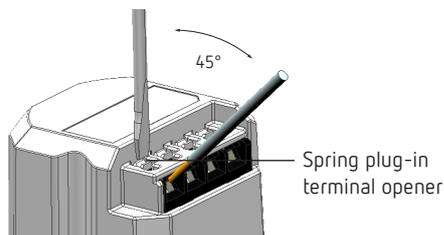


⚠ Secure device with an upstream type B or type C circuit breaker (EN 60898-1) with a maximum of 10.

Connecting the cable

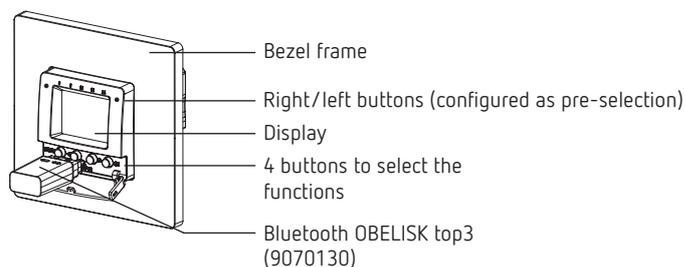


- Strip cable to 8 mm (max. 9).
- Insert cable in the open DuoFix plug-in terminal at 45°.
- ⓘ 2 cables per terminal position possible.
- To open the DuoFix plug-in terminal, press screwdriver downwards.

Disconnecting the cable

- Use the screwdriver to push the spring plug-in terminal downwards.

4. Device description



1. Safety



Assembly and installation should only be carried out by a qualified electrician, somebody who has completed appropriate professional training and has the knowledge and experience necessary to be able to recognise and avoid the potential dangers posed by electricity.



Before assembly/dismounting, disconnect the power supply and ensure that the parts are no longer live.



Prior to commissioning and using the product, read and observe all the operating instructions.

- The astronomical time switch corresponds to type 1 BSTU in accordance with IEC/EN 60730-2-7
- Power reserve (6 years) is reduced when Bluetooth OBELISK top3 is connected (in battery mode)

2. Proper use

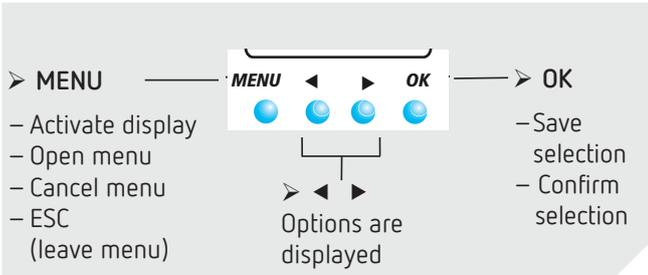
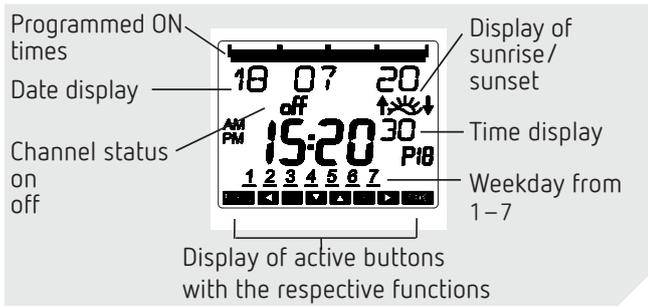
- Digital astronomical time switch with weekly program and annual program
- 3 special programs with date function per channel
- Interface for Bluetooth OBELISK top3
- Programming by app possible
- The astronomical time switch is intended for time-controlled and manual switching of lights, fans etc.
- Only for use in closed, dry rooms
- The astronomical time switch is designed for wall mounting (flush-mounting) in an interior switch range

3. Installation and connection

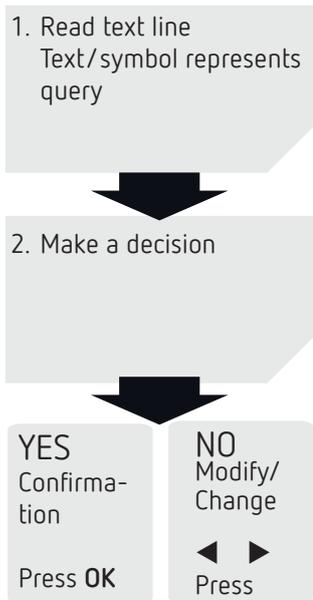
Flush-mounted installation

- ⓘ With a standard flush-mounting box (see illustration).
- ⓘ Observe the recommended installation height of 0.8 m–1.2 m!
- Disconnect power source.
- Connect the time switch according to the wiring diagram.
- Screw down the time switch in the flush-mounted box ①.
- Position the bezel frame on the time switch ②.

