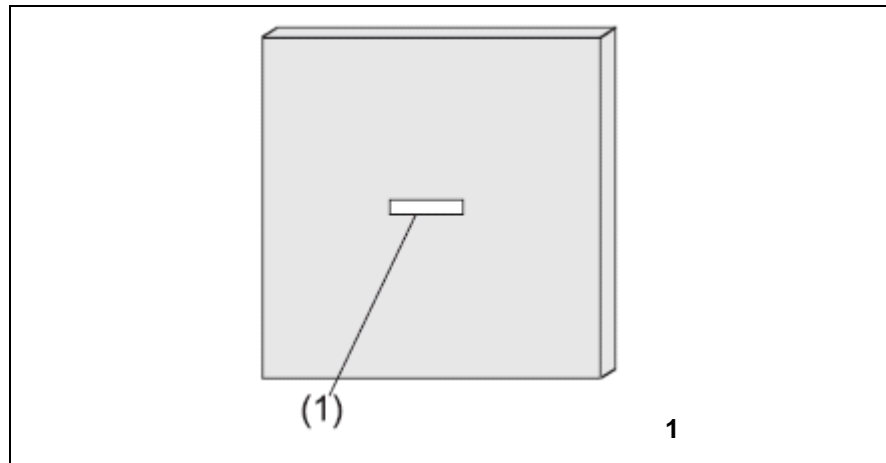
The pushbutton 'Universal' is used in combination with a switching or dimming insert. Attachments and inserts of the same building block family can be combined to realize the desired application. For wiring details of the insert please refer to the operating instructions of the respective insert.

Important:

- The pushbutton 'Universal' can only be used on a main unit.
- Parallel connection of main units with the pushbutton 'Universal' is not permitted.
- The insert used must correspond to release „R2“.
- If manual control from several places is desired, the main unit must be operated with „2-wire“ extension inserts (Art. no 1220NE) or with mechanical pushbuttons (make contact).
- Operation from extension units is only possible if the main unit is equipped with an attachment.
- Illuminated mechanical pushbuttons must have a separate N terminal.

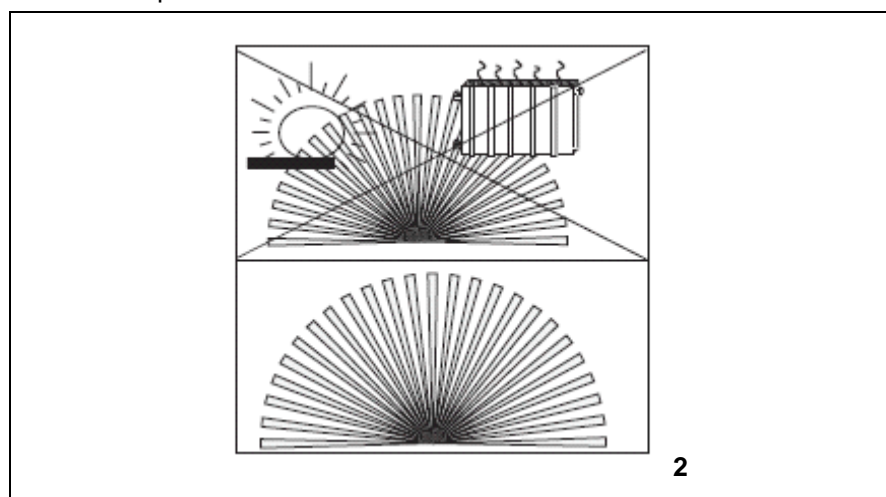
3.1 Place of installation

The pushbutton 'Universal' detects the ambient brightness by means of a light sensor. The sensor is located together with the status LED behind the window (1) in the middle of the pushbutton (fig. 1).



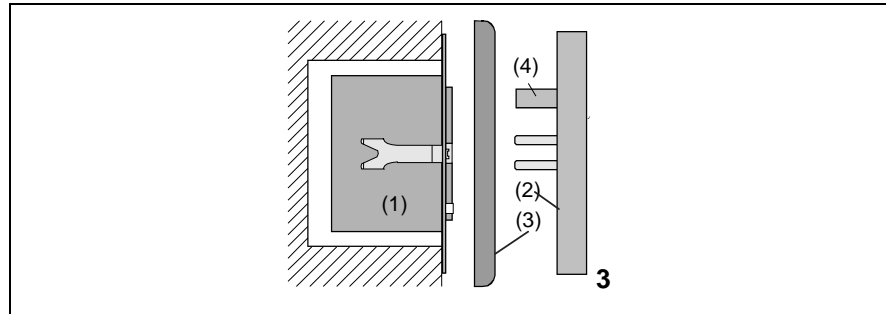
The following instructions must be observed, especially when the device is used in the twilight switch mode of operation: To ensure correct detection of the ambient brightness in identical lighting conditions for the light sensor with and without scattered light, the light to be switched must be prevented from falling onto the sensor. Otherwise risk of malfunction (lights going on an off continuously).

