

Digital twilight switch Tempus Lux (BZT17D011-)



1. Basic safety information

WARNING
Danger of death through electric shock or fire!
 ➤ The device is designed for installation on DIN top hat rails (in accordance with EN 60715)

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2. Proper use

- The digital twilight switch is used for lighting equipment (streets), external stairways, display windows, entrances etc.
- Only for use in closed, dry rooms

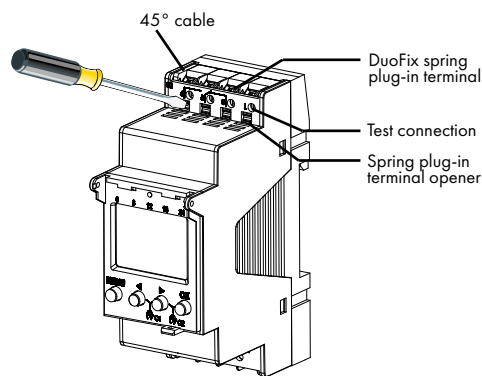
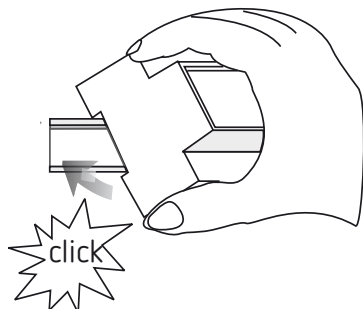
! Do not use on safety devices, e.g. escape route doors, fire safety equipment etc.

Disposal

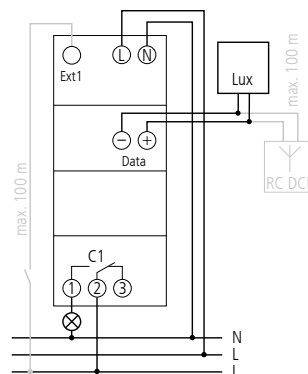
- Dispose of device in environmentally sound manner

3. Installation and connection

Mounting the time switch



- Mount on DIN top hat rails (as defined in EN 60715)
- Switched voltage-free
- Ensure device cannot be switched on
- Check absence of voltage
- Earth and bypass
- Cover or shield any adjacent live components



Connecting the cable

- Strip cable to 8 mm (max. 9)
- Insert cable in the open DuoFix plug-in terminal at 45°
 - ① 2 cables per terminal position possible
- To open the DuoFix plug-in terminal, press screwdriver downwards

Disconnecting the cable

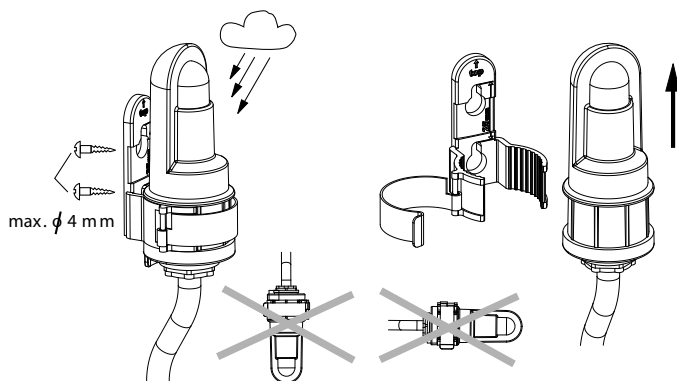
- Use the screwdriver to push the load line connection opener downwards

Connection/installation of light sensor

- ! Take length of connection cable into account: max. 100 m (2 x 1.5 mm²), max. 50 m (2 x 0.75 mm²)
- ! Avoid running sensor wiring parallel to mains power cables.
- Ensure correct polarity. Disconnect power source