Display and buttons



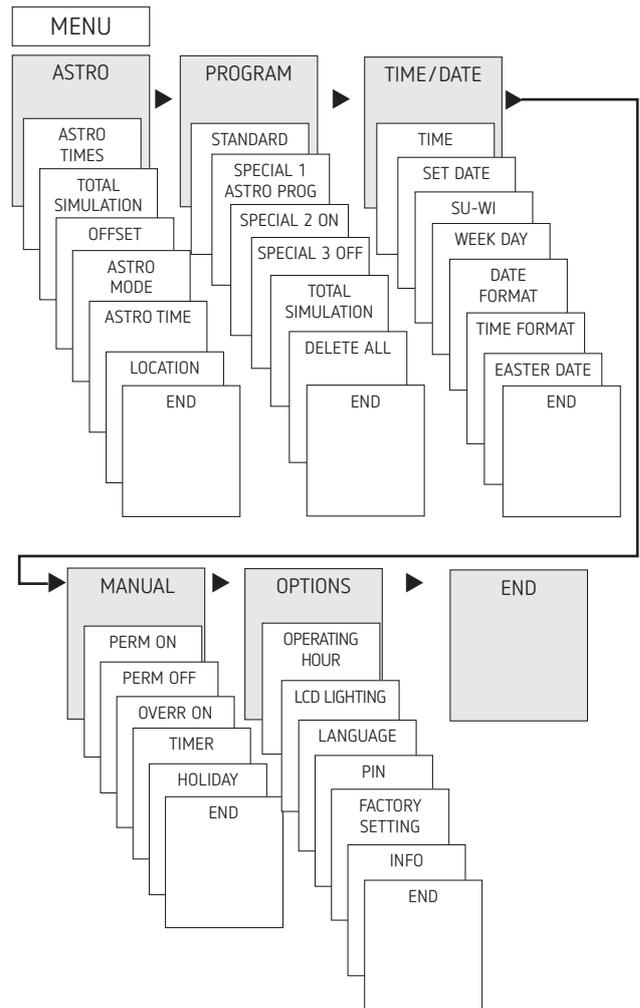
Operating instructions



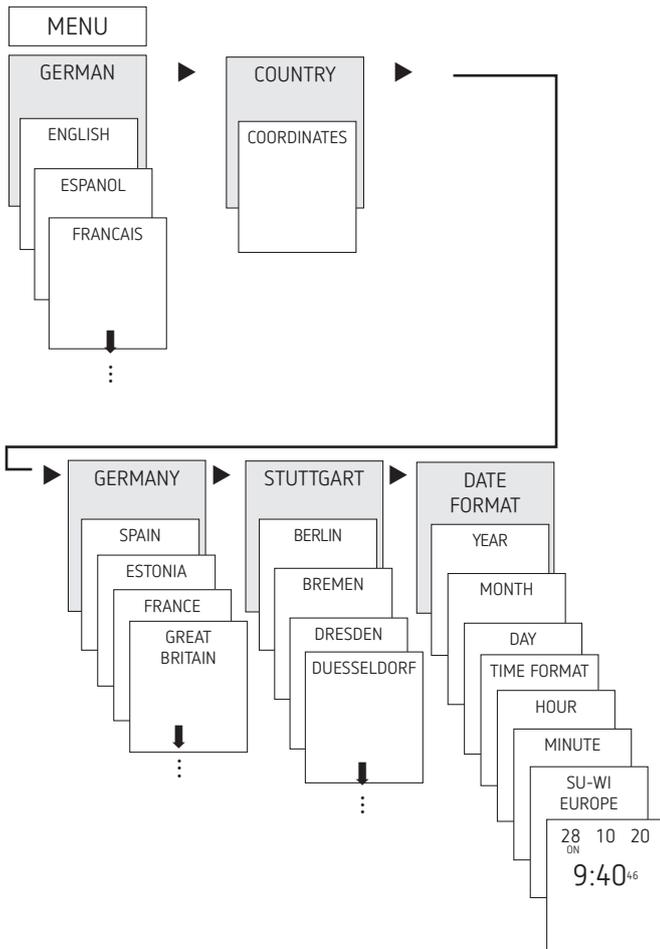
Function of the right/left buttons

The right and left buttons can be used, for example, to switch the light on and off or to control a fan, etc. Pressing the right/left buttons changes the relay state in question and the program performs the next switching operation.