For combinations with presence detector or automatic switch as extension units, the fitting instructions in the respective operating instructions for these devices must be observed, e.g. paying attention to sources of interference in the field of detection (fig. 2) selecting the appropriate fitting location for optimal detection



3.2 Fitting instructions

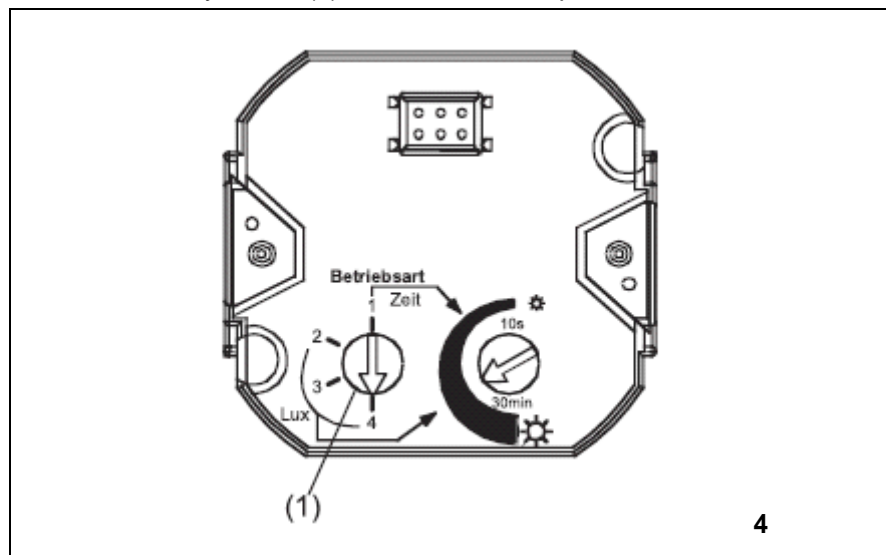
The Light Management insert (1) is installed in a mounting box in acc. with DIN 49073 (fig. 3).



The connecting terminals of the device must be at the bottom. Otherwise risk of malfunction. Before plugging the pushbutton 'Universal' onto the insert, adjust the mode of operation and turn-off delay or the brightness threshold. Frame (3) is plugged together with the pushbutton 'Universal' (2) onto the insert. The electrical contact is established via connector (4). Installation of the insert is described in the operating instructions for the respective insert.

3.3 Adjusting the mode of operation

The pushbutton 'Universal' has four modes of operation which are selected with the red rotary switch (1) at the back of the pushbutton 'Universal'.



When delivered ex factory, the device is set to the random switch mode, see fig. (4).

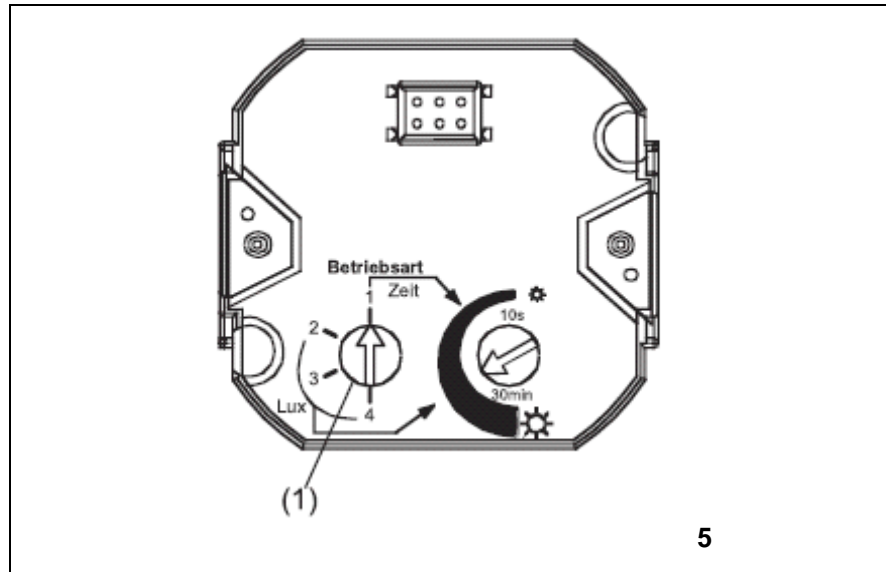
Changing the mode of operation deletes all stored settings (switching times, memory value, basic brightness).

- 1 = Timer switch
- 2 = Twilight switch
- 3 = Memory switch
- 4 = Random switch

4 Modes of operation

4.1 „Timer Switch“

In this mode of operation (rotary switch (1) in position 1), the light is switched on manually and off automatically or to basic brightness. The light cannot be switched off manually.



Actuation of the pushbutton 'Universal' or a „2-wire“ extension insert (Art. no 1220NE or a mechanical pushbutton (make contact) switches on the lighting during the turn-off delay dependent on brightness.

See also „Operation“.

Use of a switching insert:

After elapsing of the turn-off delay, the pushbutton 'Universal' switches the lights off. For reasons of safety, the switch-off procedure lasts 30 seconds. During this time, the light is switched off twice briefly for two 2 seconds at a time to ensure that no one is suddenly standing in the dark. Each actuation of the main unit or the extension unit retriggersthe turn-off delay.

Use of a dimming insert:

After elapsing of the shutoff delay, the lights are dimmed down within 30 seconds from the actual brightness to basic brightness.

Each actuation of the main unit or the extension unit retriggers the turn-off delay. If retriggering occurs during the dimming phase, the pushbutton 'Universal' goes back to the brightness set before dimming started.

