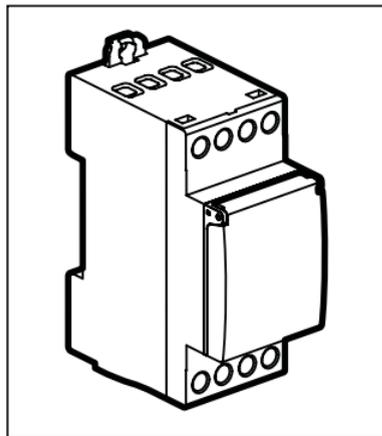


Astronomical time switch
AlphaRex³ D21 Astro with control input
4 126 54 / 55 / 56 - 047 64 / 65 / 66



⚠ Safety notes

This product should be installed in line with installation rules, preferably by a qualified electrician. Incorrect installation and use can lead to risk of electric shock or fire. Before carrying out the installation read the instructions and take account of the product's specific mounting location. Do not open up, dismantle, alter or modify the device except where specifically required to do so by the instructions. All Legrand products must be opened and repaired exclusively by personnel trained and approved by Legrand. Any unauthorised opening or repair completely cancels all liabilities and the rights to replacement and guarantees. Use only Legrand brand accessories.

The device contains a LiMnO₂ primary cell. When the product reaches the end of its life, this cell must be correctly removed and disposed of in accordance with national legislation and the requirements of environmental protection.

Technical data

	4 126 54	4 126 55	4 126 56
	047 64	047 65	047 66
Supply voltage:	230V 50/60Hz	120V 50/60Hz	24V 50/60Hz
Power consumption:	ca. 1 W		
Relay outputs:	1 changeover contact 16A 250V~ $\mu \cos \varphi = 1$		
Accuracy:	~ 0,1 s /day		
Wire cross-sections:	single-strand 1,5...4 mm ²	multi-strand 1,5...2,5 mm ²	
Programs:	56 programs		
Local coordinates:	Resolution 1°/ 1' in EXPERT-Mode		
Control-cable length:	max. 50 m		
Control signal:	230V AC/ca. 2mA, 120V AC/ca. 2mA, 24V AC/ca. 2mA		
Control-pulse duration:	100...200 ms		
Delaytime:	0 min ... 23h 59min 59s		
Battery reserve:	5 years		
Storage temperature:	- 20°C to +60°C		
Operating temperature:	-20°C to +55°C		

General information

- Start-up: after applying the supply voltage, the time switch starts automatically with the last selected function. The relay position is set by the current program.
- Battery backup
 - Backlighting not active
 - Data key READ/WRITE only via the menu



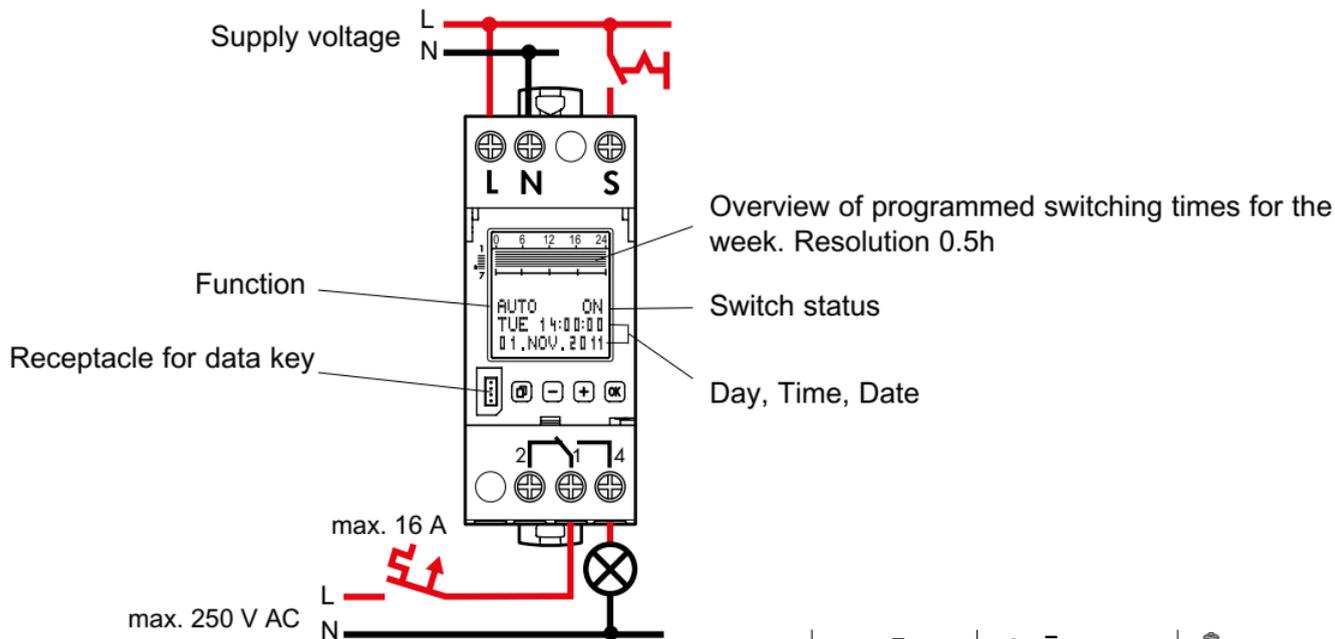
Select menu, back to main menu,
Hold down > 1s = operating display



