

# Guide for OBELISK top2 Software V3.6



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# 1 Introduction

Using the OBELISK top2 software it is possible to create programs and settings on a PC for your device, save them as a project and transfer them to the device via the OBELISK top2 memory card. As long as the OBELISK top2 memory card is inserted in the device you can use the switching program on the OBELISK top2 memory card without having to delete the switching program on the device.

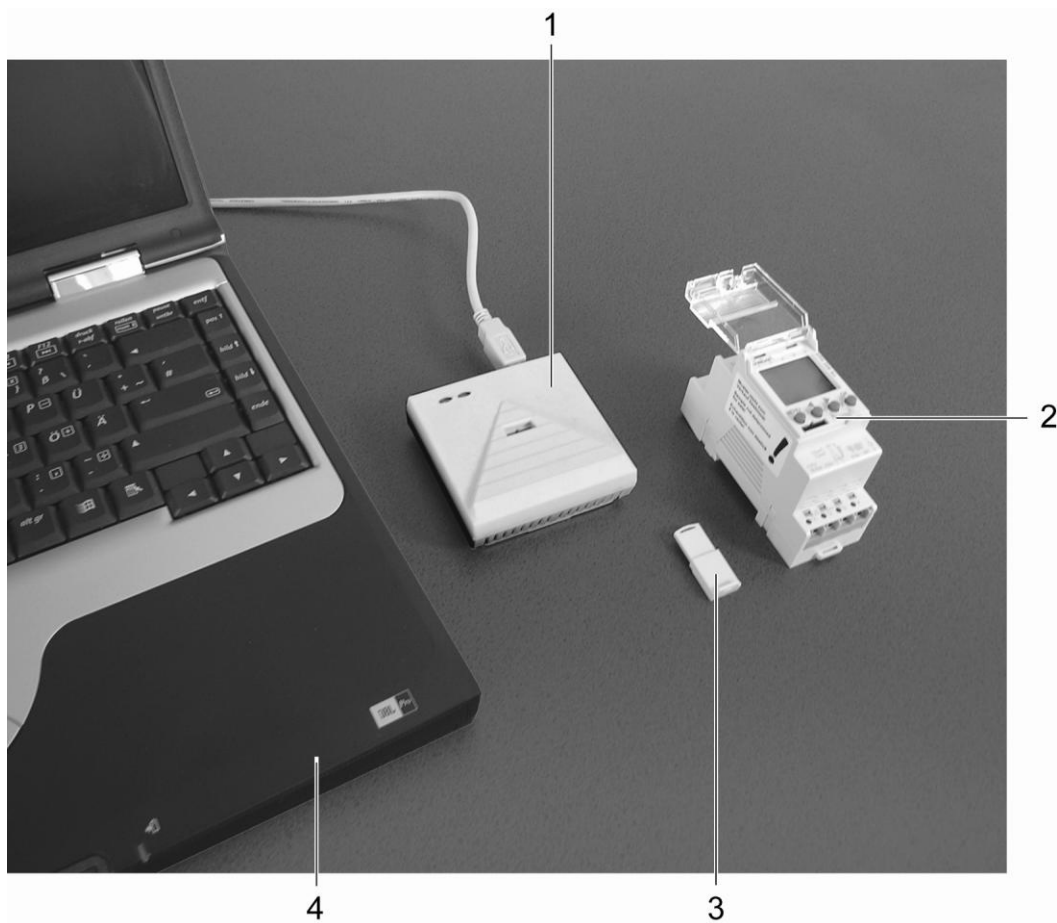




Fig. 1: Structure

1	Programming interface
2	Device
3	OBELISK top2 memory card
4	PC

OBELISK top2-Software can be used with top2 series devices.

## 2 Manual Information

The following symbols are used in this help manual:

Symbol	Meaning
	Information, comments and tips
	Important information which must be followed
1)	Indicates that an action includes several steps
●	Indicates that an action includes only one step
→	The result of action

Tab. 1: Symbols in these guidelines

### 3 Start program

1) Select the relevant product group from the program list.



Fig. 2: Product group selection

2) Activate the option field for the device type and confirm by entering OK.

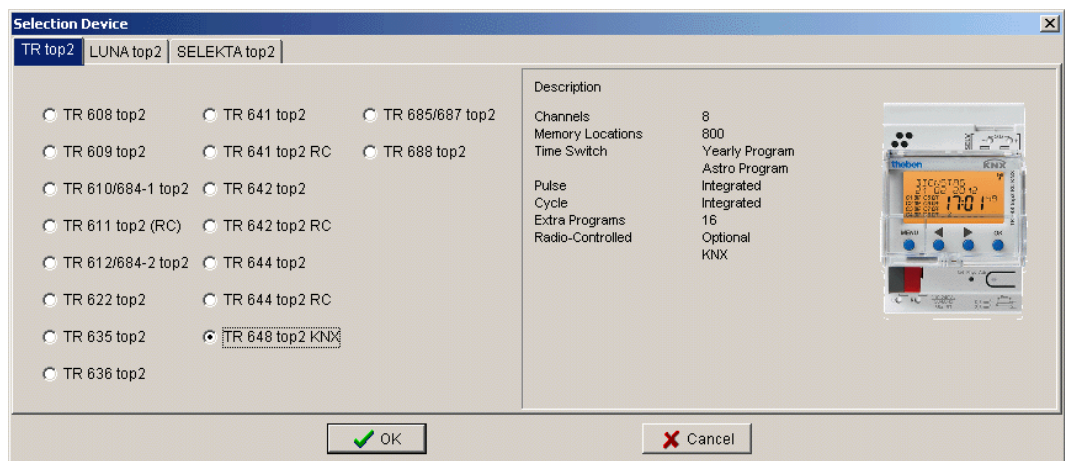


Fig. 3: Example of device selection for TR top2

→ A project is created for the selected device type.



You can use projects to store programs and device features that can be transferred to the devices using the OBELISK top2 memory card.

## 4 User interface

The following menus, buttons and display fields appear after starting the program:

### 4.1 Menu bar

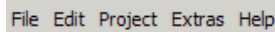


Fig. 4: Menu bar

Menu	Command
File	Open, save or print project; read or program OBELISK top2-memory card; set public holiday
Edit	Undo action; copy times, insert, delete
Project	Sort or optimise project; set options
Extras	Create language for-OBELISK top2 ; set language and first day of the week; set public holidays
Help	OBELISK top2 help: Program information

Tab. 2: Menu bar

The menu commands are explained in chapter 16 "Menu commands".

### 4.2 Toolbar

Button	Command	Short command
	Create new project	Ctrl + N
	Open project	Ctrl + O
	Save project	Ctrl + S
	Print project	Ctrl + P
	Retrieve print preview	
	Read OBELISK top2 memory card	
	Program OBELISK top2 memory card	
	Sort switching program	
	Optimise switching times	
	Simulation	
	Evaluation	
TR 610 top2	Create new project (button has the same name as the selected device)	Ctrl + N

Tab. 3: Toolbar with channel selection

### 4.3 Register

As device features vary according to device group and device type, different lists are displayed, see chapter 17 "Device features".

Register	Function
<b>Light</b>	- Light sensor settings (lux value, delay time) for the program/standard program
<b>Astro</b>	- Astro time settings (offset, sunrise and sunset) for the astro program - Position setting based on city list or coordinates - Setting favourites
<b>Program/ Standard program</b>	- Weekly program settings
<b>Extra program 1 ... 5</b>	- Additional program for defined date ranges (e.g. public holidays) - Extra programs take precedence over the standard program. The lowest numbered extra program has the lowest priority.
<b>Extra program 1-16</b>	
<b>Packet</b>	- A packet covers the allocation of applications to channels.
<b>Device settings</b>	- Settings that can be stored on the OBELISK top2 memory card and transferred to the device (e. g. time/date format; summer/winter time rule; holidays; options; settings channel)
<b>Astro settings</b>	- See Astro register; position, coordinates, own Astro table etc.

Tab. 4: Register



### 4.4 Graphical display

It is possible to enter a switching program in the graphical display using the following buttons. Various buttons (e.g. on, pulse) are visible according to the type of device.

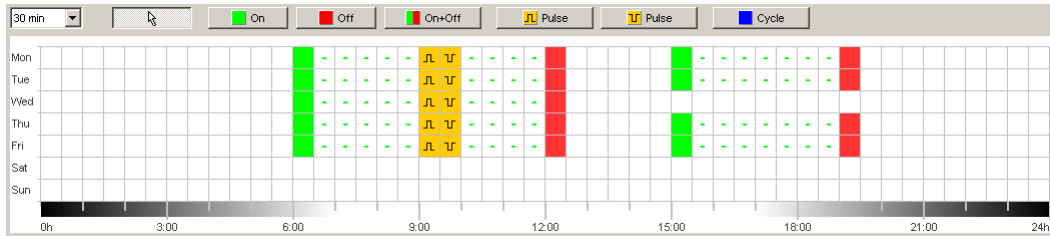


Fig. 5: Example of graphical display of switching times for the TR 622 top2

A description of the buttons for the graphical display can be found in the relevant chapters.

Details on how to copy, move or delete buttons can be found in chapter 6.5 "Change switching time".

### 4.5 Tabular display

The tabular display allows direct input of the switching program in a table:

No.	Type	Status	Time hh:mm:ss	Weekday							Pulse Duration mm:ss	Cycle			Hint / Error	
				Mon	Tue	Wed	Thu	Fri	Sat	Sun		Pulse hh:mm:ss	Pause hh:mm:ss	End hh:mm		
1	Switch	On	06:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
2	Switch	Off	12:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
3	Switch	On	15:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
4	Switch	Off	19:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
5	Pulse	On	09:00:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	01:00					
6	Pulse	Off	09:30:00	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	00:01					
	New															

Fig. 6: Example of tabular display of switching times for the TR 622 top2

### 4.6 Status bar

The status bar contains the following information:

- Occupied, as well as maximum possible number of, memory locations
- Channel number (if more than one channel is available)
- Operating hours per channel and per week (TR top2 only)
- Error messages



Fig. 7: Status bar

## 5 Program settings

Carry out the following settings prior to programming the switching program if required:

### 5.1 Setgrid

The grid for the graphical presentation can be adjusted via the following selection field:

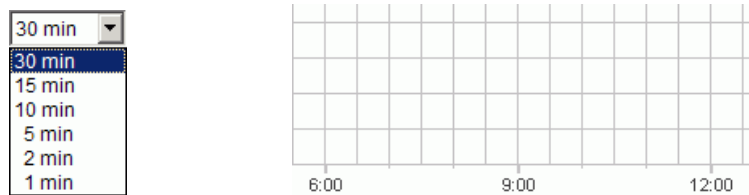


Fig. 8: Grid selection

### 5.2 Set language

Proceed as follows if you wish to change the set language for the PC software:

- 1) Click on PC software settings under Extras and select the Language tab.
- 2) Select a language and click OK to confirm.

### 5.3 Change PC software display

The following details are factory-set:

- First day of the week: Monday
- Date format: 31.12.00
- Currency: EUR



All changes made in Extras, PC software settings only effects the appearance of the PC software and are retained after the program has been closed. They are **not** transferred to the OBELISK top2 memory card or the device.

Only changes made in Device settings will be stored on the device after transfer, see chapter 6.8 "Change device setting".

Proceed as follows if you wish to change the appearance of the PC software:

- 1) Click on PC software settings under Extras and select the Display tab.
- 2) Enter the required changes.
- 3) Confirm the entry by clicking OK.

## 5.4 Public holidays

- Click on Public holiday in the Extras menu. The window opens

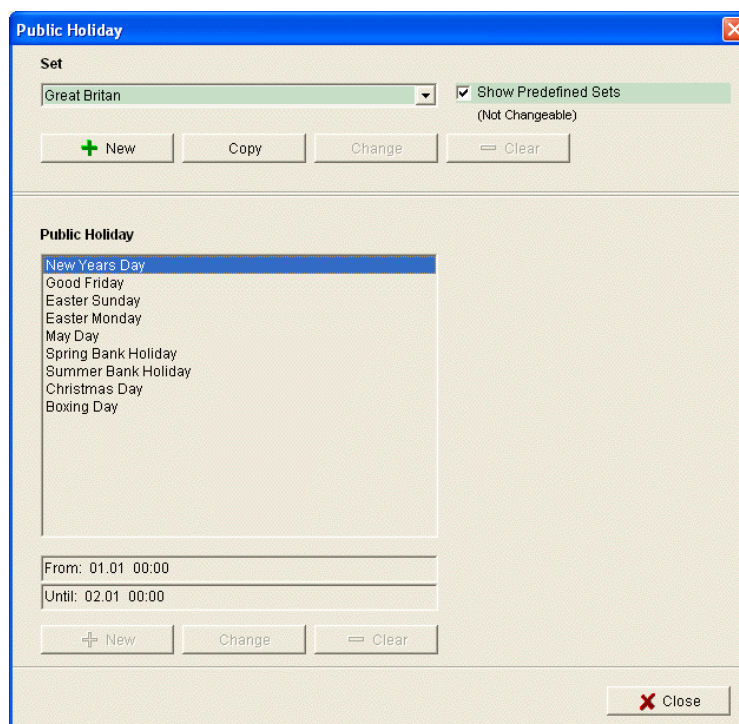


Fig. 9: Select public holidays

You can choose from predefined public holiday settings (green background). These settings cannot be changed.