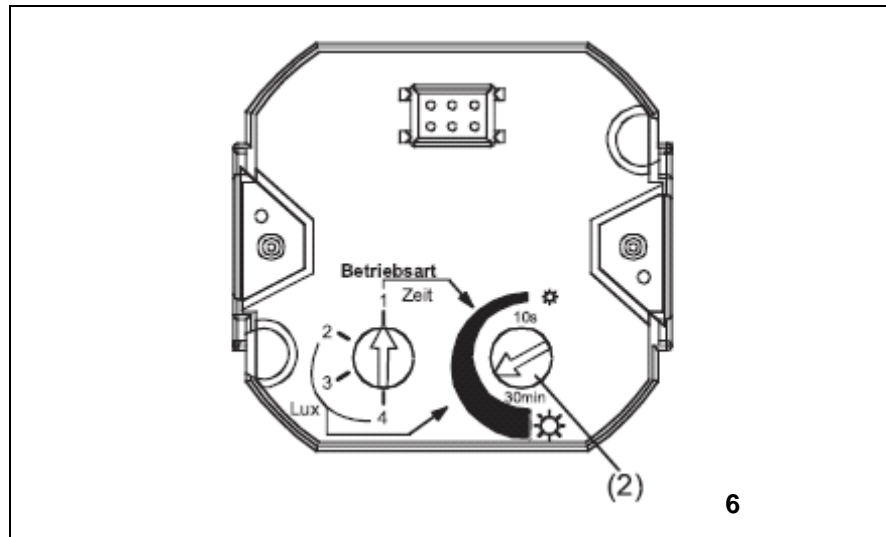
Indicator LED

Flashing of the LED indicates that the turn-off delay has elapsed. After 30 seconds at the latest, the lighting is switched either off or to basic brightness.

Turn-off delay

The turn-off delay determines how long the light remains on after it was last retriggered. The turn-off delay can be adjusted to between 10 seconds and 30 minutes. The adjusting range is non-linear, i.e. longer periods of time can only be preset in relatively coarse intervals. The turn-off delay is adjusted by means of the green potentiometer (2) at the back of the

pushbutton 'Universal' (fig. 6) To change the turn-off delay, turn the green potentiometer (2) in the desired direction (fig. 6).



Memory value

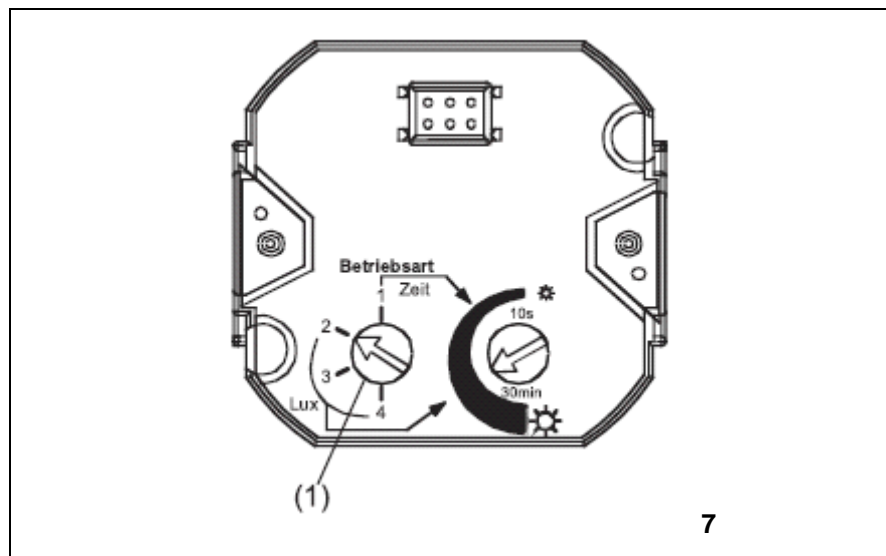
This is the brightness adopted by the lamp after switch-on when a dimming insert is used. This value is stored permanently. Storing a new value overwrites the previous one. For storing details, see the „Manual operation“ chapter. In this mode of operation, the memory value can be adjusted within a range of 50 % (half brightness) and 100 % (full brightness). If a value below 50 % is specified, the memory value stored is 50 %.

Basic brightness

This is the brightness adopted after the end of the turn-off delay when a dimming insert is used. When the device delivered ex factory, the basic brightness corresponds to the „off“ state. This value is stored permanently. Storing a new value overwrites the previous one. If the new value is to be smaller than the old one, the old one must first be deleted. The old one is deleted by setting at first the old basic brightness and by storing it again. The basic brightness is also deleted when the mode of operation is changed. The basic brightness can be adjusted within a range of up to 50 % (half brightness). If a value greater than 50 % is specified, the basic brightness value stored is 50 %. For storing details, see the „Manual operation“ chapter. If the lowest dimming position is stored as basic brightness, the light will be switched off after the dimming phase.

4.2 Twilight switch

In this mode of operation (rotary switch (1) in position 2), the light is switched on manually or automatically and off only automatically. The light cannot be switched off manually.



For manual switch-on see „Operation“.