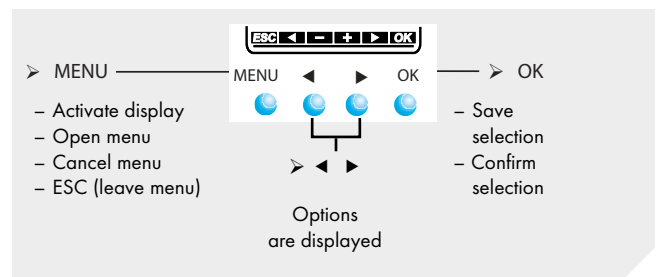
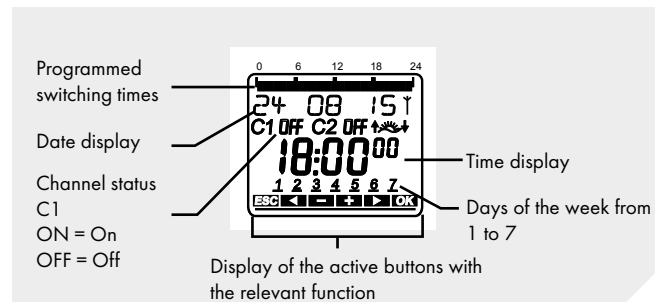
Mounting light sensor

- Mounting light sensor: 0.5-2.5 mm², strip cable by 9 mm (max. 10 mm)