### 5.4.1 Create your own settings

You can create your own public holiday settings (white background). If you want to enter new settings:

- 1) Click on New (in Settings window).
- 2) Enter a name for the new settings.

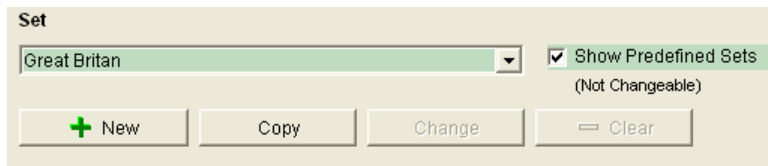


Fig. 10: Create own settings

If you want to copy existing settings.

- 1) Select the required public holiday setting.
- 2) Click on Copy (in Settings window).
- 3) Enter a name for the new settings.

Some public holiday settings can be deleted or renamed.

### 5.4.2 Edit own settings

You can only edit the settings you have entered.

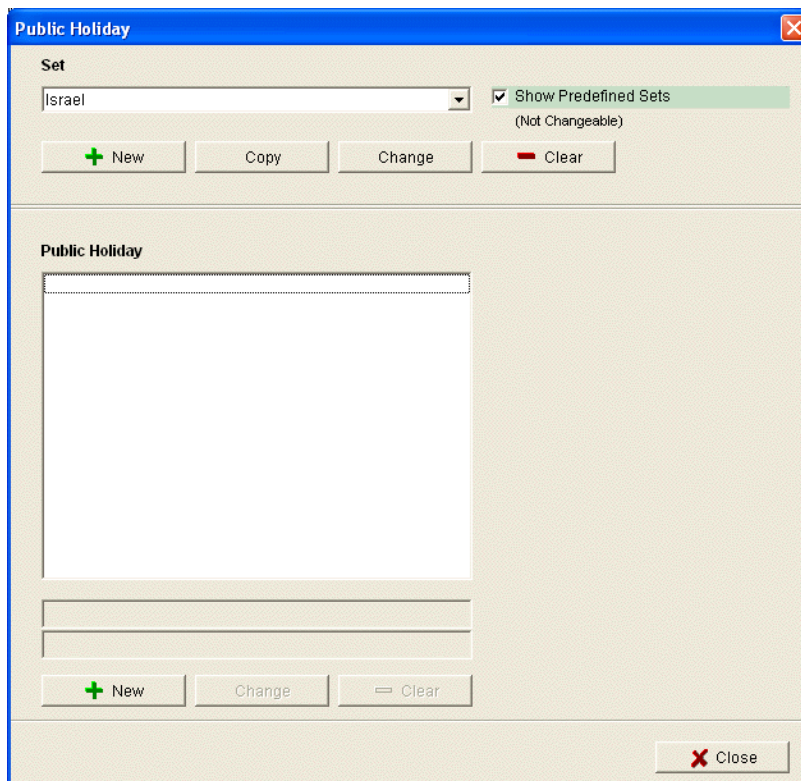
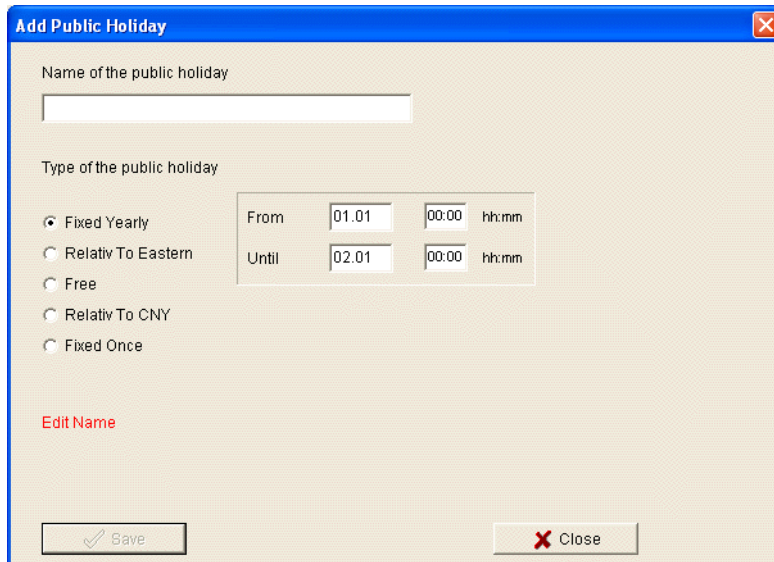


Fig. 11: Edit own setting

- 1) Click on New (in public holiday window).  
The window opens



**Add Public Holiday**

Name of the public holiday

Type of the public holiday

Fixed Yearly

Relativ To Eastern

Free

Relativ To CNY

Fixed Once

From: 01.01 00:00 hh:mm

Until: 02.01 00:00 hh:mm

[Edit Name](#)

Save Close

Fig.12: Enter name of public holiday

- 2) Enter the name of the public holiday.
- 3) Select the type of public holiday (fixed annual date, relative to Easter, non-fixed date, relative to CNY (Chinese New Year), single fixed date) and the duration of the public holiday.

## 6 TR top2

Various device features are available according to the type of device used. See chapter 17 "Device features". The individual features of the 365-day time switches are described in chapter 10.

### 6.1 Select channel

- First, select just one channel for devices with several channels.

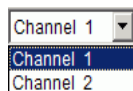


Fig. 13: Channel selection

### 6.2 Set switching times

Switching times can be programmed graphically or in tabular form. Details on how to change, move or delete switching times can be found in the chapter 6.5 "Change switching time".

#### 6.2.1 Graphical

Graphical programming occurs via the following buttons:

Button	Command
	Cursor to select or move a switching program
	Set on times
	Set off times
	Set on and off times
	Set switch-on pulse
	Set switch-off pulse
	Set cycle

Fig. 14: Buttons for graphical presentation

**Example: Shop lighting**

To switch shop lighting on during business hours (Monday to Friday 9am – 8pm, Saturday 9am – 6pm) program the OBELISK top2 software as follows:

- 1) Click on the On+Off button.
- 2) Press the left mouse button and drag the cursor from top to bottom in the 9:00 column (when shop opens) (Monday to Saturday). Each line corresponds to a day of the week.
- 3) Release the left mouse key.

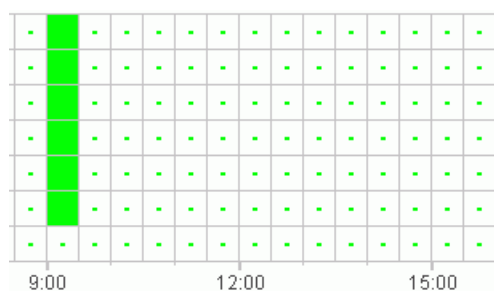


Fig. 15: Switch on shop lighting

- 4) Subsequently press the left mouse button and drag the cursor down the 20:00 column from Monday to Friday.
- 5) Click on the Off button and then click on the 18:00 column of the Saturday line.

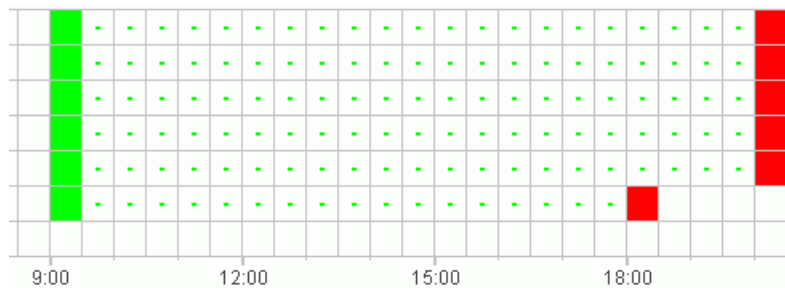


Fig. 16: Switch shop lighting on and off Monday to Saturday



If two switching times are so close together that the symbols overlap (irrespective of the grid setting), the box with the two symbols is black.



Fig. 17: Overlapping switching time symbols

### 6.2.2 Tabular

The switching times can also be programmed as a table.

#### Example: Shop lighting for TR 611 top2

Proceed as follows to program shop lighting Monday to Friday from 8.45am to 8.15pm:

- 1) Click on New in the table.

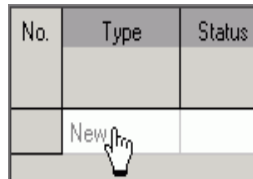


Fig. 18: New switching time

- 2) Select On or Switch.
- 3) Enter a switch-on time.

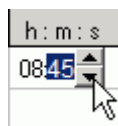


Fig. 19: Select time

- 4) Select the weekdays.



Fig. 20: Check weekdays

- 5) Proceed in exactly the same way for the switch-off time.



Fig. 21: Weekdays for switching on and off



### 6.3 Pulse programming

Pulses for pause signals, ventilation, etc. can be programmed as a graph or table. The pulse duration can only be entered as a table.

#### 6.3.1 Graphical

Graphical programming occurs via the following buttons:



Fig. 22: Button for "Pulse on"



Fig. 23: Button for "Pulse off"

#### Example: Pause signal

The pulse start time can be set to the second. Proceed as follows to switch on a pause signal at 9am and at 12.15pm Monday to Friday for 5 seconds:

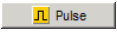
- 1) Set the grid to 15 min.
- 2) Click on the button. .
- 3) Press the left mouse button and drag the cursor from top to bottom in the 9:00 column from Monday to Friday.



Fig. 24: First pulse

- 4) Repeat step 3 in the 12:15 column.

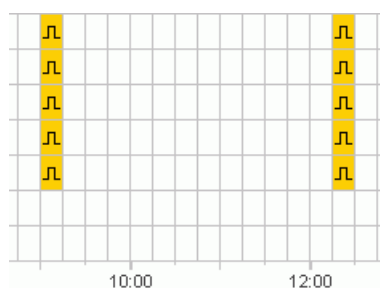


Fig. 25: First and second pulse

- 5) Enter the 5 second pulse duration via the table.

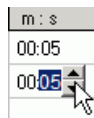


Fig. 26: Set pulse duration

### 6.3.2 Tabular

Pulse settings can also be programmed in tabular form.

#### Example: Pause gong

Proceed as follows to program a pause gong Monday to Friday at 12.15pm:

- 1) Click on New in the table.

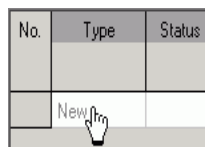


Fig. 27: New pulse time

- 2) Select Pulse.
- 3) Enter the time for the pulse.

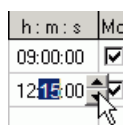


Fig. 28: Enter pulse time

- 4) Select the weekdays.



Fig. 29: Check weekdays

- 5) Enter the pulse duration 5 seconds.

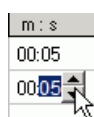


Fig. 30: Set pulse duration

## 6.4 Cycle programming

Cycle programming is only available for certain types of device: See 17 "Device features" chapter.




The cycle can be programmed graphically or in tabular form. Always enter the cycle pulse and the cycle pause via the table.

### 6.4.1 Graphical

Use the following button for graphical programming .

#### Example: Watering a garden

A garden is to be watered for 10 minutes each hour during the day. Proceed as follows to enter this cycle:

- 1) Click on the  button.
- 2) Click on the field for 8am and then on the field for 6pm in the Monday line of the graph.

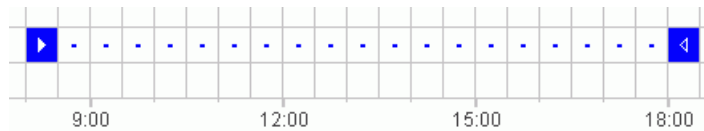


Fig. 31: Graphical display of the cycle

- 3) Enter the cycle pulse (10 min) and the cycle pause (50 min) via the table.

h:m:s	h:m:s	h:m
00:10:00	00:50:00	18:00

Fig. 32: Tabular display of the cycle

- 4) Repeat steps 2 and 3 for other weekdays.

#### Continuous cycle

- In order to program a continuous cycle, click on the same box twice.



Fig. 33: Continuous cycle

### 6.4.2 Tabular

A cycle can also be programmed as a table.

#### Example: Watering a garden

Proceed as follows to water a garden for 10 minutes each hour during the day:

- 1) Click on New in the table.

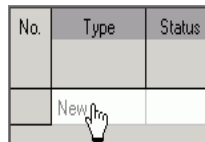


Fig. 34: New cycle

- 2) Select cycle.
- 3) Enter the start time for the cycle.



Fig. 35: Enter the cycle start time

- 4) Select a weekday for the start time.
- 5) Enter the cycle pulse (10 min) and the cycle pause (50 min).

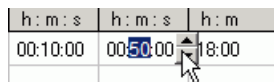


Fig. 36: Tabular display of the cycle

- 6) Repeat steps 1 to 5 for other weekdays.

