

# theben

## LUNA

LUNA 109

LUNA 110

109 0 100, 109 0 200

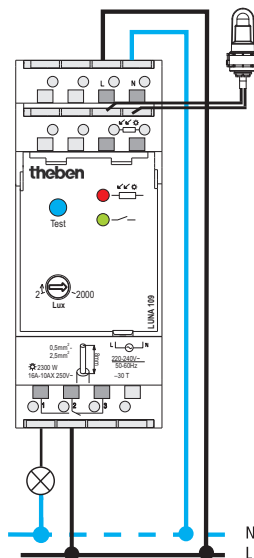
110 0 100, 110 0 200

**Assembly and  
operating instructions**  
Twilight Switch

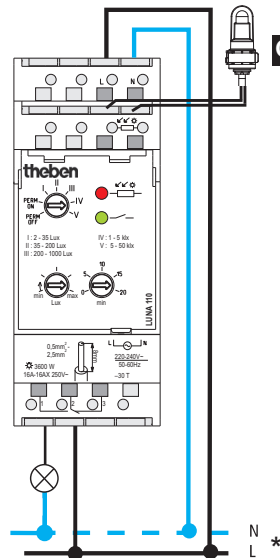


310 317 02

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**LUNA 109**



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\* Current connection required for smooth zero-crossing switch operation (see connection diagram) only LUNA 110).

# Contents

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## **Serviceadresse**

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hotline@theben.de

**Addresses, telefon numbers etc.**

**www.theben.de**

# Basic advice

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**WARNING**

**Danger of death through electric shock or fire!**

➤ Assembly may only be carried out by qualified electricians!

- The device corresponds to EN 60669-2-1; it is designed for installation on DIN top hat rails (in accordance with EN 50022)

## Designated use

- The twilight switch is used for controlling the light facilities of streets, external stairways, shop windows, entrances etc.
- For use only in closed, dry rooms (device); the sensor is intended for outdoor installation

## Disposal

Dispose of equipment in an environmentally-friendly manner

# Connection/assembly



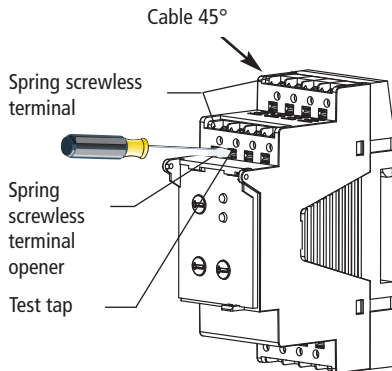
## WARNUNG

### **Danger of death through electric shock!**

- Assembly may only be carried out by qualified electricians!
- Disconnect power supply!
- Ensure it is not turned on again!
- Check power is off!
- Earth and short-out!
- Cover or shield any adjacent live parts.

### **Connect cable**

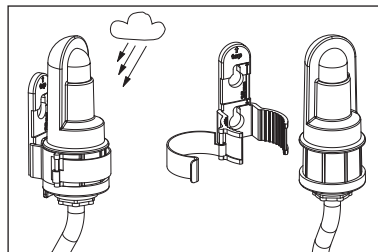
- Strip cable back to 8 mm (max. 9).
- Insert cable in open terminal at 45° angle (2 cables per terminal position possible).
- To open spring screwless terminal, press upwards with screwdriver.



# Connection/Assembly of a light sensor

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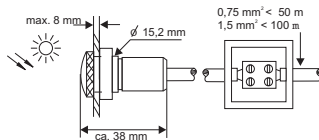
- Note the length of the connecting cable:  
max. 100 m ( $2 \times 1,5 \text{ mm}^2$ ), max. 50 m ( $2 \times 0,75 \text{ mm}^2$ )
- Avoid running the sensor line parallel to conductors.
- Surface-mounted light sensor:  $0,5\text{--}2,5 \text{ mm}^2$ , strip the wire to 10 mm (max. 11 mm).