Automatic switch-on / switch-off:

If the ambient brightness drops below the preset brightness threshold, the pushbutton 'Universal' switches the light on. If the preset brightness threshold is exceeded by about the double, the light is switched off again. To prevent each brief change of brightness from switching the device, the following lock-out times are provided:

Lock-out times

Turn-on delay:

- after drop below brightness threshold: approx. 30 seconds
- directly after switch-off or reset: approx. 3 seconds (if ambient brightness is below the brightness threshold)

Turn-off delay: approx. 3 minutes

If the brightness threshold is exceeded and if the turn-off delay has elapsed, the LED starts flashing.

Use of a switching insert:

After elapsing of the turn-off delay, the pushbutton 'Universal' switches off the light. If the main unit is actuated before the end of the turn-off delay or if this delay is retriggered from an extension unit, the lighting remains on and the turn-off delay is restarted.

Use of a dimming insert:

After the brightness threshold has been exceeded and the turn-off delay elapsed, the lighting is dimmed within 30 seconds from the existing brightness to minimum brightness and then shut off. If the main unit is actuated during the dimming time or if it is retriggered from an extension unit, the pushbutton 'Universal' switches back to the stored memory value and the turn-off delay is restarted.

Important: If the ambient brightness is below the brightness threshold in the first 3 seconds after shutoff, the light is switched on again and the brightness threshold for switching off is raised.

Status indicator LED

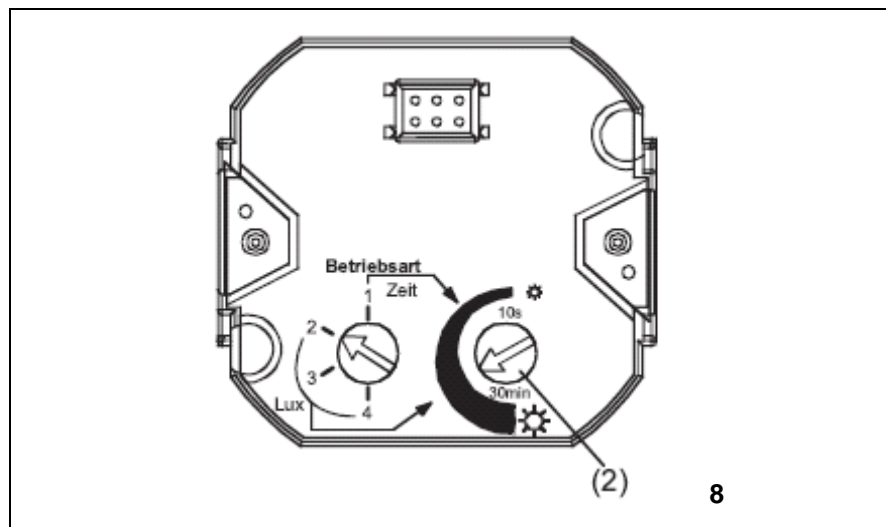
	Switching insert	Dimming insert
LED flashing	turn-off delay elapsed, light will be switched off after 30 seconds	dimming phase, light will dimmed down to minimum brightness within 30 seconds and then switched off

Turn-off delay

The turn-off delay is fixed to 3 minutes.

Brightness threshold

When the ambient brightness drops below the brightness threshold, the lighting is switched on. If the preset brightness threshold level is exceeded by the double, the lighting will be switched off after the turn-off delay has elapsed. The brightness threshold can be adjusted within a range between approx. 3 and 80 lux. To change the brightness threshold, turn the green potentiometer (2) in the desired direction (fig. 8).

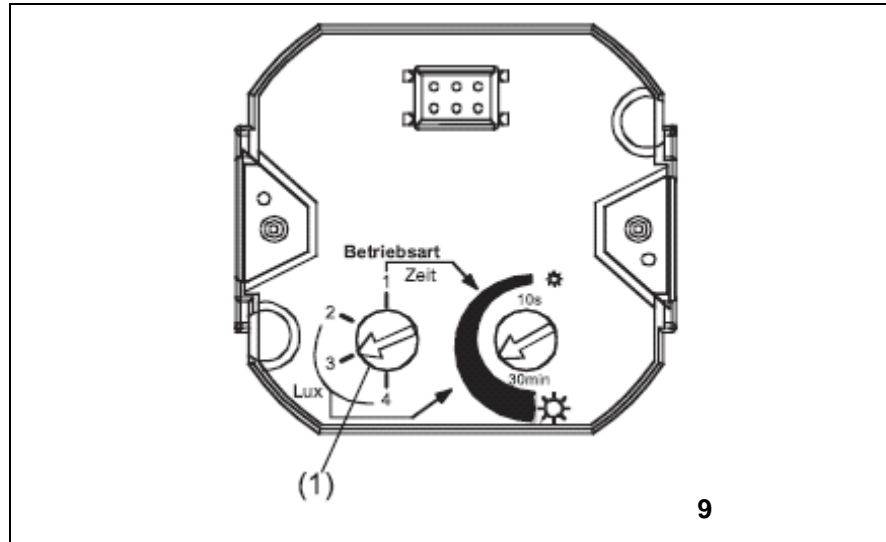


Memory value

This is the brightness level adopted during switch-on with a dimming insert. The value is stored permanently. If a new value is stored, the previous one is overwritten. For storing details see „Operation“.

4.3 Memory switch

In this mode of operation (rotary switch (1) in position 3), the lighting is switched on or off manually or automatically.



This mode has two basic settings:

- „Record“: manual operation, switching times are stored
- „Replay“: automatic switching at the stored times

Switching between „Record“ and „Replay“ is achieved by a central press on the pushbutton 'Universal' for 3 seconds in the off-state.