#### Continuous cycle

A continuous cycle can be set via the weekday column:

- Click on the column End Weekday and select Continuous.

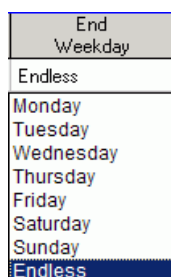


Fig. 37: Select continuous cycle

## 6.5 Change switching time

It is possible to copy, move or delete a switching program in the graphical display. Switching times can be deleted or overwritten in the table.

### 6.5.1 Copy the switching times

Switching times can be copied in the graphical or table display from one channel or project to another channel or project.



A switching time that is unavailable in the new project cannot be copied. This means that if you try to copy a cycle into a project in which cycle programming is not possible, an error message appears. All other switching times are transferred.

#### Graphical

- 1) Click on the button and  mark the switch blocks.

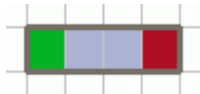


Fig. 38: Selected switch block

- 2) Click on Copy under Edit.
- 3) Select a new channel or a new project.

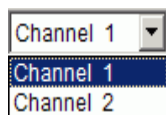


Fig. 39: Select channel

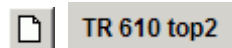


Fig. 40: New project

- 4) Click on Insert under Edit.



A switching time can also be copied by selecting and then moving it with the Ctrl key pressed.

**Tabular**

- 1) Click on the number of the switching time you wish to copy.



Fig. 41: Switching time number

- 2) Click on Copy under Edit.
- 3) Select a new channel or a new project.

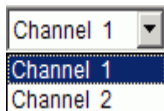


Fig. 42: Select channel



Fig. 43: Create new project

- 4) Click on Insert under Edit.

**6.5.2 Move switching times**

- 5) Click on the button  and mark the switch block.

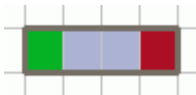


Fig. 44: Selected switching time

- 6) Click on the selected switching program and move it using the mouse.

**6.5.3 Delete switching times**

- 7) Click on the button  and mark the switch block.

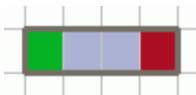



Fig. 45: Selected switching time

- 8) Click on Delete under Edit.

## 6.6 Sort and optimise project

A switching program can be sorted according to the time, weekday, status or type.

### 6.6.1 Sortswitching times

- 1) Click on the Sort the switching times  button.  
→ The Sort dialogue window appears.
- 2) Select the sort criteria (time, weekday, status) and the order (ascending/descending), and click on OK to confirm.

### 6.6.2 Optimise switching times


The following occurs at all the channels:

- Identical switching programs on different weekdays are compiled
- Double switching programs are deleted
- Switching program is sorted according to the time and weekday

Initial status:

No.	Type	Status	Time	Weekday						
				h : m : s	Mon	Tus	Wed	Thu	Fri	Sat
1	Switch	On	09:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Switch	Off	12:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Switch	On	09:00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Switch	Off	12:00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Switch	On	09:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Switch	Off	12:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Switch	On	08:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Switch	Off	13:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fig. 46: Project prior to optimisation

- Click on the button Optimise switching times  and confirm the message window with Yes.

No.	Type	Status	Time	Weekday						
				h : m : s	Mon	Tus	Wed	Thu	Fri	Sat
1	Switch	On	08:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Switch	On	09:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Switch	Off	12:00	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Switch	Off	13:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Fig. 47: Project after optimization

## 6.7 Project options

Project description, customer details, author details etc. can be entered under Project options and in the project file.



Project options are stored exclusively in the project file and **not** transferred to the OBELISK top2 memory card.

- 1) Click on Options under Project.
- 2) Select a register and enter the titles.
- 3) If you wish to name the channels, enter a new title in the Channel register. This title subsequently appears in the toolbar for the channel selection.

## 6.8 Change device setting

The possible settings in the Device settings register vary according to the type of device, see chapter 17 "Device features".



The settings in the Device settings register are stored in the project file and transferred to the device via the OBELISK top2 memory card. They do not effect the display in the PC software.

### Time/date

The time/date format and the first day of the week can be adapted to individual countries.

The so-called Easter rule is used to calculate religious holidays, by which the date of Easter and all the religious holidays for the year (e.g. Whitsun, Ascension) that are dependent on the Easter date are calculated.

The setting of the Easter festival is made in the Easter rule selection field. There is a choice of the standard rule for the Catholic and Protestant churches as well as the Orthodox rule.

A screenshot of a software dialog box titled "Time/Date". It contains five settings, each with a dropdown menu or text field:

- Time Format: 24h
- Date Format: 31.12.00
- First day of the week: Monday
- Easter Rule: Standard
- Timezone: UTC

Fig. 48: Device settings: time/date



### Summer/winter rule

Various options are available for the summer/winter rule:

Fig. 49: Device settings: summer/winter rule, selection field

Summer/winter rule	Meaning
Without summer/winter	No summer/winter rule
Europe, Western Europe, Eastern Europe, Canada, USA, Iran	Country specific rules are preset ex works
Free choice	Time changeovers always fall on the preset day of the week (e.g. fourth Sunday in October).
Fixed date	Time changeovers always fall on the set date (e. g. 01.04.).

Tab. 5: Summer/winter rule selection fields

### Holiday

Different conditions can be set for each channel.

Fig. 50: Device settings: Holiday

Holiday	Meaning
Inactive	No holiday program active
Off	Channel always off
On	Channel always on



The settings in the Holidays have priority over all other programs.

## Options

the following selection fields are available in the Options range:

- The Elapsed-time counter setting allows the service interval to be set for each channel. A message is displayed on the device screen once the set number of operating hours has been reached.
- Additional switching possibilities can be selected for the external inputs (see the following table for possible settings).
- You can set the LCD lighting on the device. You can choose between: Off after 1 minute or Always on.

The screenshot shows the 'Options' menu with the following settings:

Category	Channel	Setting	Additional Info
Operating Hour	C 1	0	h max. 199.999h
	C 2	0	h max. 199.999h
External Input	C 1	Push Button	Staircase Light, Early cutout, 00:01 hh:mm
	C 2	Switch Button	Extra Program 1
LCD Illumination		Off after 1 Minute	

Fig. 51: Device settings: Options

The possible external input settings Switch, Key or Inactive are explained in the table.



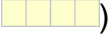


Keys or switches can be connected to the external switches. Depending on that, you can set various functions for the keys or switches.



External output		Meaning
Switch	Permanently on	Switch on: Channel always on Switch off: Programs/light function active
	Permanently off	Switch on: Channel always off Switch off: Programs/light function active
	Channel release	Switch on: Release channel, programs/light function active Switch off: Channel always off
	Lux only	Switch on: Light function active, program inactive Switch off: Programs, light function active
	Extra program 1 or 2	Switch on: Extra program 1 or 2 active Switch off: Programs/light function active

Push button	Manual	Channel is switched over to the next regular switch
	Timer	Timer on/off: Set on/off switching condition for set period
	Staircase light	Channel for set time on. Secondary switching: The set time is restarted when the button is pressed twice. Can be switched off: The time is stopped immediately when the button is pressed twice.
Inactive	–	External input without function

Tab. 6: External input

## 7 LUNA top2

All devices in the LUNA top2 product group are equipped with a light sensor. The light function of the light sensors is always preset (Light function active ). The lux values for switching the connected devices on and off can be set as required. If the defined Lux value () is under run, the device will switch on after the delay time is completed. If the defined Lux value () is exceeded, the device will switch off after the delay time is completed.

The Fix Off () button allows the device to be switched off independently of the set lux values for a defined length of time. The Fix On () button allows the device to be switched on independently of the set lux values for a defined length of time.

### 7.1 Select channel

- First, select just one channel for devices with several channels.

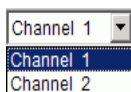


Fig. 52: Channel selection

### 7.2 Set lux value of the light sensor

Lux value settings vary according to the type of device, see chapter 17 "Device features".

As eyes are already accustomed to the dark when lights are switched off, e.g. with street lamps, the lux value can be set at a lower level for switching off than the lux value required for switching on. This means that the switch on can be activated earlier (e.g. switch on in the evening at 25 lux; switch off in the morning at 15 lux).

- 1) Select the Light tab.
- 2) Enter switch-on and switch-off lux values.

Lux Values		
	On [lx]	Off [lx]
Mon	15	15

Fig. 53: Switch-on and switch-off lux values

- 3) Set delay times according to prevailing conditions to avoid unintentional switching on and off again.

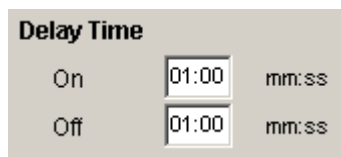


Fig. 54: Delay time



The delay times and lux values of the switching times entered in the Light register apply to the standard program.

The extra program lux values have priority in the set date range; see chapter **Fehler! Verweisquelle konnte nicht gefunden werden.** "Extra program". The delay time applies to all programs.

## 7.3 Set extra program

The switching times that are repeated on a weekly basis can be set via the Standard program register (in LUNA 120 top2 the Program register).

- Select the Standard program register.

### 7.3.1 Graphical

Graphical programming of switching times is completed via the following buttons:

Button	Command
	Cursor to select or move a switching program
	Set night switch-off
	Set day switch-on

Tab. 7: Buttons for graphical display

Details on how to change, move or delete switching times can be found in the chapter 6.5 "Change switching time".

**Example: Street lighting**

To switch street lighting off at night (Monday to Friday 00.30 – 4.30 am, Saturday and Sunday 01.30 – 5am) program the OBELISK top2 software as follows:

- 1) Select the Standard program register.
- 2) Click on the Fix Off button.
- 3) With the left mouse key pressed down move from top to bottom in the 00.30 column (street lighting switch-off) and to the right as far as the 04.30 column (end of switch-off).
- 4) Release the left mouse key.

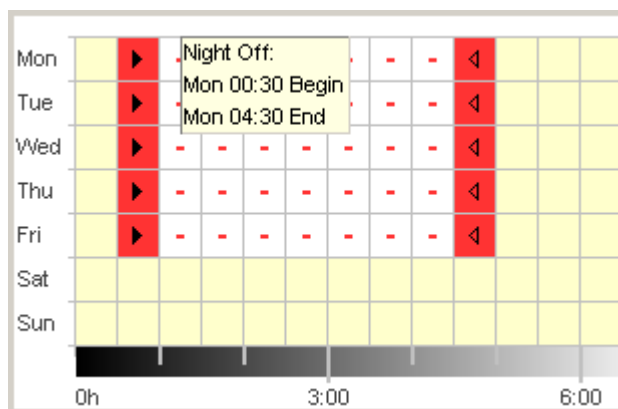


Fig. 55: Street lighting switch-off weekdays

- 5) With the left mouse key pressed down, move to the 01.30 column (street lighting switch-off) from top to bottom (Saturday to Sunday) and to the right as far as the 05.00 column (end of switch-off).
- 6) Release the left mouse key.

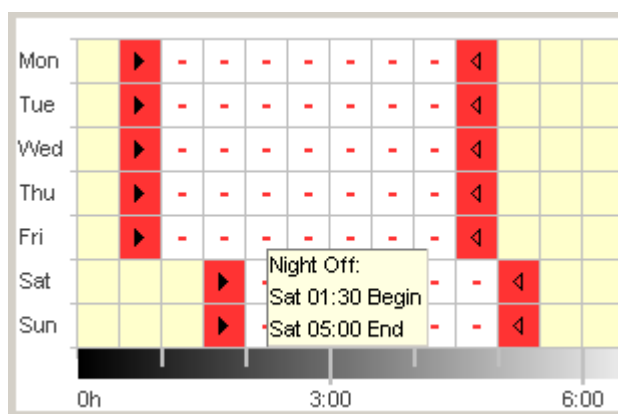


Fig. 56: Street lighting weekend switch-off

### 7.3.2 Tabular

The switching times can also be set in tabular form.

**Example: Street lighting** (see chapter 7.3.1 Graphical )

- 1) Select the Standard program register.
- 2) Click on New in the table.

No.	Status
	New

Fig. 57: New switching time

- 3) Select Fix Off.
- 4) Enter the Start time (00.30).

No.	Status	Start Time							Duration Until								
		hh:mm	Mon	Tue	Wed	Thu	Fri	Sat	Sun	hh:mm	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Night Off	00:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	00:01	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	New																

Fig. 58: Standard program start time

- 5) Select the weekdays (Monday to Friday)
- 6) Enter Lasts until (04.30).

No.	Status	Start Time							Duration Until								
		hh:mm	Mon	Tue	Wed	Thu	Fri	Sat	Sun	hh:mm	Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	Night Off	00:30	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	04:30	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	New																

Fig. 59: Night switch-off period

- 7) Repeat steps 1 to 5 for the weekend switching times.