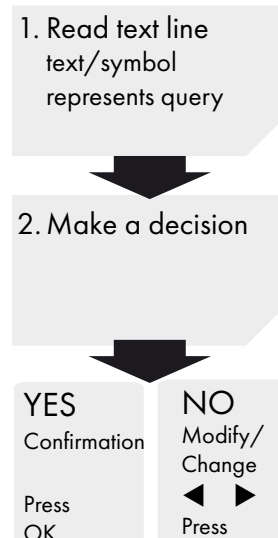


4. Device description

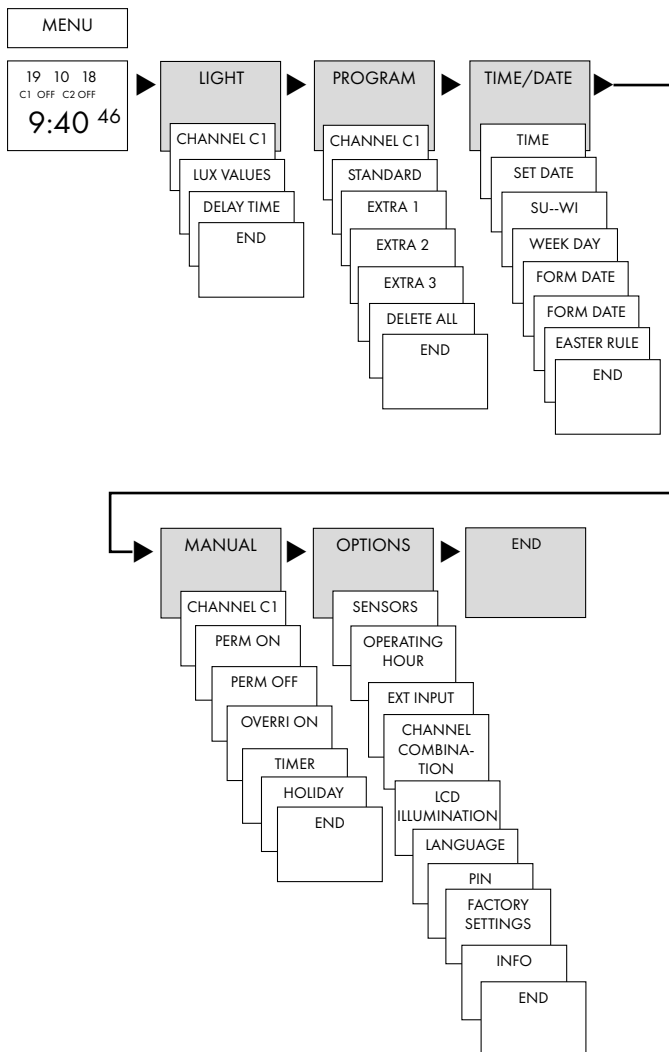
Display & buttons



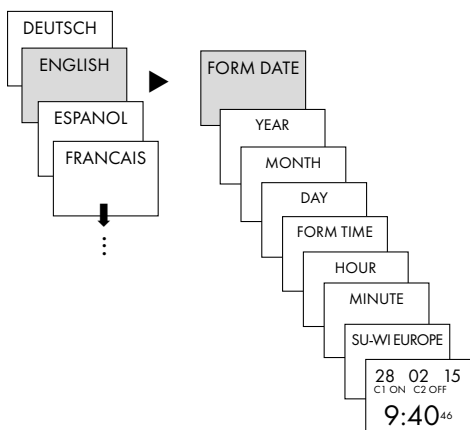
Operating instructions



Overview of navigation menu



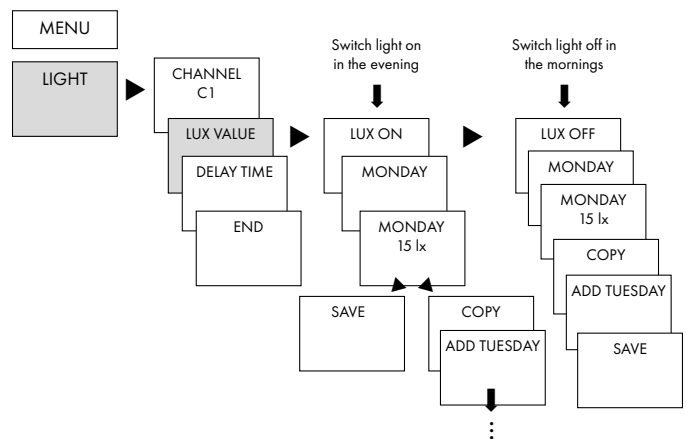
Initial operation



- Set language, date, time as well as summer/winter time (SU-WI)
- Press any button and display follows on screen (see figure)
- ① If all settings are performed, the screen alternately shows the automatic display and READING
- ① If a sensor is connected, the measured lux value appears on screen (only during mains operation).

5. Settings and functions

Set lux values



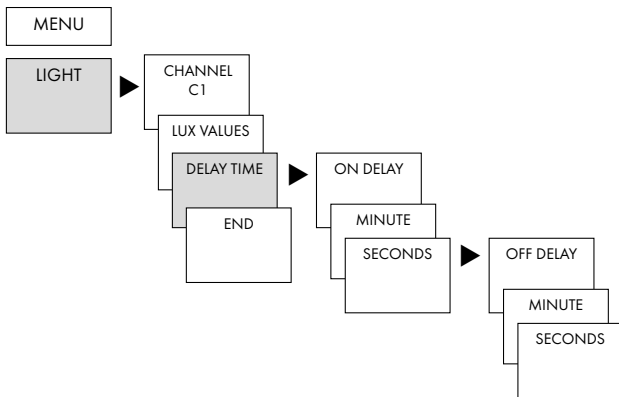
- ① The device has been preset at 15 lx for the switch on/switch off level

- Press MENU
- Select LIGHT and press OK to confirm
- Select CHANNEL C1, confirm with OK
- Select LUX VALUE and press OK to confirm
- Select LUX ON and press OK to confirm
- MONDAY is displayed, confirm with OK
- Set LUX VALUE, confirm with OK
- Select COPY or SAVE, confirm with OK
- To save press ► and press OK to confirm
- To copy press OK

Typical brightness values

| | |
|----------------------|------------|
| Daylight (bright) | 80.000 lx |
| Office accommodation | 500 lx |
| Hallways and stairs | 100–150 lx |
| Street lighting | 15 lx |
| Full moon | ca. 0,3 lx |