Overview of navigation menu



Initial operation



- Set language, date, time as well as summer / winter time (SU-WI).
- Press any button and follow on-screen instructions (see picture).

5. Settings and functions

- ① In standard setting, an astronomical time switch switches on during twilight and off during sunrise. Therefore, in most applications, **only one night switch-off** (e.g. from 22:00 to 06:00) has to be programmed – and, if needed, to be copied to all weekdays.

Astronomical time switches can be used for precise switching of connected consumers based on sunrise and sunset. They have an additional astro pulse, which can be used for roller blinds and blinds control.

Furthermore, the astronomical time switched offer a twilight range in three increments:

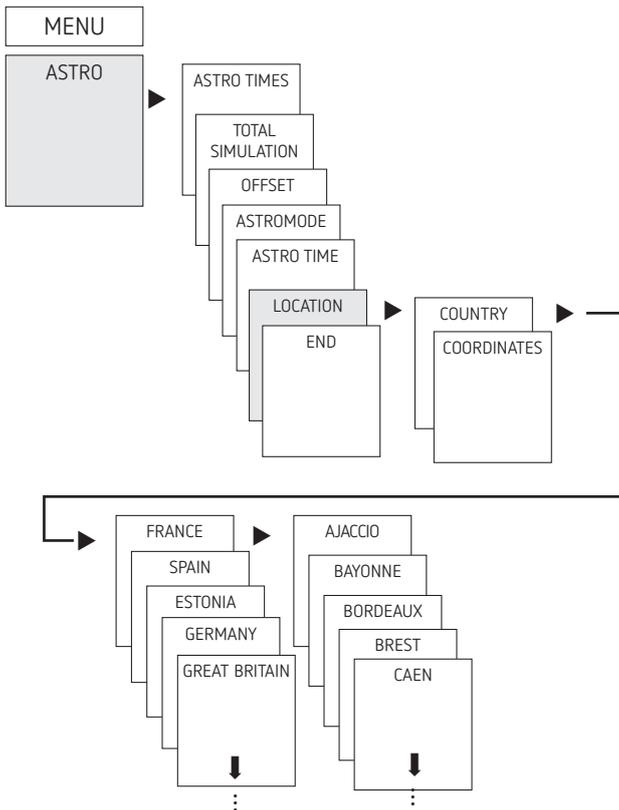
- Sunset (civil twilight)
- Twilight (nautical twilight)
- Darkness (astronomical twilight)

ASTRO menu

In the ASTRO menu, astro times, total simulation, offset, astro mode and position (locations) can be queried or changed.

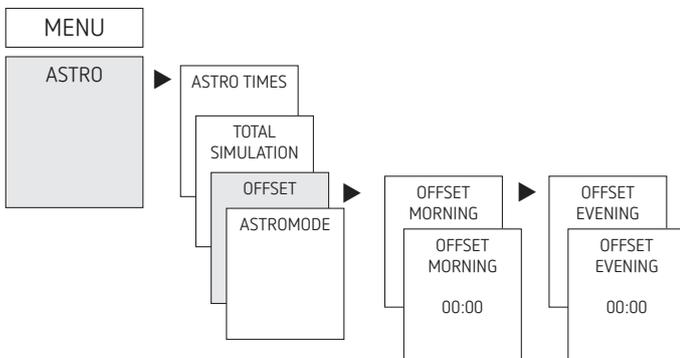
- Astro times
 - Display of the astro times (including the offset) for the current day.
- Total simulation
 - Display of the switching response with a freely selectable start date (the holiday program is not shown).
- Offset
 - The offset (correction value) can be used to shift the calculated astro times by $+/- 120$ min. This means that the astro turn-on and turn-off times can be adapted to local conditions (e.g. mountains, high buildings etc.) or to personal requirements.
- Astro mode
 - Evenings on, mornings off: At sunset it switches on, at sunrise it switches off (example: street lighting)
 - Evenings off, mornings on: At sunset it switches off, at sunrise it switches on (example: terrarium)
 - Astro not active: The astro times are ineffective (only the "fixed switching time" time switch function)
- Astro time
 - 3 twilight ranges can be set:
 - Sunset (civil twilight):
Sunset is the moment in which the upper edge of the sun disappears behind the horizon.
 - Twilight (nautical twilight):
Twilight occurs when the centre of the sun is 6° below the horizon
 - Darkness (astronomical twilight):
The darkness setting (astronomical twilight is the correct technical term) occurs when the centre of the sun is 12° below the horizon and stars are visible.
- Location
 - Setting the location by selecting a town/city or via coordinates (latitude/longitude, time zone). By using the Bluetooth OBELISK top3, up to 10 further towns/cities (= favourites) can be added.