„Record“

The lighting is switched on and off manually. Over a period of 7 days, up to 120 switching events are stored. If more switch actuations are performed, the oldest ones are overwritten. A switching state (on or off) must have a length of at least 20 seconds. There is otherwise the risk of the switching state not being stored completely. Switch actuations within a period of 8 minutes before a mains failure may not be stored.

„Replay“

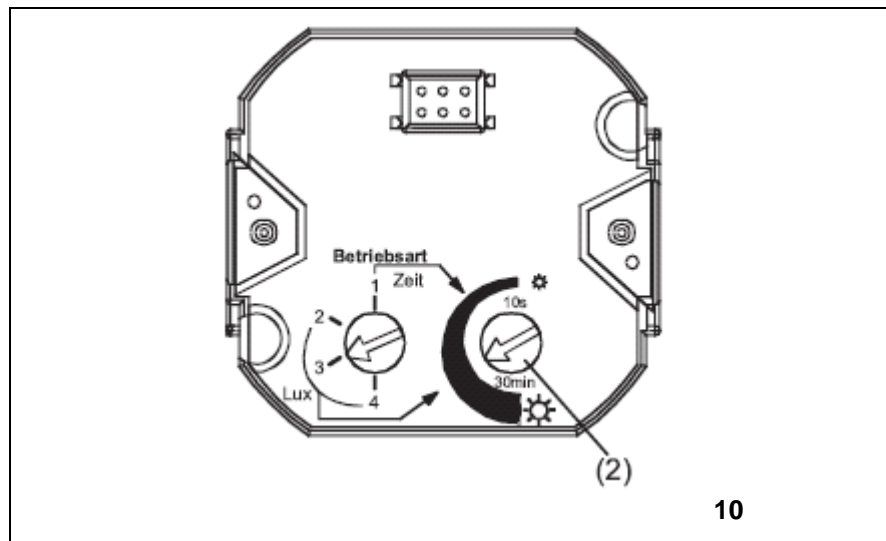
The lighting is switched on or off automatically at the stored times. Manual operation is still possible. Such switching times are not stored. Manual operation does not interfere with the „Replay“ function. If no switching times or only an insufficient number of switching times are stored, the device performs random switching. Random switching is performed until the time to the next switch-on time stored is less than 48 hours or less than 8 hours to the next switch-off time stored.

Status indicator LED

	Switching insert	Dimming insert
LED on	"Replay"	
LED off	"Record"	
LED flashing	turn-off delay elapsed, light will be switched off after 30 seconds	dimming phase, light will dimmed down to minimum brightness within 30 seconds and then switched off
Important	For brightness measurements, the LED is switched off for half a second in one minute in the replay mode and with the lights off	

Brightness threshold

When the ambient brightness is below the threshold, the device performs random switching if no or only an insufficient number of switch actuations have been stored. The brightness threshold can be adjusted between approx. 3 and 80 lux. To change the brightness threshold, turn the green potentiometer (2) in the desired direction (fig. 10).

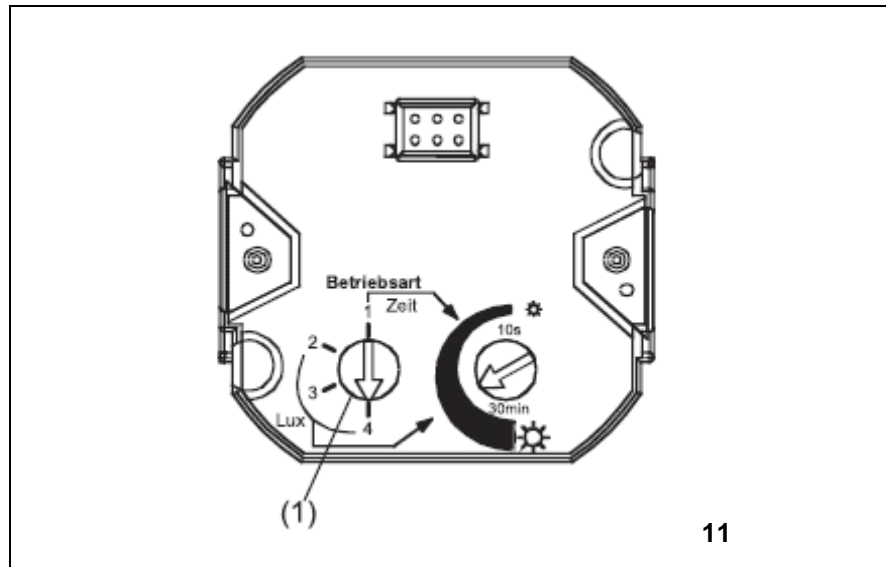


Memory value

This is the brightness level adopted on manual switch-on when a dimming insert is used (does not apply when stored switching times are being executed in the „Replay“ mode). This value is stored permanently. If a new value is stored, the previous one is overwritten. For storing details, see „Manual operation“.

4.4 Random switch mode

In this mode of operation (rotary switch (1) in position 4), the lighting is switched on or off manually or automatically. .



This mode has two basic settings.

- Random switching deactivated (manual operation only)
- Random switching activated

Random switching deactivated:

Only for manual operation, see „Operation“.