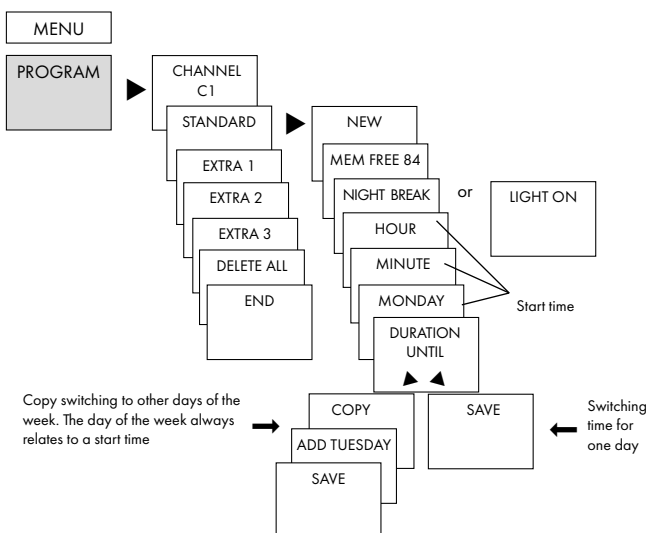
Set delay



① An on/off delay of 1 minute is preset to avoid faulty operation caused by lightning, car headlights etc.
When the delay ends the channel status will flash ON/OFF.

- Press MENU
- Select LIGHT and press OK to confirm
- Select CHANNEL C1, confirm with OK
- Select DELAY TIME, confirm with OK
- Select ON DELAY, confirm with OK
- MODIFY HOUR, use the + or – buttons to change hour and minute and confirm with OK

Program switching time in standard program



① A switching time always consists of a start time and an end time

① There are 84 memory cells available

Example: Switch on sports hall lighting from Mon–Fri, 7:30 to 12:00 hrs

- Press MENU
- Select PROGRAM and press OK to confirm
- Select CHANNEL C1, confirm with OK
- Select STANDARD, confirm with OK
- Select NEW, confirm with OK
- Select NIGHT BREAK or LIGHT ON, confirm with OK
- Set required turn-on time (Mo–Fr, 7:30), confirm with OK
- Set DURATION UNTIL, confirm with OK
- Select COPY, confirm with OK
- ADD TUESDAY is displayed, confirm by pressing OK and also confirm the days We, Th, Fr by pressing OK.
- Continue with ► until SAVE is displayed.
- Confirm by pressing OK.

Setting special programs

- BZT18D011W and BZT18D012W devices feature 3 special programs, which can be used for calendar-dependent switching.
- Each special program can be activated over one or several date ranges.
- There are 3 types of date ranges:
 - Fixed date range:
 - e.g. start time on 02.04.2018 at 16:00
 - end time on 24.04.2018 at 10:00
 - Annually recurring date range:
 - e.g. Christmas:
 - start time on 24.12 at 18:00 each year
 - end time on 26.12 at 23:00 each year
 - Easter-dependent date range:
 - e.g. Whit Sunday and Whit Monday:
 - start time: 49 days after Easter at 00:00
 - end time each year: 51 days after Easter at 00:00, each year

① 24:00 cannot be entered. 0:00 on the following day must be programmed.

Set Easter rule

① The EASTER RULE can be set using menu item TIME/DATE

Easter holiday dates in Germany

| Public holiday | Days before/after Easter Sunday | |
|--------------------|---------------------------------|----------------|
| | Start | End |
| Monday before Lent | - 48 days 0:00 | - 47 days 0:00 |
| Good Friday | - 2 days 0:00 | - 1 day 0:00 |
| Easter Monday | + 1 day 0:00 | + 2 days 0:00 |
| Ascension | + 39 days 0:00 | + 40 days 0:00 |
| Whit Monday | + 50 days 0:00 | + 51 days 0:00 |
| Corpus Christi | + 60 days 0:00 | + 61 days 0:00 |

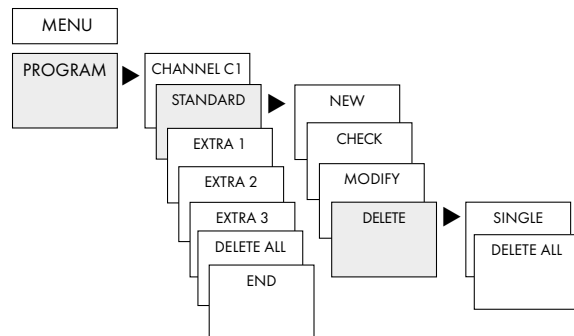
- Special program 1
 - On and off lux values
 - Optional 1x night interruption
 - Optional 1x daytime switch-on
 - Active in the programmed date ranges