Changing the astro time/location



E.g. enter a different country, a different town/city
 ➤ Press MENU (see picture).

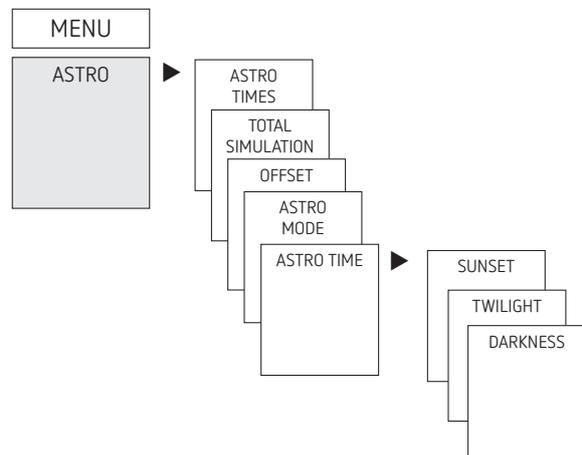
Setting the offset function



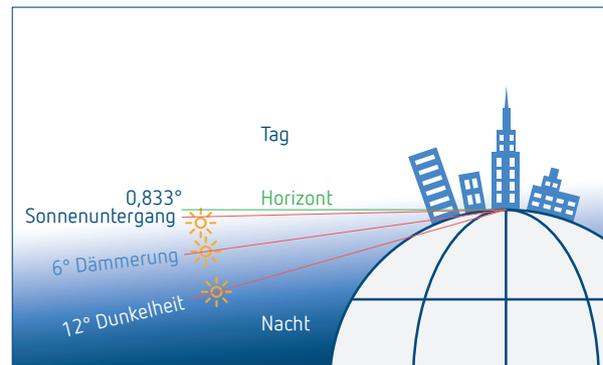
- Press MENU.
- Select ASTRO and press OK to confirm.
- Select OFFSET and press OK to confirm.
- Select OFFSET MORNING or OFFSET EVENING and press OK to confirm.
- Set the time and press OK to confirm.

Setting individual twilight ranges

In the ASTRO menu → Astro time, 3 twilight ranges can be set.

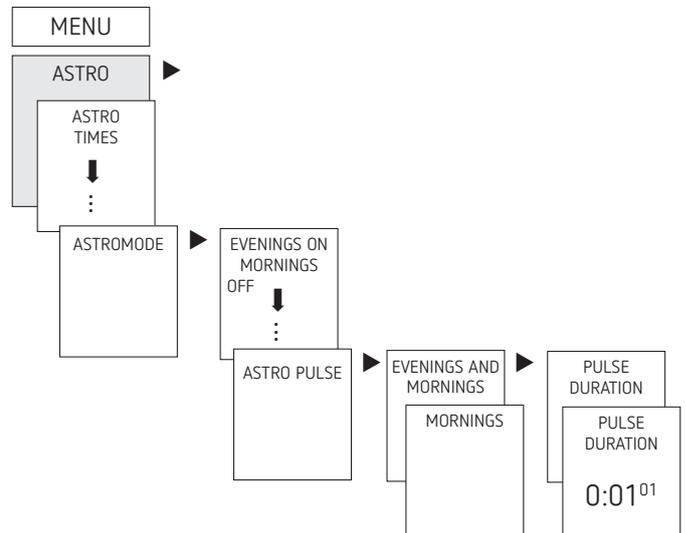


- Press MENU.
- Select ASTRO and press OK to confirm.
- Select ASTRO TIME, confirm with OK.
- Select SUNSET, TWILIGHT or DARKNESS, confirm with OK.