No.	Status	Start Time							Duration Until							Hint / Error		
		hh:mm	Mon	Tue	Wed	Thu	Fri	Sat	Sun	hh:mm	Mon	Tue	Wed	Thu	Fri		Sat	Sun
1	Night Off	00:30	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	04:31	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Night Off	01:30	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	05:00	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Fig. 60: Monday to Sunday switching-times

### 7.3.3 Night switch-off and day switch-on

The following example contains a night switch-off and a day switch-on. The remaining time is controlled by a light sensor.

#### Example: Lighting display windows

On weekdays display window lighting should be switched on from 6.30 to 8 am and from 4 to 6 pm. On weekdays, night switch-off should be from 8 pm to 6.30 am. The lighting should also be switched off at weekends (from Friday 8 pm to Monday 6.30 am). The light function is active for the remaining times, i.e. switching follows independent of the set lux values.

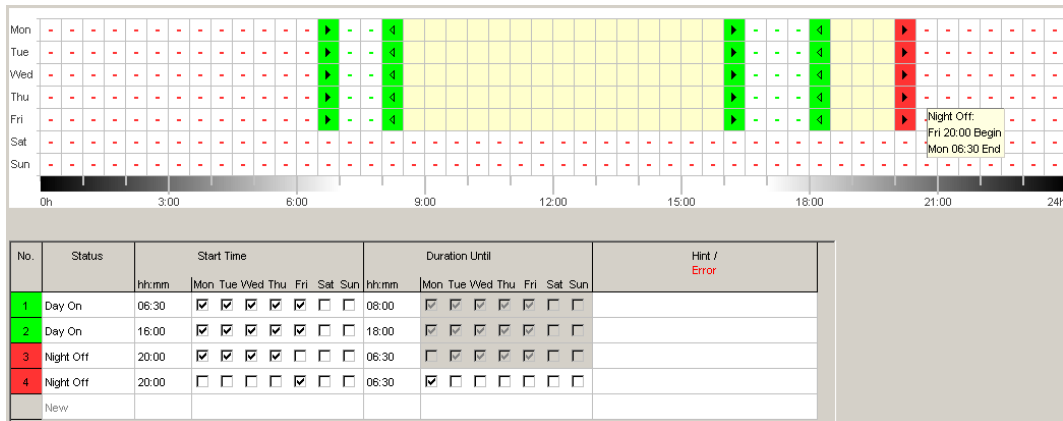


Fig. 61: Switching times in the example of display window lighting



How to change, sort and optimise switching times can be found in chapter 6.5 "

Change switching time" and chapter 6.6 "Sort and optimise project".



## 7.4 Extra program

Extra programs 1 and 2 offer programs that differ from the standard program by defining a date range, e.g. for bank holidays, holidays etc. And variable lux settings can be set in addition to the switching times.

The extra programs have priority over the standard program and extra program 2 has priority over extra program 1.

The settings for the extra program are entered in tabular form.

It is possible to make entries for a Fix date, Fix date every year, Easter rule or Apply Public holiday.

See chapter 5.4 for creating and editing public holiday settings.

### 7.4.1 Setting the extra program without night switch-off

In the following program, the night switch-off in the standard program is left out. Exterior lighting is therefore exclusively controlled by the light sensor.

#### Example: External lighting of a church

On the Easter weekend and at Christmas the external lighting is switched on earlier and stays on throughout the night.

- 1) Select the Extra program register.
- 2) Enter lux values Lux On and Lux Off.

Fig. 62: Lux values

- 3) Click on the New selection field and select Easter rule.

No.	Type
1	Easter Rule
	New
	Fix Date
	Easter Rule

Fig. 63: Easter rule switching type

- Click on the Easter Sunday selection field and select the start of the first date range (e.g. "3 days before Easter Sunday").

No.	Type	Every Year	Date	Start	Hour hh:mm
1	Easter Rule	<input checked="" type="checkbox"/>	3 day(s) before Easter Sunday		00:00
	New			3 day(s) before Easter Sunday 2 day(s) before Easter Sunday 1 day(s) before Easter Sunday Easter Sunday 1 day(s) after Easter Sunday 2 day(s) after Easter Sunday 3 day(s) after Easter Sunday 4 day(s) after Easter Sunday	

Fig. 64: Start date

- Enter the starting time(Hour).

No.	Type	Every Year	Date	Start	Hour hh:mm
1	Easter Rule	<input checked="" type="checkbox"/>	3 day(s) before Easter Sunday		17:00
	New				

Fig. 65: Start time

- Repeat steps 4 and 5 in the same way for the end of the date range.

No.	Type	Every Year	Date	Start	Hour hh:mm	Date	End	Hour hh:mm	Duration Days Hours
1	Easter Rule	<input checked="" type="checkbox"/>	3 day(s) before Easter Sunday		17:00	1 day(s) after Easter Sunday		20:00	4d 03h
	New								

Fig. 66: First date range (Easter)

- Click on the New selection field and select Fixed date.

No.	Type
1	Easter Rule
	New
	Fix Date
	Easter Rule

Fig. 67: Fixed date switching type

- Fill in the Every year, Start Date/Hour and End Date/Hour columns in the same way.

No.	Type	Every Year	Date	Start	Hour hh:mm	Date	End	Hour hh:mm	Duration Days Hours
1	Easter Rule	<input checked="" type="checkbox"/>	3 day(s) before Easter Sunday		17:00	1 day(s) after Easter Sunday		20:00	4d 03h
2	Fix Date	<input checked="" type="checkbox"/>	24.12.		12:00	26.12.		22:00	2d 10h
	New								

Fig. 68: Second date range (Christmas)

### 7.4.2 Setting the extra program with night switch-off

In the following extra program the night switch-off for the defined period of time begins 2 hours earlier than in the standard program.

#### Example: Street lighting during a town festival

During a two day town festival the street lighting is not switched off until 3 am and switched on again at 5 am at the earliest depending on the set lux values and the prevailing daylight.

<b>Night Break</b> <input checked="" type="checkbox"/>		<b>Light On</b> <input type="checkbox"/>							
Start Time	03:00 hh:mm	Start Time	--:-- hh:mm						
Duration Until	05:00 hh:mm	Duration Until	hh:mm						
<b>Date Range</b>									
No.	Type	Every Year	Date	Start	Hour	Date	End	Hour	Duration
1	Fix Date	<input type="checkbox"/>	14.09.2007		20:00	16.09.2007		12:00	1d 16h
	New								

Fig. 69: Street lighting during a town festival

## 7.5 Change device setting

The possible settings in the Device settings register vary according to the type of device, see chapter 17 "Device features". See chapter 6.8 for creating Time/Date and and Summer/winter rule.

### Holiday

Different conditions can be set for each channel.

<b>Holiday</b>		Status	Begin Date	Hour	End Date	Hour
C 1	Only Lux	31.12.2007	00:00	01.01.2009	00:00	
C 2	Off	15.08.2007	00:00	16.08.2008	00:00	

Fig. 70: Device settings: Holiday

Holiday	Meaning
Inactive	No holiday program active
Off	Channel always off
On	Channel always on
Lux only	Light function active, program inactive



The settings in the Holidays have priority over all other programs.

### Options

The following selection fields are available in the Options range:

- The Operating Hour setting allows the service interval to be set for each channel. A message is displayed on the device screen once the set number of operating hours has been reached.
- Additional switching possibilities can be selected for the external inputs (see the following table for possible settings).
- You can set the LCD lighting on the device. You can choose between: Off after 1 minute or Always on.

The screenshot shows the 'Options' menu with the following settings:

- Operating Hour:**
  - C1: Service Interval 0 h max. 199.999h
  - C2: Service Interval 0 h max. 199.999h
- External Input:**
  - C1: Push Button, Staircase Light, Early cutout, 00:01 hh:mm
  - C2: Switch Button, Extra Program 1
- LCD Illumination:** Off after 1 Minute

Fig. 71: Device settings: Options

The possible external input settings Switch, Key or Inactive are explained in the table.





Keys or switches can be connected to the external switches. Depending on that, you can set various functions for the keys or switches.

External output		Meaning
Switch	Permanently on	Switch on: Channel always on Switch off: Programs/light function active
	Permanently off	Switch on: Channel always off Switch off: Programs/light function active
	Channel release	Switch on: Release channel, programs/light function active Switch off: Channel always off
	Lux only	Switch on: Light function active, program inactive Switch off: Programs, light function active
	Extra program 1 or 2	Switch on: Extra program 1 or 2 active Switch off: Programs/light function active

Push button	Manual	Channel is switched over to the next regular switch
	Timer	Timer on/off: Set on/off switching condition for set period
	Staircase light	Channel for set time on. Secondary switching: The set time is restarted when the button is pressed twice. Can be switched off: The time is stopped immediately when the button is pressed twice.
Inactive	–	External input without function

## 8 SELEKTA top2

Devices in the SELEKTA top2 product group are astronomic timers. They calculate the exact switching times for sunrise and sunset according to location and time zone. The **Fix Off** (  ) button allows the device to be switched off independently of the astro functions for a defined length of time. The **Fix On** (  ) button allows the device to be switched on independently of the astro functions for a defined length of time.

### 8.1 Setting the astro function

The relevant data for determining the astro time are set in the Astro register. They are offset, astro mode and the position.

1. Select the Astroregister.
2. If required, enter the offset values for sunrise and sunset.

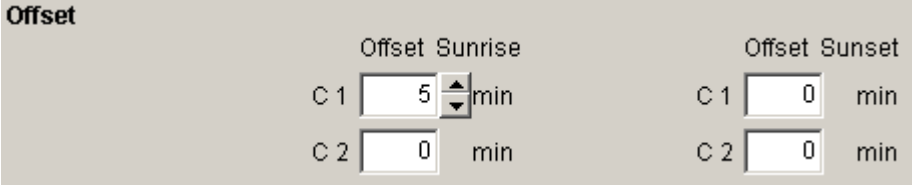


Fig. 72: Astro settings: Offset

3. Under astro mode you can choose between ON at sunset + AUS at sunrise, OFF at sunset + ON at sunrise, astro inactive.

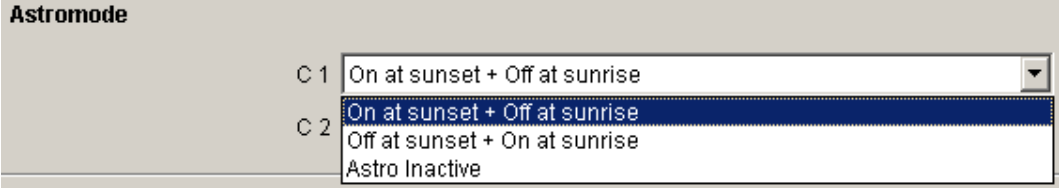


Fig. 73: Astro settings: Astro mode

4. Furthermore set your position: either by selecting the country and city or by entering longitude/latitude and time zone.

**Location**

**Countrylist**

Country

City

**Coordinates**

Latitude  ° North

Longitude

Timezone

Summer/Winter Rule

Fig. 74: Astro settings: Position: Coordinates

The time zone can be determined using the provided time zone card .

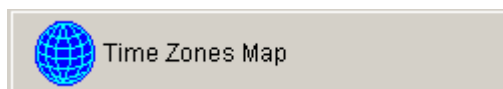


Fig. 75: Time zones display

Entering the position is an absolute requirement for the exact calculation of the astro time.

The Display astro times button allow you to see all the astro times for the selected location. You can print them off or export as a CSV file.



Fig. 76: Astro times display

### Edit favourites

One click on this button allows you to set up to ten preferred cities as favourites. You must enter the name of the city, longitude and latitude as well as time zone. These then appear in the city list under favourites.

## 8.2 Set extra program

You can enter additional switching times (day ON, night OFF) via the program/standard program register regardless of the astro times. These switching times are repeated on a weekly basis.

- Select the Program/standard program register.

See chapter 7.3. for setting switching times  
The astro times are in yellow.

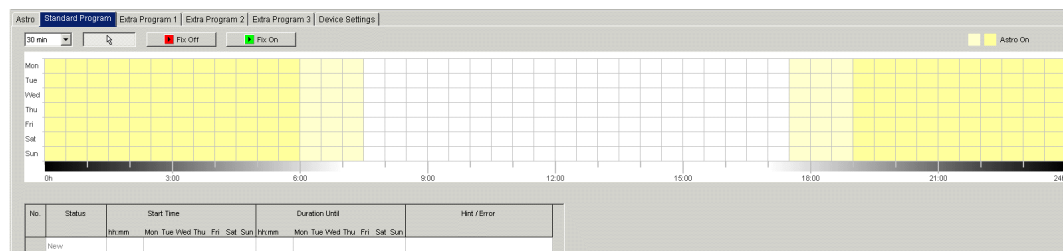


Fig. 77: Set extra program

## 8.3 Setting extra programs

In extra programs 1, 2 and 3 you can define programs varying from the standard program for one or more date ranges, e. g. for public holidays, holidays etc.

The extra programs (extra program 1 = astro function, extra program 2 = continuous ON function, extra program 3 = continuous OFF function) have priority over the standard program. The lowest numbered extra program has the lowest priority.

The settings for the extra program are entered in tabular form.