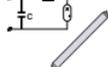
Confirm selection or load parameters



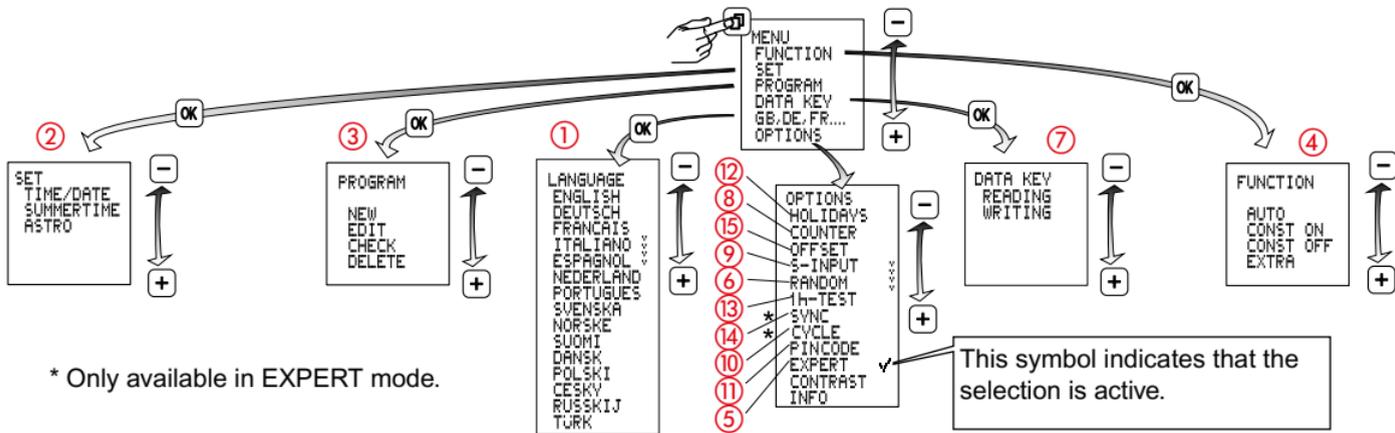
Select menu options or set paramete



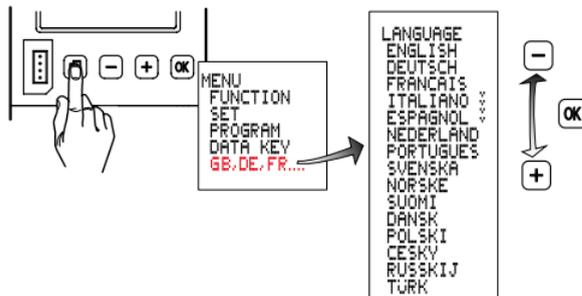
Operating principle: Typ 1.B. S. T.
 IEC/EN 60730-1, IEC/EN 60730-2-7
 Operation in a normal environment
 Montage: in distribution panel,
 Degree of contamination: 2
 Switch output, potential-free
 Rated impulse voltage: 4 kV