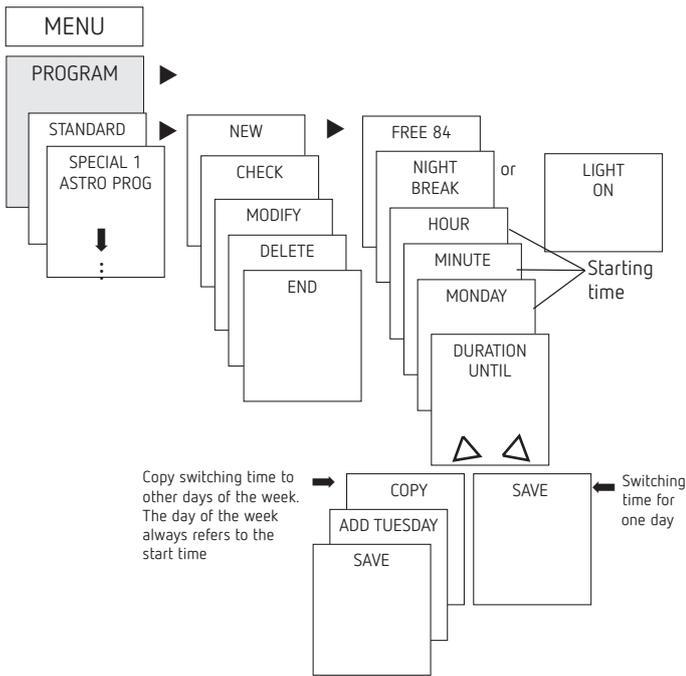
Setting the astro pulse

ⓘ Suited for blinds and roller blinds control, etc.



- Press MENU.
- Select ASTRO and press OK to confirm.
- Select ASTROMODE, confirm with OK.
- Select ASTRO PULSE, confirm with OK.
 → EVENINGS AND MORNINGS, EVENINGS, etc. appears.
- Select desired time, confirm with OK.
- Enter PULSE DURATION.

Setting a fixed switching time (e.g. in standard program)



① A switching time always consists of a start time and an end time (DURATION UNTIL), e.g. night switch-off on Monday 23:00 – 05:00.

② There are 84 memory cells available.

- Press MENU.
- Select PROGRAM, confirm with OK.
- Select STANDARD, confirm with OK.
- Select NEW, confirm with OK.
- Select NIGHT BREAK or LIGHT ON and press OK to confirm.
- Set selected switching times (hours, minutes, day) and press OK to confirm.
- Select COPY or SAVE.
- To save press ► and press OK to confirm.
- To copy press OK.

Setting special programs

- The time switch features 3 special programs (yearly functions), which can be used for calendar-dependent switching.
- Each special program can be activated over one or several date areas.
- There are 3 types of date areas:

– Fixed date area:

e.g. starting time on 2020-04-02 at 16:00
end time on 2020-04-24 at 10:00

– Yearly repeating date area:

e.g. Christmas:
starting time on 24-12 at 18:00 every year
end time on 26-12 at 23:00 every year

– Date area depending on Easter:

e.g. Whit Sunday and Whit Monday:
starting time 49 days after Easter at 00:00
every year end time: 51 days after Easter at 00:00,
every year

③ The public holiday set is set via app, or OBELISK software.

④ 24:00 is programmed as 00:00 of the following day.

Holiday	days before/after Easter Sunday	
	Start	End
Monday before Lent	- 48	- 47
Good Friday	- 2	- 1
Easter Monday	+ 1	+ 2
Ascension	+ 39	+ 40
Whit Monday	+ 50	+ 51
Corpus Christi	+ 60	+ 61

• Special program 1

– **Astro times active**

- Optional 1x night interruption
- Optional 1x daytime switch on
- Active in the programmed date areas

Example: The standard program switches on street lighting depending on Astro times.