The date range allows you to define the scope of the extra program. It is possible to make entries for a Fixed date, Fixed date each year, the Easter rule or Transfer public holiday settings.

See chapter 7.4 (entering date ranges) for entering extra programs; see chapter 5.4 for information on creating and editing public holiday settings.



### 8.3.1 Transfer public holiday settings

- 1) Select the required public holiday setting.
- 2) Click on Apply. The dates are transferred to the extra program.

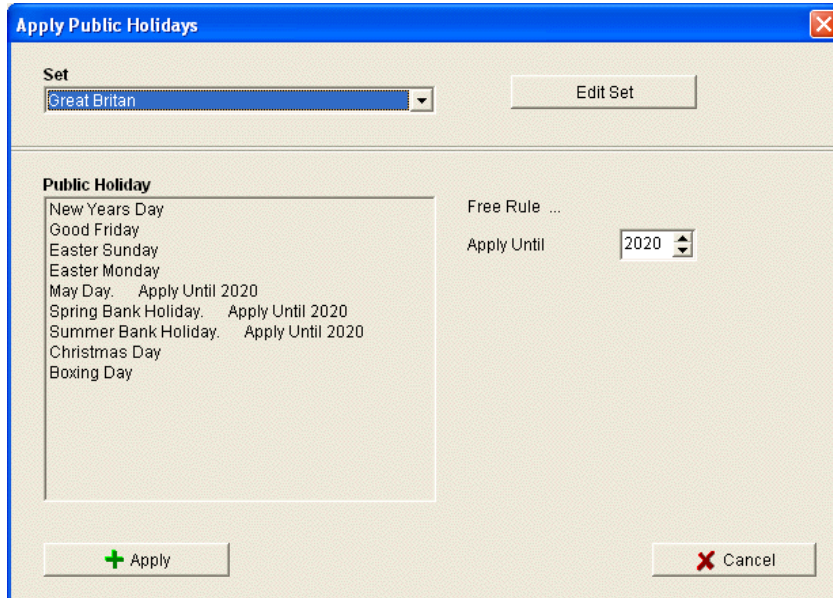


Fig. 78: Select public holiday setting

Individual changes can be made here.

No.	Type	Date	Start	Hour	Date	End	Hour	Duration	Hint / Error
				hh:mm			hh:mm	Days Hours	
1	Fix Date Every Year	01.01	New Years Day	00:00	02.01		00:00	1d 00h	
2	Easter Rule	Good Friday		00:00	1 day(s) before Easter Sunday		00:00	1d 00h	
3	Easter Rule	Easter Sunday		00:00	Easter Monday		00:00	1d 00h	
4	Easter Rule	Easter Monday		00:00	2 day(s) after Easter Sunday		00:00	1d 00h	
5	Fix Date	25.04.2010	May Day	00:00	26.04.2010		00:00	1d 00h	
6	Fix Date	24.04.2011	Easter Sunday	00:00	25.04.2011	Easter Monday	00:00	1d 00h	
7	Fix Date	29.04.2012	May Day	00:00	30.04.2012		00:00	1d 00h	
8	Fix Date	28.04.2013	May Day	00:00	29.04.2013		00:00	1d 00h	
9	Fix Date	27.04.2014	May Day	00:00	28.04.2014		00:00	1d 00h	
10	Fix Date	26.04.2015	May Day	00:00	27.04.2015		00:00	1d 00h	
11	Fix Date	24.04.2016	May Day	00:00	25.04.2016		00:00	1d 00h	
12	Fix Date	23.04.2017	May Day	00:00	24.04.2017		00:00	1d 00h	
13	Fix Date	29.04.2018	May Day	00:00	30.04.2018		00:00	1d 00h	
14	Fix Date	28.04.2019	May Day	00:00	29.04.2019		00:00	1d 00h	
15	Fix Date	26.04.2020	May Day	00:00	27.04.2020		00:00	1d 00h	
16	Fix Date	31.05.2010	Spring Bank Holiday	00:00	01.06.2010		00:00	1d 00h	
17	Fix Date	30.05.2011	Spring Bank Holiday	00:00	31.05.2011		00:00	1d 00h	
18	Fix Date	28.05.2012	Spring Bank Holiday	00:00	29.05.2012		00:00	1d 00h	
19	Fix Date	27.05.2013	Spring Bank Holiday	00:00	28.05.2013		00:00	1d 00h	
20	Fix Date	26.05.2014	Spring Bank Holiday	00:00	27.05.2014		00:00	1d 00h	
21	Fix Date	25.05.2015	Spring Bank Holiday	00:00	26.05.2015		00:00	1d 00h	
22	Fix Date	30.05.2016	Spring Bank Holiday	00:00	31.05.2016		00:00	1d 00h	
23	Fix Date	29.05.2017	Spring Bank Holiday	00:00	30.05.2017		00:00	1d 00h	

Fig. 79: Transfer public holiday settings

### 8.3.2 Edit public holiday settings


In the open “Transfer public holiday setting” window you can create new settings and allocate a name, and copy, amend or delete it; see chapter 5.4.

## 8.4 Change device settings

The possible settings in the Device settings vary according to the type of device. See chapters 6.8 and 7.5. for changing switching times.

## 8.5 Simulation

All the switching processes can be displayed graphically in the simulation. This shows which switching time caused a change in the switching status.

1. Click the Simulation  button.  
The dialogue window appears.

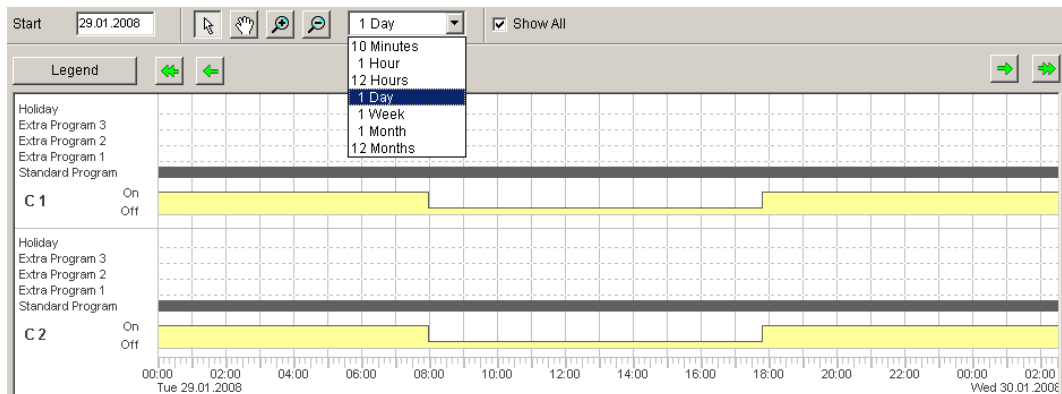



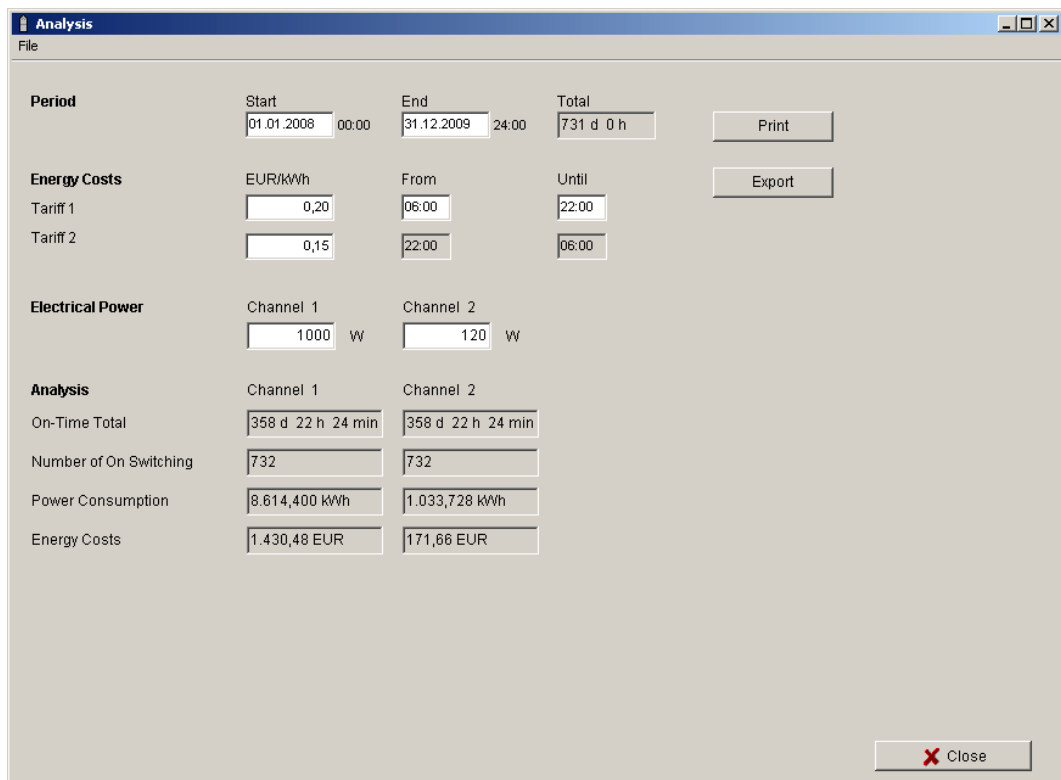
Fig. 80: Simulation display

2. Select both the starting time and the resolution.

## 8.6 Evaluation

You can calculate the energy costs for a specified time period in the evaluation.

1. Click the Evaluation  button.  
The Evaluation dialogue window appears.
2. Select the Chosen timescale: start and end.
3. Enter the kWh price under Energy costs. You can specify a second tariff (e.g. for day and night). Various times can be specified for tariff 1.
4. Enter the output of the Consumer.



The screenshot shows the 'Analysis' dialog box with the following data:

Period	Start	End	Total
	01.01.2008 00:00	31.12.2009 24:00	731 d 0 h

Energy Costs	EUR/kWh	From	Until
Tariff 1	0,20	06:00	22:00
Tariff 2	0,15	22:00	06:00

Electrical Power	Channel 1	Channel 2
	1000 W	120 W

Analysis	Channel 1	Channel 2
On-Time Total	358 d 22 h 24 min	358 d 22 h 24 min
Number of On Switching	732	732
Power Consumption	8.614,400 kWh	1.033,728 kWh
Energy Costs	1.430,48 EUR	171,86 EUR

Fig.81: Evaluation display

You can print the data or export as a CSV file.

## 9 Tariff and special time switches TR top2

Group TR 685 top2, TR 687 top2 (1-4 channel timers) and TR 688 top2 SML group devices are digital time switches. They are used if electricity consumption is calculated at different tariffs at different times and is controlled by a timer.

### 9.1 Setting a standard program

One application is a switching program allocated to a switching channel which consists of a standard program (switching on and off times) and 5 extra programs (switching on and off times with associated date range). You can select from 100 applications under “Applications”. The figure in brackets indicates the number of memory locations used for this application.

- Select the Standard Program register.

See chapter 6.2 for programming switching times.

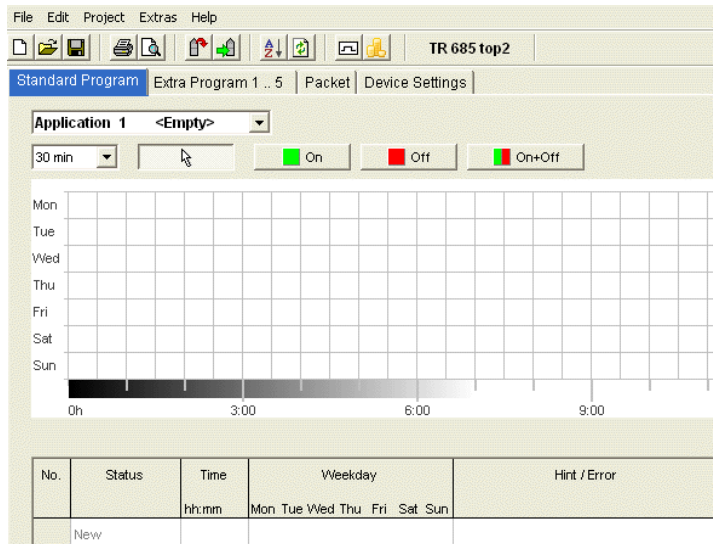


Fig. 82: Standard program

## 9.2 Setting extra program 1..5

In extra programs 1-5 you can choose programs that differ from the standard programming for one or more date ranges, e.g public holidays, holidays etc.

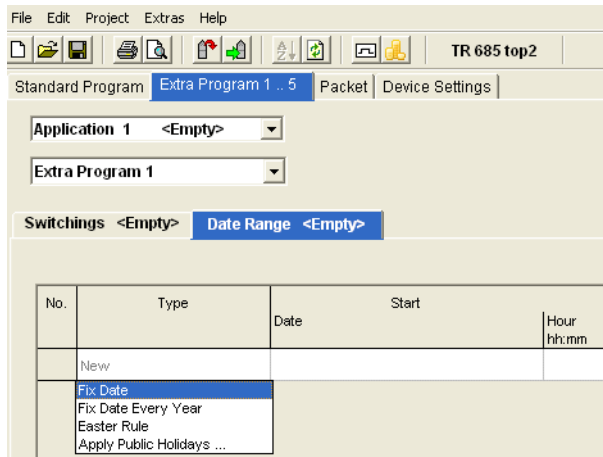


Fig. 83: Extra program

The settings for the extra programs are entered in tabular form.