			
4000 W	2000 VA	600 W 70 μ F	2000 W
			
2000 W	2000 W	2000 W	1000 W
			
			LED
			1000 W

Overview

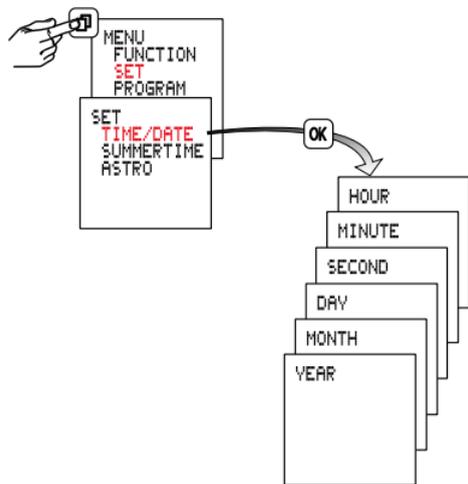


1 Set language



2 Set

A Set time/date

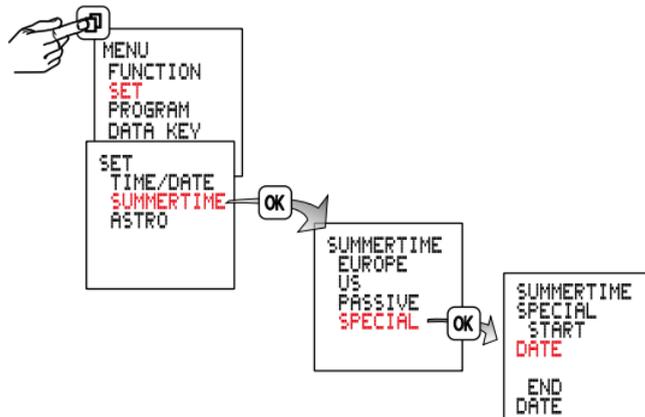


B Summertime

Summertime: ± 1 hour

Europe: Factory set

SPECIAL: The switchover to/from summertime can be freely programmed by entering a start date and end date and is then executed each year on the same day of the week, e.g. Sunday

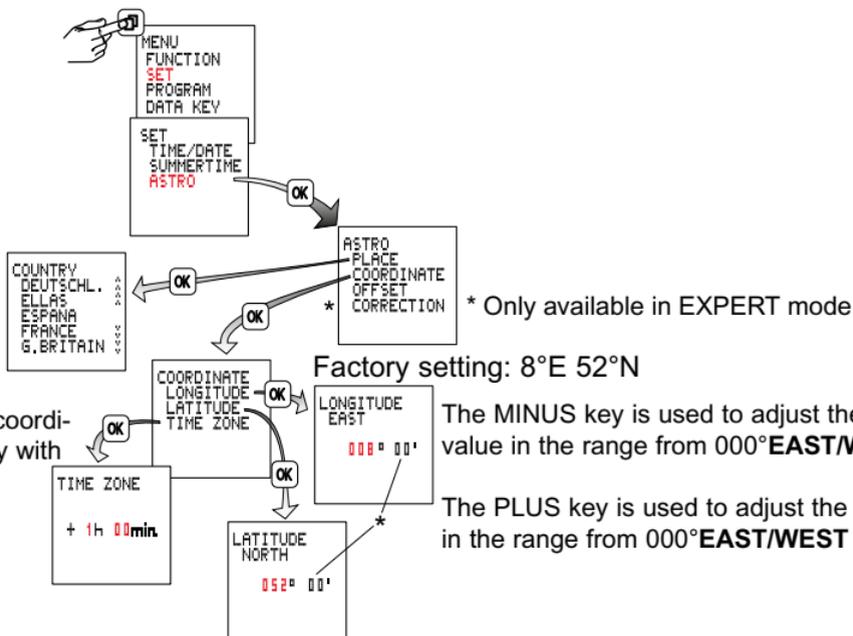


C Astro

Select country.
Select the city
closest to the
planned location
for use.

You can adjust the coordi-
nates more precisely with
LONGITUDE and
LATITUDE.

Use the enclosed **time-zone map** to set
the correct time zone.
From this map, determine the difference
between local time and UTC (**U**niversal
Time **C**oordinated) and set this value.



The MINUS key is used to adjust the westward longitude
value in the range from 000°**EAST/WEST** to 180°**WEST**.

The PLUS key is used to adjust the eastward longitude value
in the range from 000°**EAST/WEST** to 180°**EAST**.

The PLUS key is used to adjust the northward latitude value in
the range from
00°**NORTH/SOUTH** to 90°**NORTH**.