Example: The standard program switches on the street lighting depending on the lux values.
A night interruption is programmed from 23:00 to 04:00.
Special program 1 is active in the date range from 30 April, 12:00 to 1 May, 12:00. Since no night interruption is programmed, the street lighting will remain on all night.
- Special program 2
 - Permanent ON
 - Always on during the programmed date ranges

Example: The standard program switches on lighting of a neon advertising sign only at night. The special program switches on the neon advertising sign permanently during a promotion week from 17.04.2018, 9:00 to 24.04.2018, 18:00.
- Special program 3
 - Permanent OFF
 - Always off during the programmed date ranges

Example: The standard program switches on the car park lighting depending on the set lux values. The special program does not switch on the car park lighting on 14 July, from 00:00 to 15 July, 04:00.

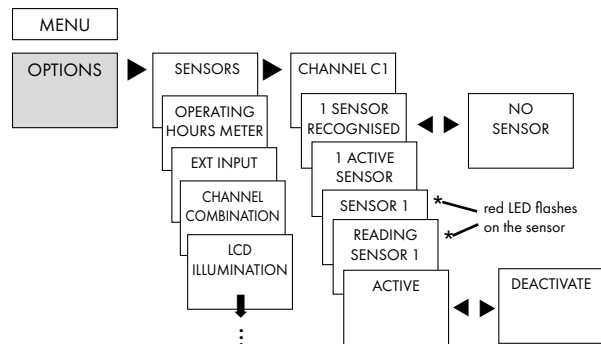
Delete switching program



- Press MENU
- Select PROGRAM and confirm with OK
- Select CHANNEL C1, confirm with OK
- Select STANDARD; EXTRA 1 or EXTRA 2, confirm with OK
- Select DELETE, confirm with OK
- Select SINGLE or DELETE ALL, confirm with OK

Allocate sensors

① The SENSORS are allocated in the menu under OPTIONS



- Press MENU (see fig.)

Connection options:

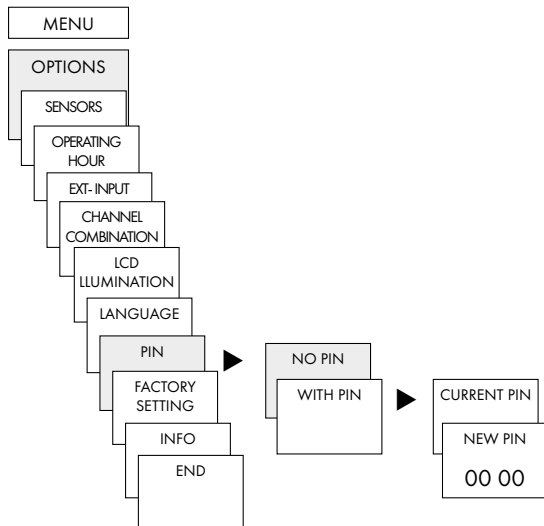
- 1 TEMPUS LUX + max. 4 light sensors
- 1 TEMPUS LUX + max. 3 light sensors + 1 DCF antenna
- max. 10 TEMPUS LUX
- max. 16 devices (TEMPUS LUX + light sensors)

① **Presetting:** all connected sensors are active for all channels.
The sensor that sends the lowest lux value is active

Activating PIN code

The PIN code is set in OPTIONS via the menu.

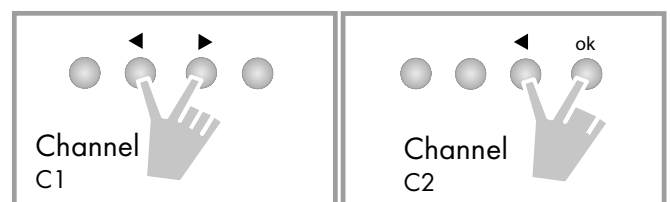
- ① If you have forgotten your PIN, call the Theben Hotline.
- ① Have the serial number ready.



Setting manual or permanent switching

Manual or permanent switching can be set via the menu in MANUAL or (in the automatic screen) by button combination (see picture).

- Manual control:
Reversing the channel status to the next automatic or programmed switching.
- Permanent switching:
As long as a permanent switching (on or off) is activated, the programmed switching times and switching thresholds are ineffective.