A night interruption is programmed from 23:00 to 04:00. Special program 1 is active within the date area from April 30 12:00 until May 1, 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 areas

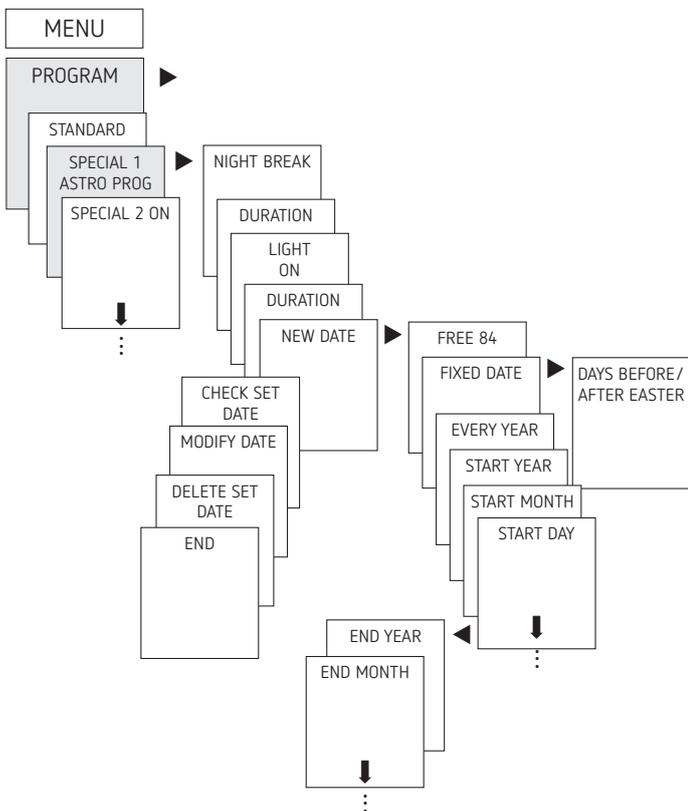
Example: The standard program switches on lighting of a neon advertising sign only at night. The special program switches on the neon advertising sign permanently during a promotion week from 2020-04-17, 9:00 until 2020-04-24, 18:00.

• Special program 3

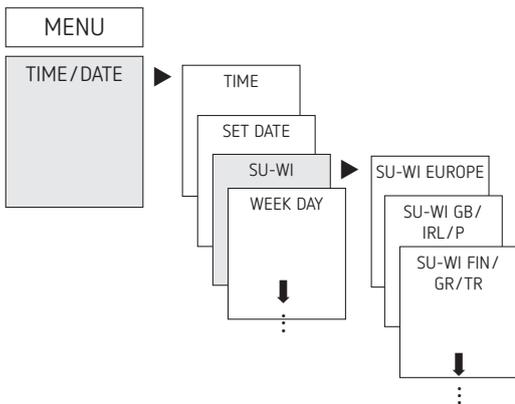
– **Permanent OFF**

- Always off during the programmed date areas

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

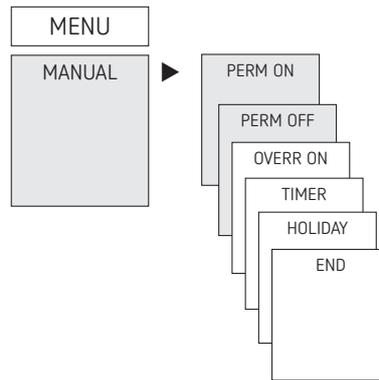


Setting summer/winter time



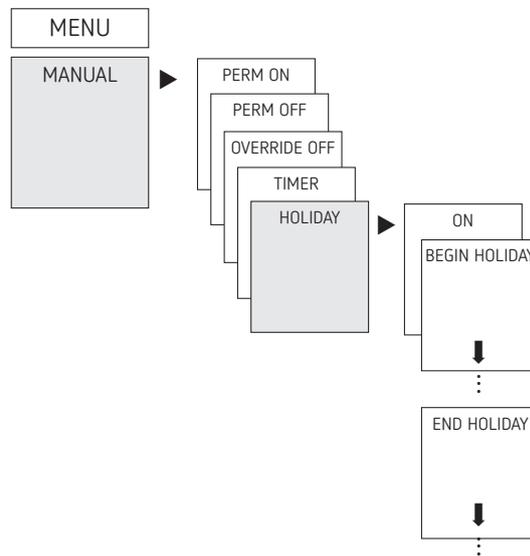
- Press MENU.
- Select TIME/DATE and press OK to confirm.
- Select SU-WI and press OK to confirm.
- Select region for the SU-WI time and press OK to confirm.