Random switching activated:

As long as the ambient brightness is below the preset brightness threshold, the pushbutton 'Universal' performs random switching. Manual operation is still possible and does not interfere with the automatic function. The next random switching event changes over to the opposite switching state. To prevent random switching whenever the sensor is being shaded for a short moment, the ambient brightness must have been below the threshold for at least 60 s. If the brightness threshold is exceeded when the lighting is on, the next random switching event (off) will still be executed

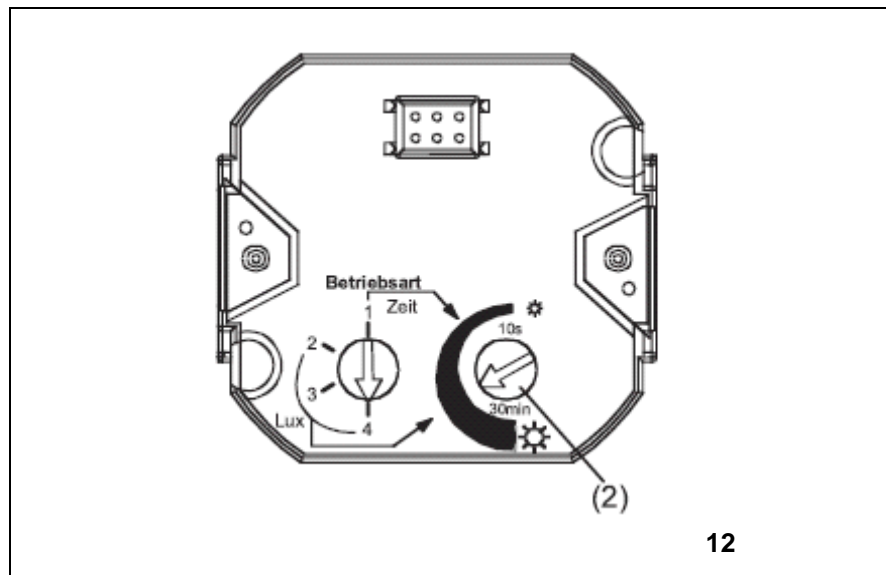
As long as the ambient brightness is below the preset brightness threshold, the pushbutton 'Universal' performs random switching. Manual operation is still possible and does not interfere with the automatic function. The next random switching event changes over to the opposite switching state. To prevent random switching whenever the sensor is being shaded for a short moment, the ambient brightness must have been below the threshold for at least 60 s. If the brightness threshold is exceeded when the lighting is on, the next random switching event (off) will still be executed

Status indicator LED

	Switching insert	Dimming insert
LED on	random operation activated	
LED off	random operation deactivated	
LED flashing	turn-off delay elapsed, light will be switched off after 30 seconds	dimming phase, light will dimmed down to minimum brightness within 30 seconds and then switched off
Important	For brightness measurements, the LED is switched off for half a second in one minute in the replay mode and with the lights off	

Brightness threshold

As long as the ambient brightness is below the preset brightness threshold, the device performs random switching. If the brightness threshold is exceeded when the lighting is on, the next random switching event (off) will still be executed. The brightness threshold can be adjusted between approx. 3 and 80 lux. To change the brightness threshold, turn the green potentiometer (2) in the desired direction (fig. 12)



Memory value

This is the brightness level adopted on switch-on when a dimming insert is used (not applicable for random switching). This value is stored permanently. If a new value is stored, the previous one is overwritten. For storing details, see „Manual operation“.

5 Operation

5.1 Manual Operation

Important: When a switching insert is used, a long press on the button has the same effect as a short press.

Operation when lighting is off

Short press (shorter than 400 ms)

Press on UPPER half, LOWER half or center of button The lighting is switched on. In case of a dimming insert, the lights are switched on at a brightness corresponding to the memory value. Depending on the mode of operation selected, the turn-off delay is retriggered.

Long press (longer than 400 ms) only with dimming inserts

Press on UPPER half of button

The lighting is switched on at minimum brightness, maintained for 1 second and then increased in brightness up to the maximum value. Depending on the mode operation selected, the turn-off delay is retriggered.

Press on LOWER half of button

The lighting is switched on at minimum brightness. Depending on the mode operation selected, the turn-off delay is retriggered.

Press on center of button (longer than 400 ms)

Timer and twilight switch:

The lighting is switched on at minimum brightness, maintained for 1 second and then increased in brightness up to the maximum value. Depending on the mode of operation selected, the turn-off delay is retriggered

Memory switch:

After a press on the button of less than 3 seconds, the lighting is switched on at minimum brightness when the button is released. After 3 seconds, the device switches over from „Record“ to „Replay“. In this case, the lights remain off.

Random switch:

After a press on the button of less than 3 seconds, the lighting is switched on at minimum brightness when the button is released. After 3 seconds, random replay is activated resp. deactivated. In this case, the lights remain off.

Operation when lighting is on

Short press (shorter than 400 ms)

Press on UPPER half, LOWER half or center of button

Timer and twilight switch:

The turn-off delay is retriggered. The lights cannot be switched off.

Memory and random switch:

The lighting is switched off.

Long press (longer than 400 ms) only with dimming inserts

Press on UPPER half of button

Increase of lamp brightness up to maximum brightness; turn-off delay is retriggered.