The date range allows you to define the scope of the extra program. It is possible to make entries for a Fix date, Fix date every year, Easter rule or Apply Public holiday.

See chapter 7.4 (Entering date ranges) for entering extra programs

## 9.3 Producing packets

Applications (switching programs) can be allocated to channels 1-4 of the time switch by forming packages. A packet can use a maximum of 200 memory locations.

- 1) Select the Packet register.
- 2) Enter the name of the package.
- 3) Click on the columns in channels 1-4 to allocate the relevant application (1-100) to the channel.

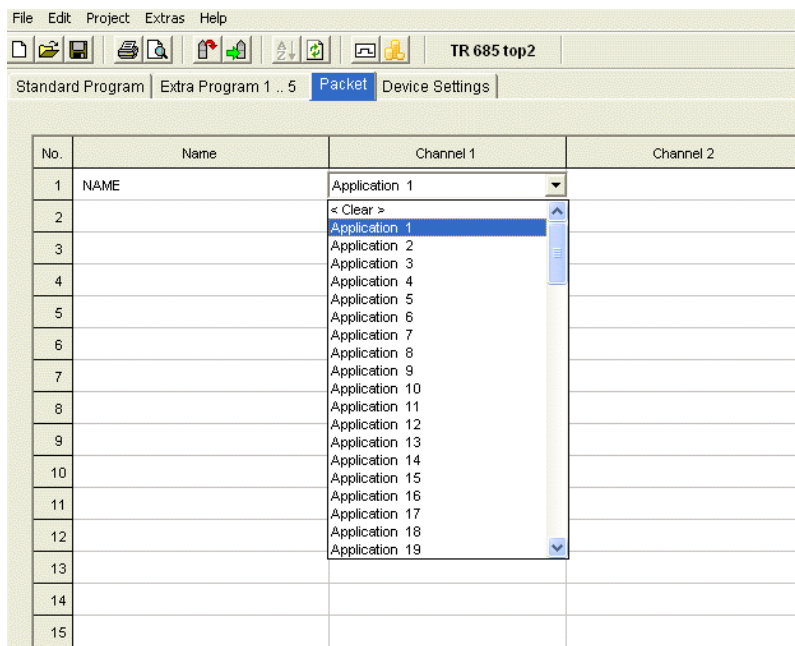


Fig. 84: Create packet

## 9.4 Changing device settings

The setting options in the Device Settings register vary according to the type of device.

See chapters 6.8 and 7.5 for changing settings (Time/Date/Easter rule and Summer/winter rule).

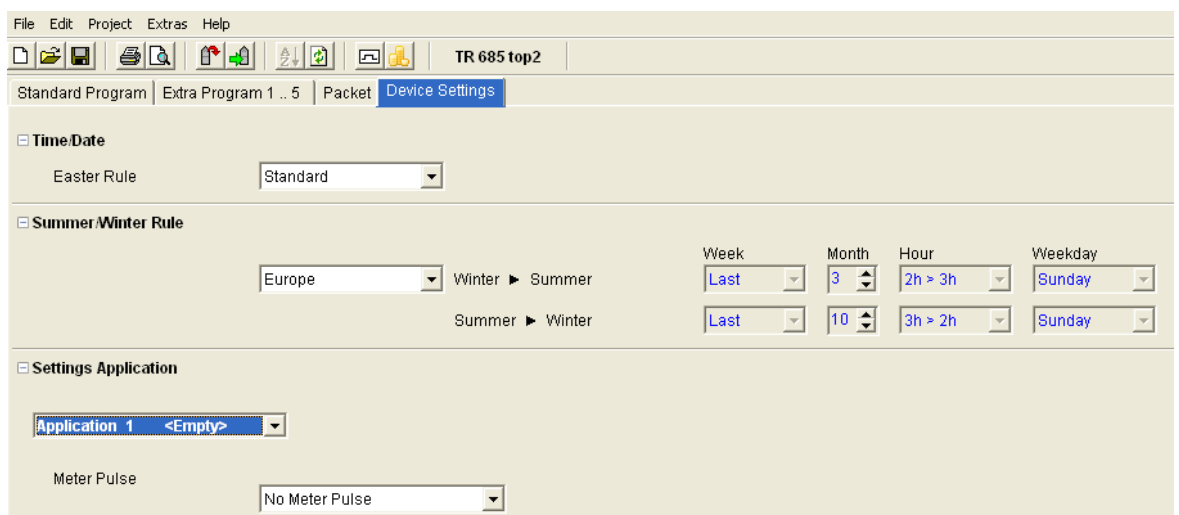


Fig. 85: Device settings: Time/date, summer/winter rule

### Settings

You can define a meter pulse for each application (1-100).

- 1) Choose from No meter pulse, Begin of the period, End of the period.

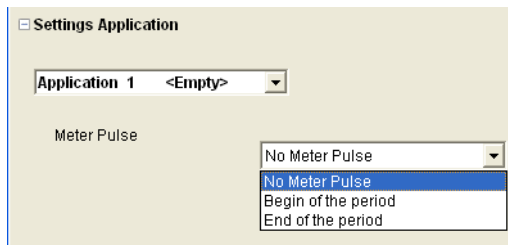


Fig. 86: Device settings: Applications

- 2) Set the switching status, the timescale and the pulse length.

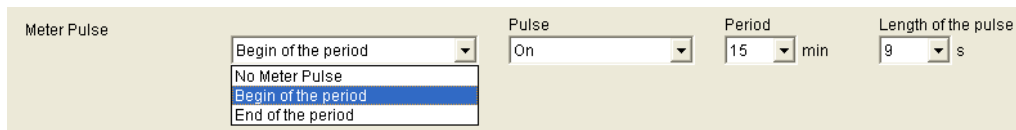


Fig. 87: Device settings: Meter pulse

## 9.5 TR 688 top2 SML

The digital time switch with yearly program has four channels, consisting of 2 SML control channels for EDL 21 counters (channel 1: reference axis, channel 2: supply direction) and 2 consumer control channels with 2 relay outputs.

See chapter 6 (page 14 ff.) for function and operation of devices in the TR top2 range.

### 9.5.1 Setting a standard program

The standard program P0 is always active but has the lowest priority and can be overridden by special programs P1-P5.

- Select the Standard program register.

See chapter 6.2 ff for programming switching times.



Fig. 88: Standard program

Channel 1 (T2 / On) switches from Mon-Fri at 06:00 on tariff 2 and at 22:00 on tariff 1 (T1 / Off). With channel 3 and 4, the relay switches on at 06:00 and off at 22:00.

### 9.5.2 Producing packets

By forming packets, applications (switching programs) can be allocated for SML control channels 1+2 (1.8.x for the reference axis (OBIS reference number) and 2.8.x for the supply direction) as well as for the relay channels 3+4 on the time switch. A packet can use a maximum of 200 memory locations.

- 1) Select the Packet register.
- 2) Enter the name of the package.
- 3) Click on the columns in channels 1-4 to allocate the relevant application (1-100) to the channel.

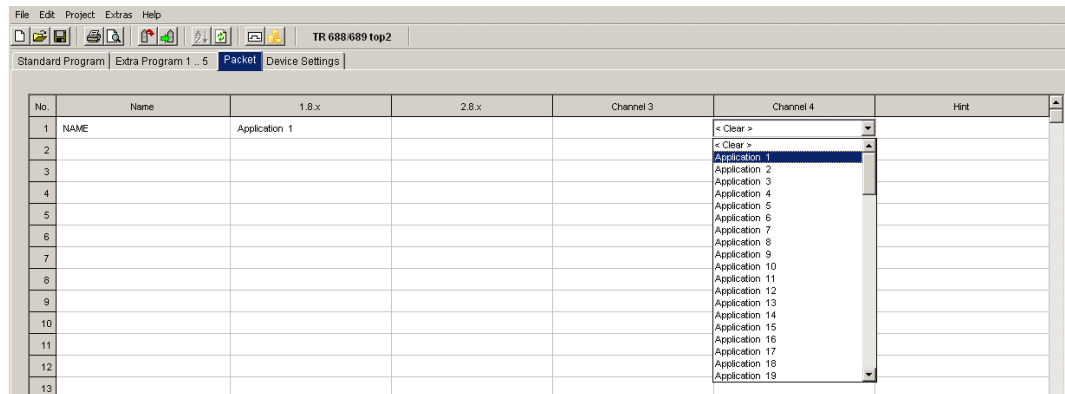


Abb. 89: Packet



## 10 TR top2 365-day time switch

With devices in the TR top2 365-day time switch range (TR 641 top2, TR 641 top2 RC, TR 642 top2, TR 642 top2 RC, TR 644 top2, TR 644 top2 RC) (1-4 channel time switches) and TR top2 KNX (TR 648 top2 KNX and TR 648 top2 KNX GPS) (1-8 channel time switches) you have the option of programming and switching time or Astro programs for each channel.

### 10.1 Time switch programs

The time switch programs allow you to choose between standard and extra programs:

- 1 standard program P0 (weekly program with switching times, pulse and cycle times)
- 16 extra programs consisting of:
  - 14 extra programs P1-P14 (weekly programmes with switching times, pulse and cycle times, with variable date ranges (fixed date range, date depending on Easter etc.), plus
  - extra program P15 (Continuous On) and
  - extra program P16 (Continuous Off) (with adjustable date ranges)

### 10.2 Astro programs

The time switch function can be activated for each channel instead of the Astro function. The Astro programs allow you to select from:

- 1 Astro standard program P0 (weekly program with fixed On/ fixed Off times)
- 16 extra programs consisting of:
  - 14 Astro extra programs P1-P14 (weekly program with Fixed On / Fixed Off times) with variable date ranges (fixed date range, date dependant on Easter etc.), with
  - extra program P15 (Continuous On) and
  - extra program P16 (Continuous Off) (with adjustable date ranges)

### 10.3 Setting a standard program

The standard program P0 is always active but has the lowest priority and can be overridden by extra programs P1-P16.

- Select the Standard program register.  
See chapter 6.2 ff for programming switching times.

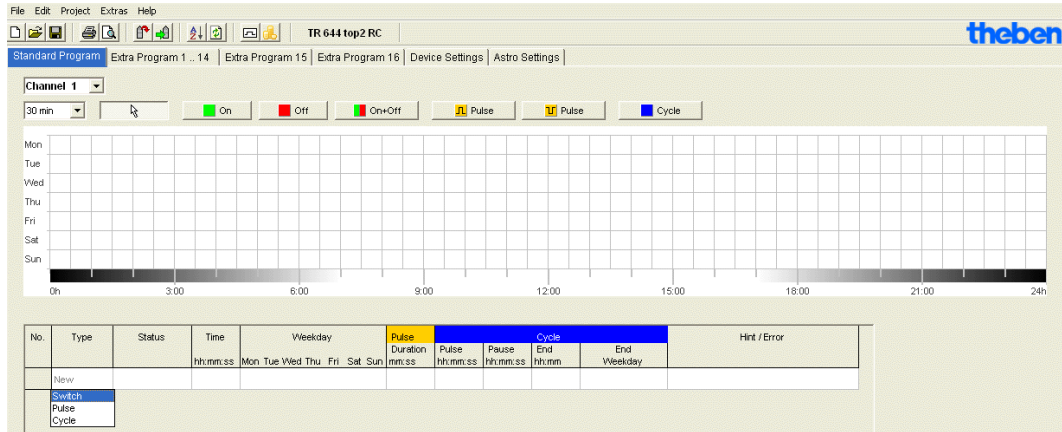


Fig. 90: Standard program: Time switch program

If an Astro program is set (in the Settings device/channel function), the following appears

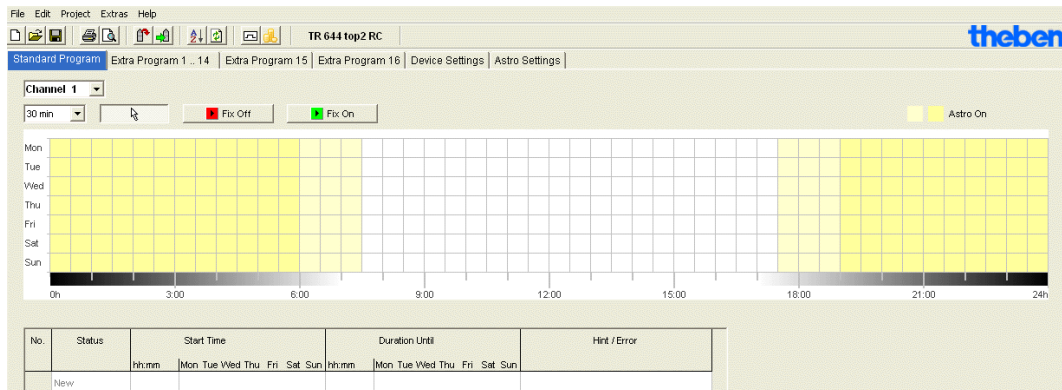


Fig. 91: Standard program: Astro program

See chapter 7.3. for setting switching times.