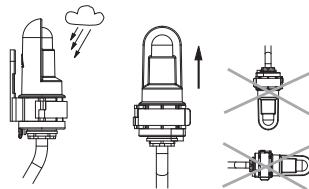
907 0 011



907 0 416



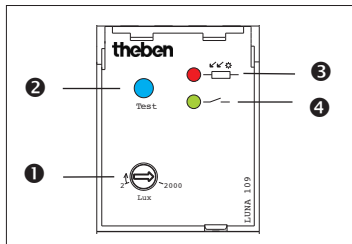
Surface-mounted light sensor



Built-in light sensor

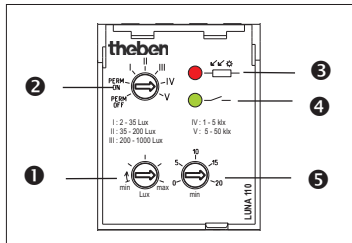
# Display and control elements

## LUNA 109



- ❶ Potentiometer for setting the brightness: 2-2000 lx
- ❷ Key **Test** for checking the installation (independent of brightness)
- ❸ Immediate display of the switched condition by means of a red LED
- ❹ Display of channel condition by means of a green LED (relay)

## LUNA 110



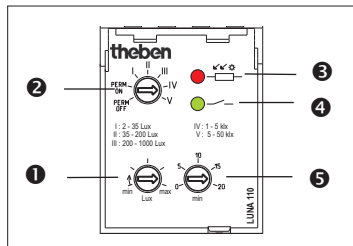
- ❶ Potentiometer for setting the brightness threshold
- ❷ Potentiometer for setting the brightness range:  
 – I: 2–35 lx  
 – II: 35–200 lx  
 – III: 200–1.000 lx  
 – IV: 1.000–5.000 lx  
 – V: 5.000–50.000 lx
- ❸+❹ as described above
- ❺ Potentiometer for switch ON/switch Off delay (0 to 20 min.)

# Initial start-up

The twilight switch with external light sensor is used for controlling the light facilities of streets, stairways, entrances etc.

- Set the desired range I-V on the potentiometer ② using a screw driver.
- Set the desired treshold ①.  
The red LED will light up, if the set Lux value underruns the ambient brightness.
- Recommendation: set a delay ⑤ of at least 1 min, to avoid switching errors owing to lightening flashes, car headlights etc.

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**LUNA 110**

## Typical brightness values

|                      |            |
|----------------------|------------|
| daylight (bright)    | 80.000 lx  |
| office rooms         | 500 lx     |
| corridors and stairs | 100-150 lx |
| street lighting      | 15 lx      |
| full moon            | ca. 0,3 lx |

# Technical Data

Nominal voltage:

Frequency:

On/off switch delay:

Power consumption:

Contact material:

Contact:

Gap:

Switching capacity max.:

Switching capacity min.:

Switching capacity fluorescent lamps:

Incandescent lamp load:

Halogen lamp load:

Fluorescent lamp loads – capacitive ballast uncorrected:

series corrected:

parallel corrected:

dual circuit:

Fluorescent lamps – electronic ballast:

Mercury and sodium vapour

lamps: series corrected:

Compact fluorescent

lamps – electronic ballast:

Permissible ambient temperature:

Protection class:

Protection rating:

## LUNA 109

220–240 V, ~, +10 %/–15 %

50–60 Hz

1 min.

ca. 3 VA

AgSnO<sub>2</sub>

floating

<3 mm (μ)

16 A, 250 V~, cos φ = 1

10 mA/230 V AC

100 mA/12 V AC/DC

10 AX

2300 W

2300 W

2300 VA

2300 VA

400 VA (42μF)

2300 VA

300 VA

400 VA (42μF)

9x 7W, 7x11 W,

7x15 W, 7x20 W, 7x23 W

–30 °C ... +55 °C (device)

–40 °C ... +70 °C (sensor)

II (light sensors III) for designated installation

IP 20, IP 55 (surface-mounted light sensor), IP 65 (built-in light sensor) in accordance with EN 60529

## LUNA 110

220–240 V, ~, +10 %/–15 %

50–60 Hz

0–20 min.

ca. 3 VA

AgSnO<sub>2</sub>

phase-independent  
(zero-crossover switching)

<3 mm (μ)

16 A, 250 V~, cos φ = 1

10 mA/230 V AC

100 mA/12 V AC/DC

16 AX

3600 W

3600 W

3600 VA

3600 VA

1200 VA (130μF)

3600 VA

1200 VA

1200 VA (130μF)

34x7 W, 27x11 W, 24x15 W,

22x23 W

–30 °C ... +55 °C (device)

–40 °C ... +70 °C (sensor)