Activating manual control

- Briefly press both buttons simultaneously

Activating permanent switching

- Press both buttons simultaneously for 2 seconds

Cancelling manual/permanent switching

- Press both buttons simultaneously

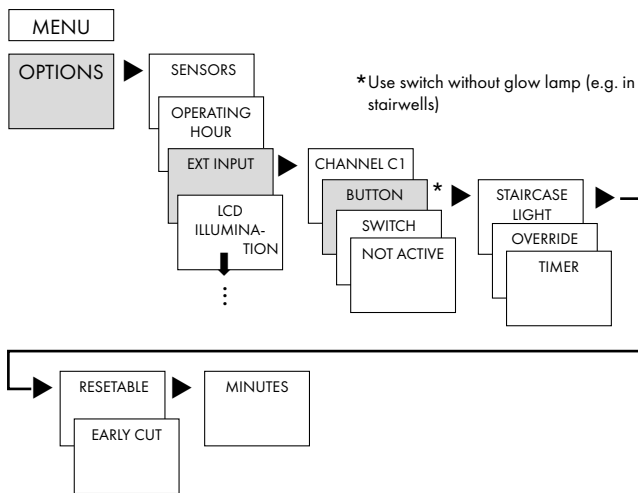
Set external input

For the channel, an EXTERNAL INPUT (see figure) can be set with different functions.

3 sub-menus can be selected: Inactive, push button (function), switch (function)

- NOT ACTIVE: The external input has no function
- BUTTON: Manual (manual control), Timer (countdown timer) are selectable
- SWITCH: PERM ON, PERM OFF and LUX ONLY are selectable

① If a function is activated via an external push button or switch, EXTERNAL is displayed.



➤ Press MENU, with ► select EXT INPUT and follow the indications on the display.

① Additional power unit required for GPS if only one device is connected to the antenna.

① Refer to the operating instructions when connecting a GPS antenna (9070610).

Hour counter

The operating hours of the channel (relay) are displayed and deleted in the OPTIONS menu. If the number of operating hours exceeds the value set in the Service menu, SERVICE will appear in the display.

Example: Replace a lamp after after 5,000 h.

➤ Delete operating hours or set a higher value in Service (e.g. to 10,000 h)

6. Technical data

| | |
|----------------------------------|---|
| Operating voltage: | 110–230 V AC, +10 % / –15 % |
| Frequency: | 50–60 Hz |
| Brightness range: | 1–99,000 lx |
| On/off switch delay: | 0–59 min |
| Standby: | 0,8 W |
| Switch output: | Switching of any external conductor is permitted |
| Contact: | μ-contact, two way switch |
| Max. switching capacity: | 16 A (at 250 V, cos φ = 1) |
| Switching capacity: | 10 A (at 250 V, cos φ = 0.6) |
| Min. switching capacity: | 10 mA/230 V AC 100 mA/24 V AC/DC |
| Power reserve: | 10 years |
| Shortest delay time | 1 s |
| Switching accuracy: | To the second |
| Software: | Class A |
| Rated impulse voltage: | 4 kV |
| Pollution degree: | 2 |
| Glow lamp load: | 2600 W |
| Halogen lamp load: | 2600 W |
| Fluorescent lamps KVG: | |
| uncorrected: | 2600 VA |
| series-corrected: | 2600 VA |
| parallel-corrected: | 1300 VA (130μF) |
| Fluorescent lamps (EVB): | 1100 W |
| LED lamps (< 2 W): | 50 W |
| LED-lamps (> 2 W): | 600 W |
| Permissible ambient temperature: | –25 °C ... +55 °C, –40 °C ... +70 °C (sensor) |
| Protection class: | II (light sensors III) if correctly mounted |
| Bluetooth OBELISK top3: | |
| – Protection rating: | IP 40 |
| – Temperature: | –30 °C ... +55 °C |
| – Range: | 15 m on open air test site |
| Protection rating: | |
| device | IP 20 |
| Mounted light sensor | IP 55 |
| Installation light sensor | IP 66 (frontside, when installed) IP 40 (backside) |

ⓘ The twilight switch display is only fully functional at temperatures from +5 °C to +55 °C.