Press on LOWER half of button

Reduction of brightness down to minimum brightness (with timer switch down to basic brightness); turn-off delay is retriggered.

Press on center of button for 3 seconds

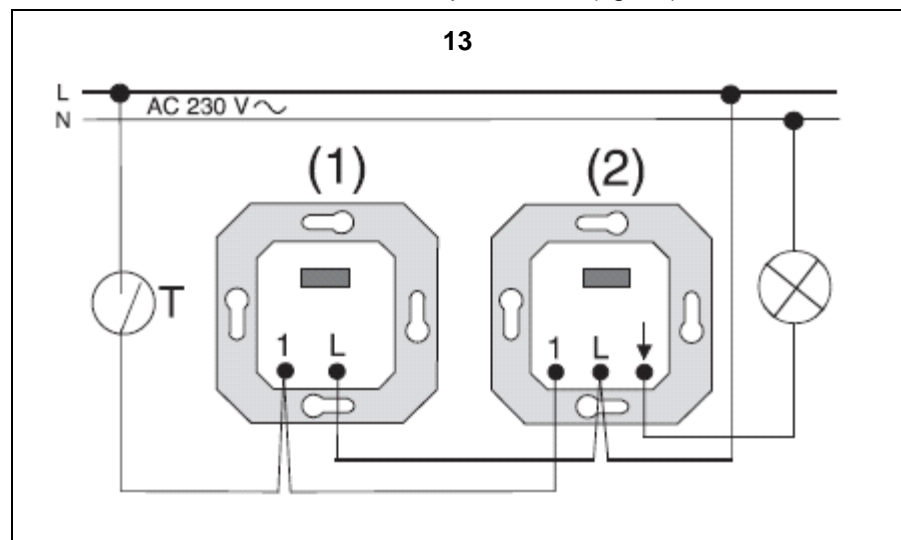
Storing of memory value. For confirmation of the storage procedure, the lights are switched off and then on again with the stored value.

Press on center of button for 6 seconds

Storing of basic brightness (only with timer switch). For confirmation of the storage procedure, the lights are switched off and then on again with the memory value.

5.2 Operation from extension units

With a „2-wire“ extension insert (Art. no 1220NE), with a multifunction pushbutton or a mechanical pushbutton (make contact), the device can be operated from several different places. Wiring example for „2-wire“ extension insert“ and / or mechanical pushbutton (fig. 13).



(1) „2-wire“ extension insert“

(2) Main unit

(T) Pushbutton

„2-wire“ extension insert“

Same functions as for manual operation of main unit.

Exceptions:

In the memory switch mode, switching over between „Record“ and „replay“ is possible only from the main unit. The same is valid for the random switch mode for activation and deactivation of the random replay function.

Mechanical pushbutton (make contact)

Switching on and retriggering of turn-off delay. Storing of basic brightness and of memory value as well as dimming are not possible.

Operation when lighting is off

The lighting is switched on. With dimming insert, the lighting is switched on at memory value brightness. Depending on the operating mode selected, the turn-off delay is retriggered.

Operation when lighting is on

Timer and twilight switch: The turn-off delay is retriggered. The lighting cannot be switched off.

Memory and random switch:

The lighting is switched off.

Important:

Storing of memory values and dimming is not possible with the mechanical pushbutton (make contact).

5.3 Movement-dependent switching

If the lights are to be switched dependent on movements, an automatic switch attachment or a presence detector attachment must be combined with a „3-wire“ extension insert, Art no. 1223NE, and connected to the main unit. Movements detected by the „3-wire“ extension insert are signalled to the main unit independent of brightness where the signals are evaluated. If the ambient brightness is below the threshold preset in the pushbutton 'Universal', the lighting will be switched by each movement detected.

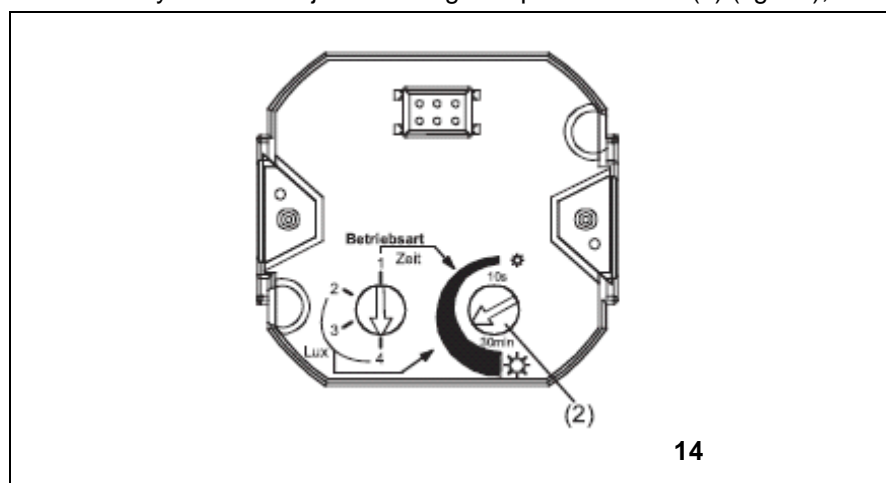
Important:

- After an automatic shutoff of the lighting, a lock-up time of ca. 3 seconds must elapse before the lights can be switched on again with the „3-wire“ extension insert, Art no. 1223NE.
- Permanent movements inside the detecting range will cause the light to be permanently on.
- If the lighting is switched off manually, the „3-wire“ extension insert will be locked out for 2 minutes. Each movement detected retriggers the time. Only after the end of the lockout time will detected movements be evaluated again by the main unit.