## 10.4 Setting extra programs (extra programs 1-14)

Extra programs 1-14 allows you to choose programs that differ from the standard programming for one or more date ranges, e.g public holidays, holidays etc.

The following applies to the extra programs: The higher the number, the higher the priority. Extra program 16 has the highest, extra program 1 the lowest, priority. A extra program becomes active if at least one date range is set and it is not overridden by another extra program with a higher priority in this time range.

**The following calendar-dependent date ranges can be set:**

Fixed date (once, example: Start on 02.04.2010 at 4pm, end on 24.04.2010 at 10am)

Fixed date each year (Example: Christmas every year: Start on 24.12. at 6pm, end on 26.04. at 11pm)

Easter rule (Easter-dependent date range: 81 days before and 174 days after Easter, example: Whit Sunday and Whit Monday each year: Start 49 days after Easter at midnight, end 51 days after Easter at midnight)

Specimens (Date series, example: Every 2 weeks from November 2010: Start on Monday 01.11.2010 at midnight, end on Monday 08.11.2010 at midnight, repeat start after 14 days)

Day of the week rule (Example: Every month on the first weekend from Saturday 6am until Sunday 6pm: Start on the first Sunday each month at 6am, duration 36 hours)

Chinese New Year (date range dependent on Chinese New Year: 20 days before and 20 days after Chinese New Year)

Transfer public holiday settings: The public holidays entered in the public holiday setting can be transferred to the date range.

**Example of programming standard and extra programs**

Switch on street lighting at midday 30 April to midday 1 May

The **standard program** switches on street lighting depending on Astro times. A night-time interruption is programmed from 11pm to 4am.

The **extra program** 1 is active in the date range from midday 30 April to midday 1 May. Night-time interruption is not programmed so that the street lighting is not on all night.

See chapter 7.4 (entering date ranges) for entering extra programs; see chapter 5.4 for creating and editing public holiday settings.

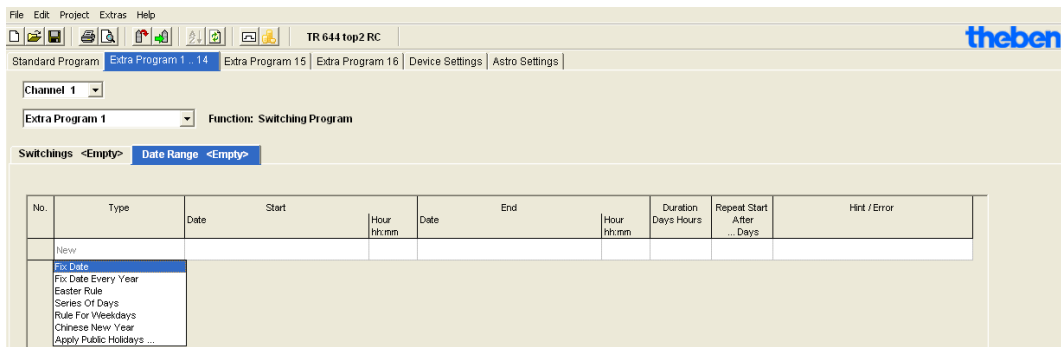


Fig. 92: Extra programs 1 -14: Date ranges

### 10.5 Set extra program 15 (On)

Extra program 15 (continuous On function) allows you to set a date range where the channel is always switched on.

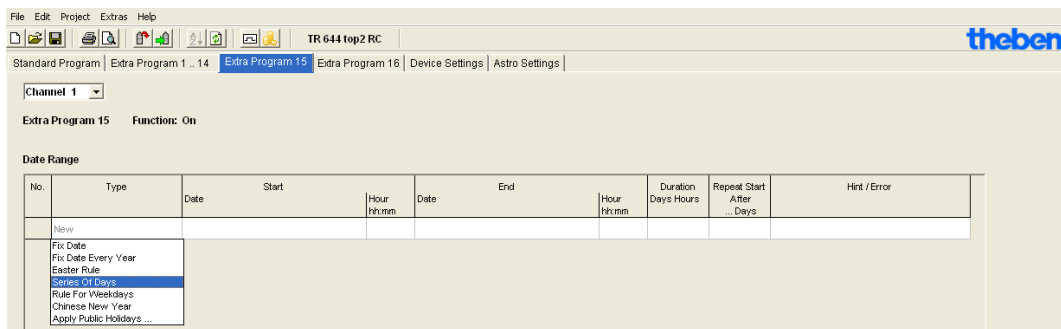


Fig. 939: Extra program 15

### 10.6 Set extra program 16 (Off)

Extra program 16 (continuous Off function) allows you to set a date range where the channel is always switched off.

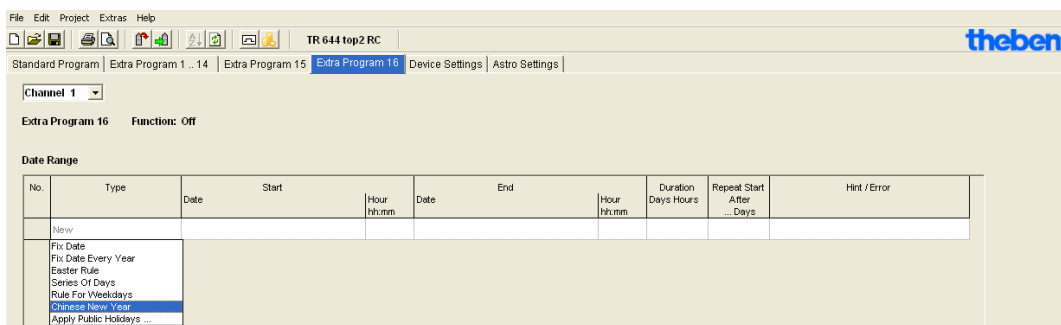


Fig. 94: Extra program 16

**Example: Car park lighting**

The standard program switches on the car park lighting at set times from Monday to Friday according to Astro times. The extra program ensures that the lighting is not switched on every public holiday.

**10.7 Change device settings**

The possible settings in the Device settings vary according to the type of device.

See chapters 6.8 and 7.5 ff for changing settings (Time/date, summer/winter time, options).

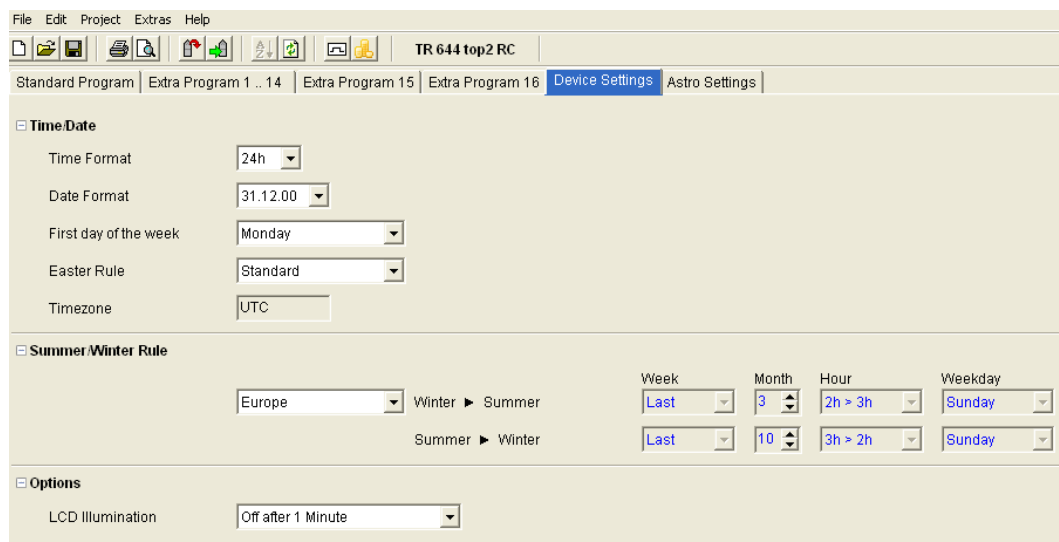


Fig. 95: Device settings: Time/date, summer/winter rule

You can also use **Channel settings** to make other changes.

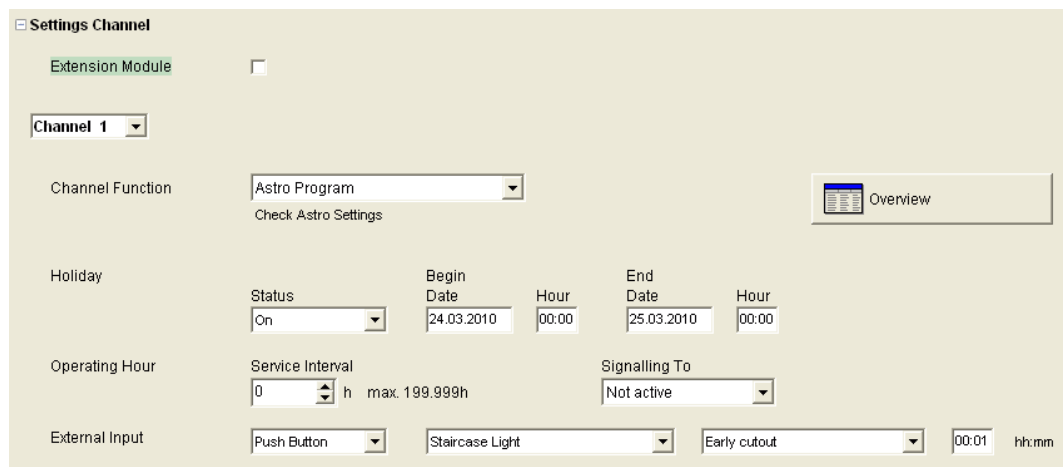


Fig. 96: Device settings: Channel settings

1. **Upgrade module:** You can choose whether an upgrade module should be active. Channels 5-8 are also available for this purpose.
2. **Channel function:** This allows you to choose between time switch program or Astro program. Changing the channel function deletes the entered program.
3. **Service interval:** The expiry of a service interval can be displayed on a channel. The program on the signal channel is deleted. The channel is blocked for entering programs.
4. **Overview:** The Overview button allows you to review the entered data.

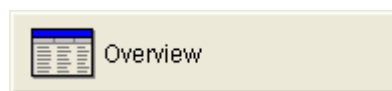


Fig. 97: Channel settings: Overview

## 10.8 Change Astro settings

This menu only appears if at least one channel is set to Astro program.

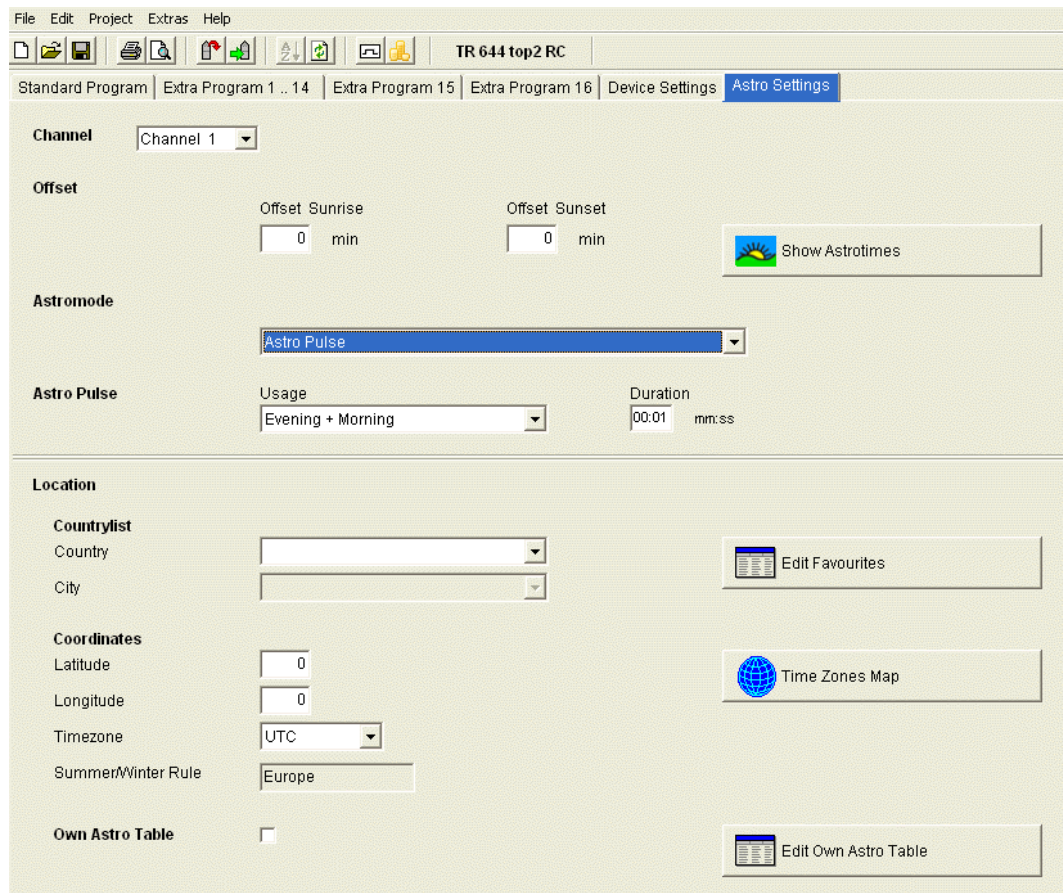


Fig. 98: Astro settings

You can enter the relevant data for entering the Astro time described in chapter 8.1 or create your own Astro table.