Switching permanent ON/OFF



- Press MENU.
- Select MANUAL, confirm with OK.
- Select PERM ON or PERM OFF and press OK to confirm.

Setting holiday function

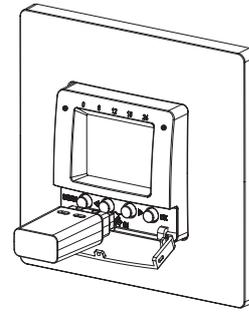
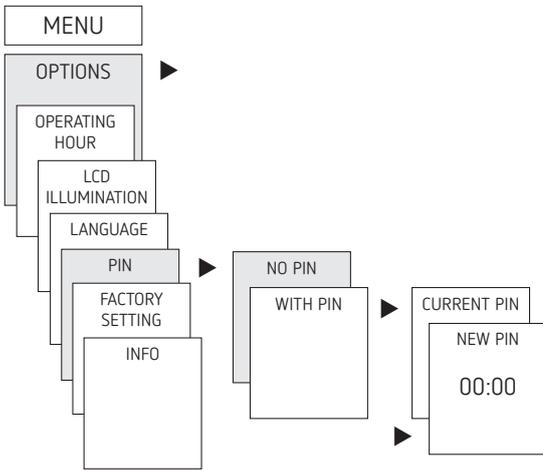


- Press MENU.
- Select MANUAL, confirm with OK.
- Select HOLIDAY, confirm with OK.
- Select ON, confirm with OK.
- Select BEGIN HOLIDAY, confirm with OK.
- Enter YEAR, MONTH, DAY, HOUR, confirm with OK.
- Select END HOLIDAY and press OK to confirm.
- Enter YEAR, MONTH, DAY, HOUR, confirm with OK.

Activating PIN code

The PIN code is set in OPTIONS via the menu.

- ❗ If you have forgotten your PIN, please call the Theben Hotline.
- ❗ Have the serial number of the device ready!



Copy OBELISK → TIME SWITCH

This copies the switch programme and optionally all time switch settings (e.g. time format, etc.) from the memory card to the time switch.

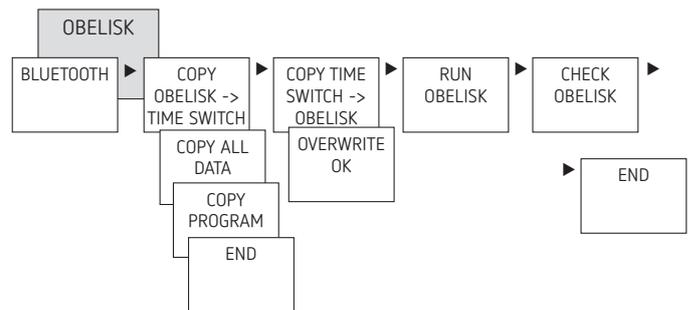
Copy TIME SWITCH → OBELISK

Copies all switch programmes and settings from the time switch to the memory card.

Starting OBELISK program

Takes over the switching times that are programmed on the memory card.

As soon as the memory card is removed, the switching times of the time switch are re-activated.



Connecting time switch, Bluetooth OBELISK top3 and smartphone (via app)

The devices in the top3 range can be programmed using an app (for Android, iOS) on a mobile end device. Communication takes place via Bluetooth OBELISK top3. Switch programmes are transferred and direct switch commands are sent to the device.

- Download the OBELISK top3 app from the App Store or Google Play Store.



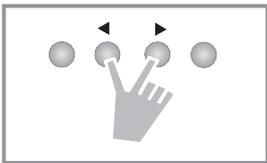
① Bluetooth connection only possible in automatic mode, not in manual mode like OPTIONS, etc.

- Open the app and activate using one of the 3 commands, by pressing "Download" , "Manual command"  or "Upload" .
 - Device/device list appears on the display.

Setting manual control or permanent switching

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

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



Activating manual control

- Briefly press both buttons simultaneously.

Activating permanent switching

- Press both buttons simultaneously for 2 seconds.

Cancelling manual control/permanent switching

- Press both buttons simultaneously.