Timer switch:

Brightness threshold: fixed to approx. 10 lux.

Turn-off delay: value is adjusted with green potentiometer (2) (fig. 14);



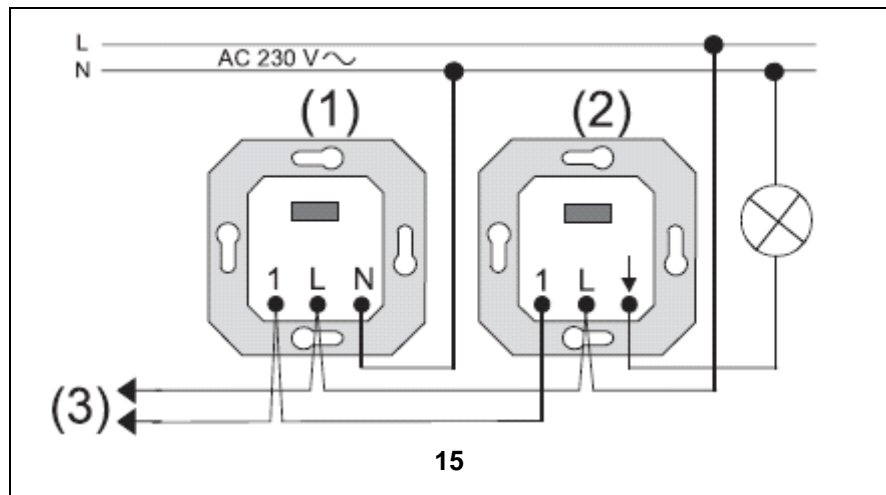
Turn-off delay is retriggered independent of brightness.
Lighting is switched on at memory value brightness.

Twilight switch:

Movement-dependent switching not available since the light is always on when the brightness is below the threshold.

Memory and random switch:

Brightness threshold: value adjusted with green potentiometer (2) (fig. 15).



Lighting is switched on at memory value brightness.

Connection example (fig. 15):

Connection of „3-wire“ extension insert, Art. no.1223NE (1) to main unit (2) to further extensions (3)

6 Response on removal of the pushbutton ‘Universal’ from the insert

WARNING!

The pushbutton ‘Universal’ may only be removed from its insert by a qualified electrician. Any nonqualified intervention involves the risk of an electric shock.

When the pushbutton ‘Universal’ is withdrawn from its insert, the actual switching state (on / off) is preserved. After plugging the device back onto the insert, the response is the same as after a mains failure of more than 2 seconds.

7 Response at mains failure

less than 200 ms no change of switching state mode of operation and stored values are maintained

longer than 200 ms on return of the mains, the lighting is switched off. The set mode of operation is signalled by the LED as follows: flashing once: timer switch mode flashing twice: twilight switch mode flashing three times: memory switch mode flashing four times: random switch mode Thereafter, the selected mode is active. All further reactions depend on the mode of operation.

Timer switch:

The lighting remains off until manual reactivation or activation by the automatic switch or the presence detector.

Twilight switch:

The lighting is switched on when the ambient brightness is below the threshold.

Memory switch:

„Record“

The lighting remains off until manual reactivation or activation by the „3-wire“ extension insert.

„Replay“

Stored switching events are executed later, otherwise as with „Recording“.

Random switch:

Random switching deactivated The lighting remains off until manual reactivation or activation by the „3-wire“ extension insert. Random switching activated The lighting remains off at first. Reactivation either manually, by next random switching event or by the „3-wire“ extension insert.

8 Use with 2-channel relay insert

The installation of the pushbutton 'Universal' on a 2-channel relay insert cannot be recommended.

Channel 2 (the HLK channel) will not be switched.

9 Technical characteristics

Rated voltage: see insert operating instructions

Operating temperature: - 5 °C ... 35 °C

Operating modes: 4

Turn-off delay: approx. 10 s ... 30 min

Brightness: infinitely variable between approx. 3 lux and 80 lux

Switching capacity: see insert operating instructions

Number of extensions at insert:

„2-wire“ extension

insert 1220NE unlimited

mechanical pushbutton unlimited

„3-wire“ extension insert,

Art. no. 1223NE at

universaldimmer insert: 5

at other inserts: 10

Length of extension

cable overall: 100 m max.

Technical specifications subject to change.

10 Guarantee

Our products are under guarantee within the scope of the statutory provisions.

Please return the unit postage paid to our central service department giving a brief description of the fault:

ALBRECHT JUNG GMBH & CO. KG

Service-Center

Kupferstr. 17-19

D-44532 Lünen

Service-Line: +(49) 23 55 . 80 65 51

Telefax: +(49) 23 55 . 80 61 65

E-Mail: mail.vka@jung.de

General equipment

Service-Line: +(49) 23 55 . 80 65 55

Telefax: +(49) 23 55 . 80 62 55


E-Mail: mail.vkm@jung.de

KNX equipment

Service-Line: +(49) 23 55 . 80 65 56

Telefax: +(49) 23 55 . 80 62 55

E-Mail: mail.vkm@jung.de

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