Fig. 99: Astro settings: Edit own Astro table

You can enter your own time for sunrise and sunset for every day of the year. These times must be entered as winter time for the whole year.

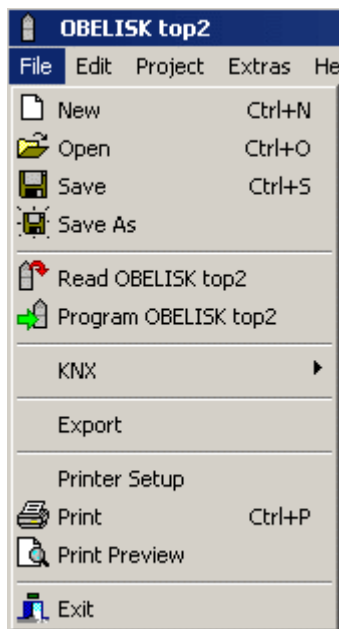
If the **Own Astro table** function is selected then the sunrise and sunset times in the table are used.

These times are corrected according to the summer/winter time rule for the switching time of the relay. Functions are available to complete this table automatically.

## 10.9 KNX settings

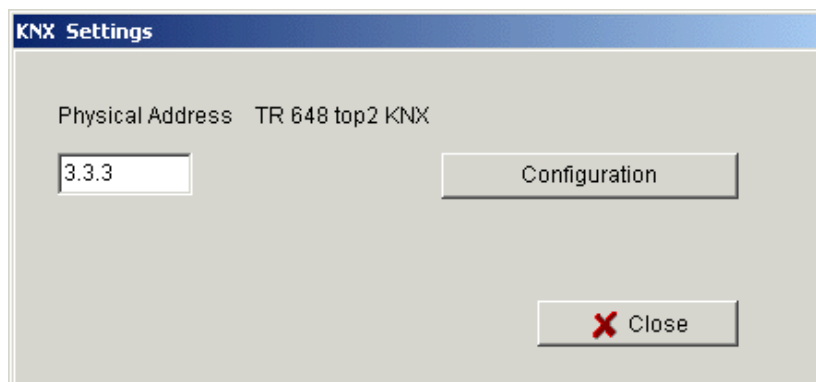
With the TR 648 top2 KNX 365-day timer, the **KNX sub menu appears in the main menu** with the following setting options:

Settings – Read – Send Program– Send All



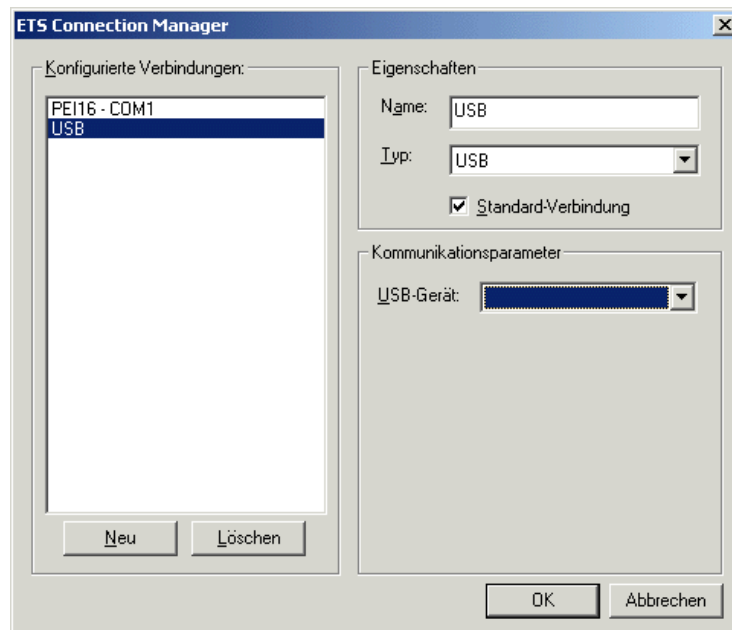
### Settings

1. Enter the **Physical address** of the 365-day timer (e.g. evident in the ETS software etc.).





2. Then click on Configuration.
3. Select USB in Configured connections. for example .
4. Connect USB interface to computer.
5. Select the USB Type in Features plus the standard connection.  
KNX USB interface now appears on connection field (if connected).
6. Confirm your selection and close the window.



## Read

The entered switching times and programmes, which are programmed on the timer, are transferred to the OBELISK top2 computer program. "KNX access" appears on screen.

## Send program

The switching times and programs produced with the OBELISK top2 software are sent to the 365-day timer. "KNX access" appears on screen.

## Send all

Switching times, programs and settings (Date/time, holidays, summer/winter time etc.) are sent to the 365-day timer.

## Requirements for KNX program transmission

For bus communication, the Falcon driver (*FalconRuntime\_V20\_ObeliskKNX.msi*) must be installed. This program is installed on the Obelisk CD in the "Driver" directory.

➤ **Windows 7 and Vista**

No further software required.

➤ **Windows XP**

Absolutely essential to the Falcon driver installation under Windows XP is a **Microsoft .NET Framework 2.0 SP2\*** or **.NET Framework 3.5 SP1** (see Settings à System control à Software).

If neither software is available, install Version 3.5 Service Pack 1 (see below).  
Version 4 and higher are not suitable.

### Download Links

**.NET Framework 3.5 Service Pack 1 Download (Internet setup German 2.8 MB):**

<http://www.microsoft.com/de-de/download/details.aspx?id=22>

or:

**.NET Framework 3.5 Service Pack 1 Download (Internet Setup English 2.8 MB):**

<http://www.microsoft.com/de-de/download/details.aspx?id=22>

Please read the **instructions** on the aforementioned websites carefully. The installation file is available as a **complete package** (231 MB) for download.

\*.NET Framework 2.0 SP2 is automatically installed with the ETS 4.

## 11 Program OBELISK top2 memory card

When programming the OBELISK top2 memory card, your project (programs and settings) is saved on the OBELISK top2 memory card. All switching programs are automatically optimized.




The programs and settings for all the channels are saved on the OBELISK top2 memory card and the existing data on the OBELISK top2 memory card is deleted.

The entries in the project options are not saved on the OBELISK top2 memory card.


---

Proceed as follows when programming the OBELISK top2 memory card:

- 1) Insert the OBELISK top2 memory card into the programming interface and then insert the interface into your PC's USB port.
  - 2) Click on the Program OBELISK top2  button.
  - 3) Confirm the message window with Yes.
- The programs and settings are saved on the OBELISK top2 memory card and can be subsequently transferred to the device.

## 12 Read OBELISK top2 memory card

Programs and settings saved on the OBELISK top2 memory card are imported to the OBELISK top2 software.

- 1) Insert the OBELISK top2 memory card into the programming interface and then insert the interface into your PC's USB port.
- 2) Click on the Read OBELISK top2  button.  
→ The programs and settings on the OBELISK top2 memory card are transferred to the software.

## 13 Export

Project data, programs and settings can be saved in a CSV file and opened and edited with a spreadsheet or other program (e. g. Editor).

- 1) Click on Export in the File menu.  
→ The dialogue window Export CSV file appears.
- 2) Select a memory location and enter a file name.
- 3) Click on Save.

## 14 Extension module EM LAN top2

Saving project data using OBELISK top2 software (an .ot2 file is created). This file can be transferred to a connected time switch (via DATA bus) via a LAN network connection between a PC and the EM LAN top2 LAN module using LAN top2 software.

The programs and device features can be selected from a time switch using the LAN top2 software and stored as an .ot2 file. This ot2 file can be opened and edited using the OBELISK top2 software.

## 15 Language OBELISK top2

It is possible to transfer an additional language to your device via the OBELISK top2 memory card.

1) Insert the OBELISK top2 memory card into the programming interface and then insert the interface into your PC's USB port.

2) Click on Create language OBELISK top2 under Extras.

→ The dialogue window Create language OBELISK top2 appears.

3) Click next to the File name field .

4) First, select a language folder and then the appropriate TXS file for your device.

5) Click on the button. .

→ The language file is saved on the OBELISK top2 memory card and can be subsequently transferred to the device.

## 16 Menu commands

This chapter contains short explanations of all the menu commands.

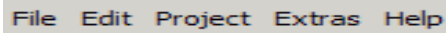


Fig. 100: Menu bar

Menu	Command	Meaning
File	New	Create new project
	Open	Open existing project
	Save	Save project
	Save As	Save project as new name
	Read OBELISK top2	Transfer programs and settings from the OBELISK top2 memory card
	Program OBELISK top2	Save programs and settings to the OBELISK top2 memory card
	Export	Save programs and settings in a CSV file
	Printer Setup	Change printer settings
	Print	Print project
	Print Preview	Display print preview
	Exit	Exit software
Edit	Undo	Undo the last actions in the current register (max. 10 actions)
	Redo	Redo undone actions
	Cut	Move selected data to the intermediate memory
	Copy	Copy selected data
	Paste	Insert cut/copied data
	Select All	Select all data or date ranges
	Delete	Delete selected data
	Copy program Add program	Copy and add programs or channels
Project	Simulation	Simulate data
	Evaluation	Evaluate data
	Sort	Sort data
	Optimise	Optimise data
	Options	Enter further data for the project (title, customer, creator, etc.)

<b>Menu</b>	<b>Command</b>	<b>Meaning</b>
Extras	Create Language OBELISK top2	Save additional language on the OBELISK top2 memory card
	PC software settings	Set the language and the first day of the week
	Public holiday	Edit public holiday settings
Help	OBELISK top2 – Help F1	Open the software help
	About...	Open information about the software

Tab. 8: Menu commands

## 17 Device features

Various features are available accord. to product group and type of device.

### 17.1 TR top2

Characteristics	TR 610/ TR 608/ TR 684-1 top2	TR 611/ TR 609/ TR 635 top2	TR 612/ TR 684- 2 top2	TR 622/ TR 636 top2
channels	1	1	2	2
Memory locations	56	84	56	84
Switching time On/Off	•	•	•	•
Pulse		•		•
Cycle		•		•
External outputs		1 (not with TR 635 top2)		2 (not with TR 635 top2)

Tab. 9: TR top2 devices

### 17.2 LUNA top2

Features	LUNA 111 top2	LUNA 112 top2	LUNA 120 top2	LUNA 121 top2 RC	LUNA 122 top2 RC
channels	1	2	1	1	2
Memory locations			56	84	84
Light sensor	•	•	•	•	•
Program switching times			•	•	•
Set lux values	•	•	• <sup>1)</sup>	• <sup>2)</sup>	• <sup>2)</sup>
Extra programs				•	•
External outputs	1	2		1	2

X<sup>1)</sup> Setting of lux value on the device via potentiometer

x<sup>2)</sup> Various Lux values for each day of the week

Tab. 10: LUNA top2 devices



### 17.3 SELEKTA top2

Features	SELEKTA 170 top2	SELEKTA 171 top2 RC	SELEKTA 172 top2
channels	1	1	2
Memory locations	56	84	84
Program switching times	•	•	•
Extra programs		•	•
External outputs		1	2

Tab. 6: SELEKTA top2 device types

### 17.4 Tariff and special time switches TR top2

Characteristics	TR 685/TR 687 top2 TR 688 top2 SML TR 689 top2 EM
Applicaions	100
Memory locations/ Package	200
Memory locations OBELISK top2- memory card	5800
Switching time on/off	•
Extra programs	5

Tab. 12: Special time switch TR top2 devices

## 17.5 TR top2 365-day time switch

Features	TR 641 top2	TR 641 top2 RC	TR 642 top2	TR 642 top2 RC	TR 644 top2	TR 644 top2 RC	TR 648 top2 KNX
Channels	1	1 (+4)	2	2 (+4)	4	4 (+4)	8
Memory locations	800	800	800	800	800	800	800
Program switching times	•	•	•	•	•	•	•
Programming Astro times	•	•	•	•	•	•	•
Pulse	•	•	•	•	•	•	•
Cycle	•	•	•	•	•	•	•
Special programs	16	16	16	16	16	16	16
External, remote-controlled antenna		•		•		•	•
External outputs	1	1 (+4)	2	2 (+4)	4	4 (+4)	-

Table 13: TR top2 365-day time switches

## 18 Imprint

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OBELISK top2 V3.6

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