

theben

LUNA

LUNA 109

LUNA 110

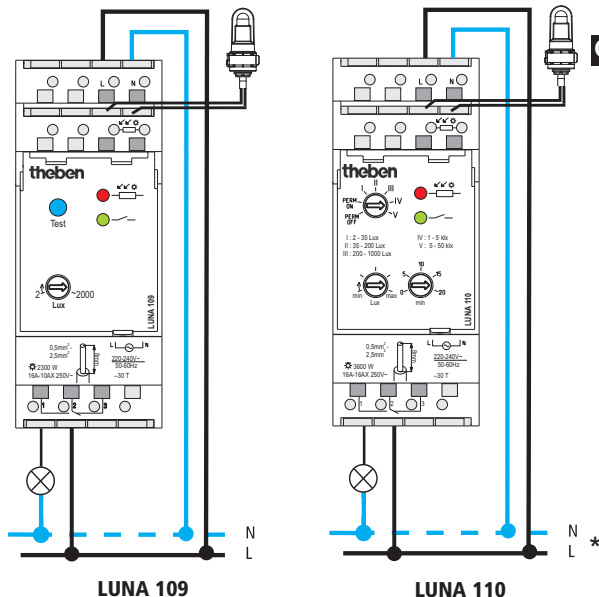
109 0 100, 109 0 200

110 0 100, 110 0 200

Ⓢ **Assembly and
operating instructions**
Twilight Switch



310 317 02



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

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Basic advice



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



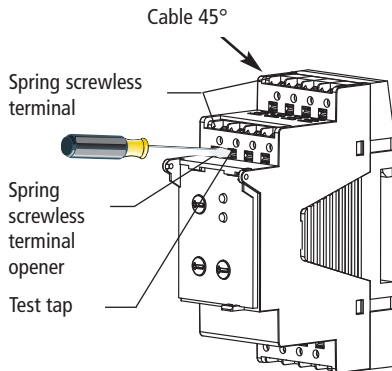
! WARNING

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.

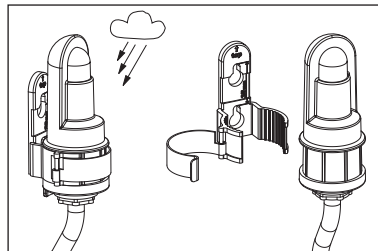
Connect cable

- 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

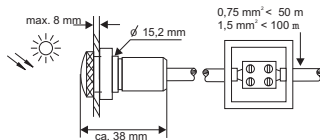
- Note the length of the connecting cable:
max. 100 m ($2 \times 1,5 \text{ mm}^2$), max. 50 m ($2 \times 0,75 \text{ mm}^2$)
- Avoid running the sensor line parallel to conductors.
- Surface-mounted light sensor: $0,5\text{--}2,5 \text{ mm}^2$, strip the wire to 10 mm (max. 11 mm).



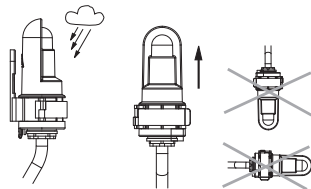
907 0 011



907 0 416



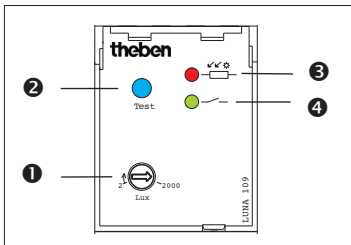
Surface-mounted light sensor



Built-in light sensor

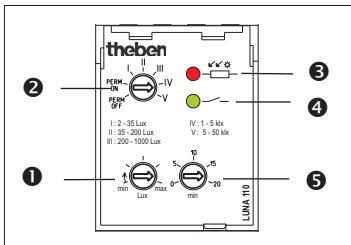
Display and control elements

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)

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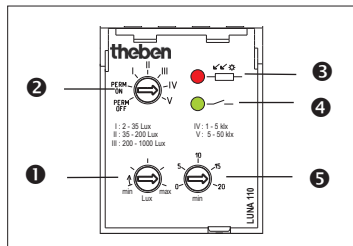


- ❶ Potentiometer for setting the brightness threshold
- ❷ Potentiometer for setting the brightness range:
 - I: 2–35 lx
 - II: 35–200 lx
 - III: 200–1.000 lx
 - IV: 1.000–5.000 lx
 - V: 5.000–50.000 lx
- ❸+❹ as described above
- ❺ Potentiometer for switch ON/switch Off delay (0 to 20 min.)

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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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:	LUNA 109 220–240 V, ~, +10 %/–15 %	LUNA 110 220–240 V, ~, +10 %/–15 %
Frequency:	50–60 Hz	50–60 Hz
On/off switch delay:	1 min.	0–20 min.
Power consumption:	ca. 3 VA	ca. 3 VA
Contact material:	AgSnO ₂	AgSnO ₂
Contact:	floating	phase-independent (zero-crossover switching)
Gap:	<3 mm (μ)	<3 mm (μ)
Switching capacity max.:	16 A, 250 V~, cos φ = 1	16 A, 250 V~, cos φ = 1
Switching capacity min.:	10 mA/230 V AC 100 mA/12 V AC/DC	10 mA/230 V AC 100 mA/12 V AC/DC
Switching capacity fluorescent lamps:	10 AX	16 AX
Incandescent lamp load:	2300 W	3600 W
Halogen lamp load:	2300 W	3600 W
Fluorescent lamp loads – capacitive ballast uncorrected:	2300 VA	3600 VA
series corrected:	2300 VA	3600 VA
parallel corrected:	400 VA (42μF)	1200 VA (130μF)
dual circuit:	2300 VA	3600 VA
Fluorescent lamps – electronic ballast:	300 VA	1200 VA
Mercury and sodium vapour lamps: series corrected:	400 VA (42μF)	1200 VA (130μF)
Compact fluorescent lamps – electronic ballast:	9x 7W, 7x11 W, 7x15 W, 7x20 W, 7x23 W	34x7 W, 27x11 W, 24x15 W, 22x23 W
Permissible ambient temperature:	–30 °C ... +55 °C (device) –40 °C ... +70 °C (sensor)	–30 °C ... +55 °C (device) –40 °C ... +70 °C (sensor)
Protection class:	II (light sensors III) for designated installation	
Protection rating:	IP 20, IP 55 (surface-mounted light sensor), IP 65 (built-in light sensor) in accordance with EN 60529	