Hour counter

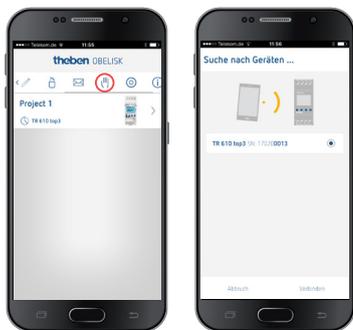
The operating hours of the channel (relay) are displayed and deleted in the OPTIONS menu. If the number of operating hours exceeds the value set in the Service menu, SERVICE will appear in the display.

Example: Replace a lamp after 5,000 h.

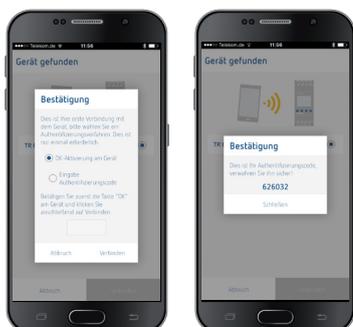
- Delete operating hours or set a higher value in Service (e.g. 10,000 h).

Using Bluetooth OBELISK top3

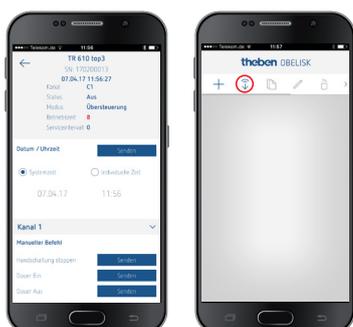
All functions can also be transferred to the time switch using the Bluetooth OBELISK top3 memory card (accessory 9070130).



➤ Press "Connect".



➤ Press OK on the time switch.
→ The display shows BLUETOOTH ACTIVE.
➤ Press "Close" in the app within 30 s.



Now, for example, projects can be created and uploaded.



Resetting the time switch

➤ Press the 4 buttons simultaneously.
→ Now, you can choose between RETAIN PROGRAMS and DELETE PROGRAMS.

6. Technical data

Operating voltage:	230 V AC, +10% / -15%
Frequency:	50 Hz
Standby:	0.4 W
Max. switching capacity:	10 A (at 250 V AC, $\cos \varphi = 1$)
Switching capacity:	2 A (at 250 V AC, $\cos \varphi = 0.6$)
Min. switching capacity:	10 mA/230 V AC 100 mA/24 V AC/DC
Shortest switching time:	1 min
Switching accuracy:	To the second
Protection rating:	IP 20 in accordance with EN 60529
Protection class:	II in accordance with EN 60730-1 subject to designated installation
Software:	Class A
Operating temperature:	-5 °C ... +45 °C
Power reserve:	6 years at +20 °C (without Blue- tooth OBELISK top3)
Time accuracy (typical):	± 0.25 s/day (25 °C)
Rated impulse voltage:	4 kV
Pollution degree:	2
Contact:	NO contact (μ)
Incandescent/halogen lamp load:	2300 W at 25 °C 2000 W at 35 °C 1300 W at 45 °C
Fluorescent lamps (LLB low-loss ballasts):	
uncompensated	2000 VA
series compensated	2000 VA
parallel compensated	1300 VA (130 μ F)
Compact fluorescent lamps (EVG):	1100 W
LED lamps (< 2 W):	50 W
LED lamps (> 2 W):	600 W
Bluetooth OBELISK top3:	
- Protection rating:	IP 40
- Temperature:	-30 °C ... +55 °C
- Range:	15 m on open air test site

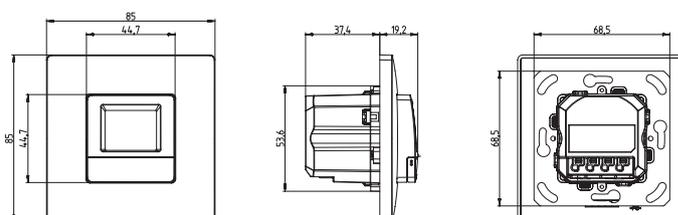
Cleaning and service

➤ Only use a dry, soft cloth to clean the device surface.
➤ Do not use any cleaning agents or solvents.

Disposal

➤ Dispose of device in environmentally sound manner (electronic waste).

7. Dimensional drawings



8. Contact

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