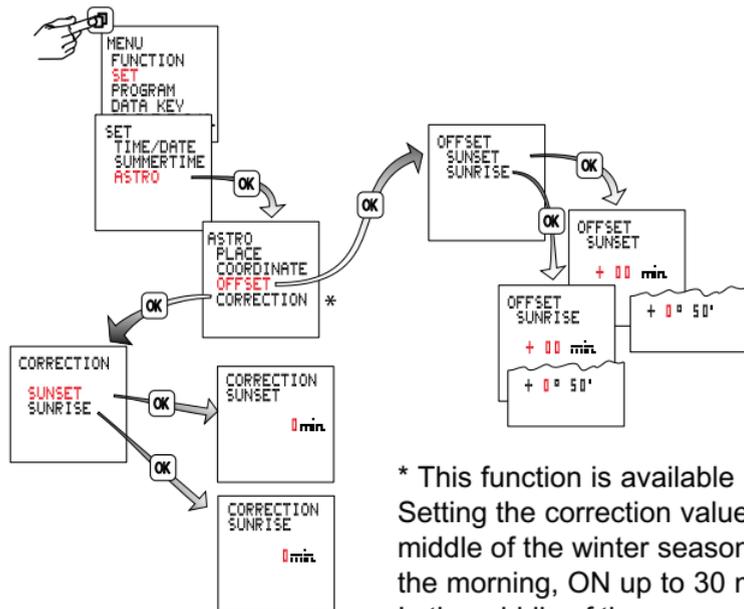
The MINUS key is used to adjust the southward latitude value in
the range from 00°**NORTH/SOUTH** to 90°**SOUTH**.

D Offset

1



2 Offset

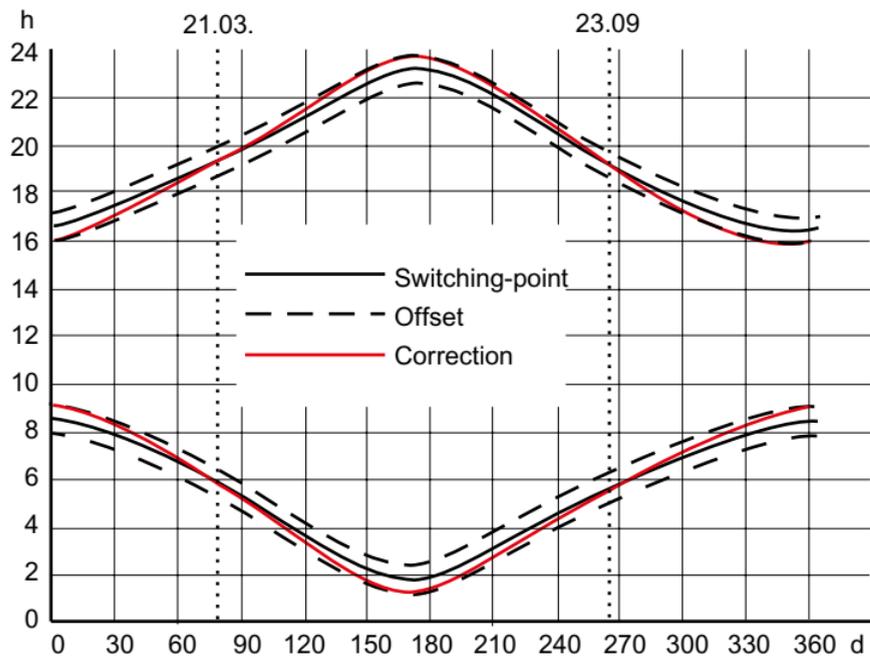


* This function is available in Expert mode.

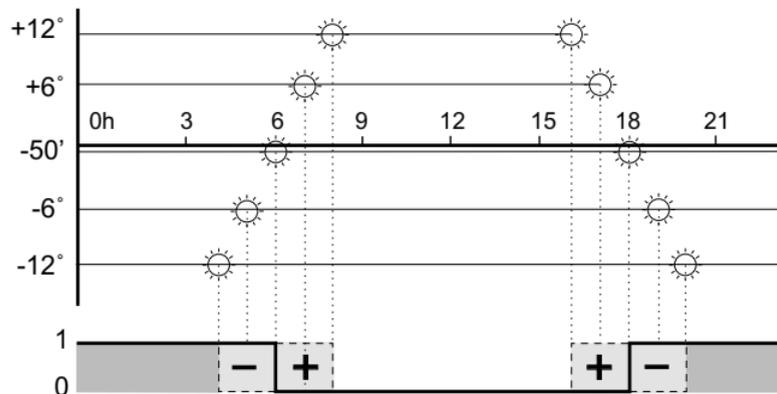
Setting the correction value (1...30 min.) extends the daily ON period in the middle of the winter season by up to 60 minutes (OFF up to 30 min. later in the morning, ON up to 30 min. earlier in the evening).

In the middle of the summer season, the correction setting reduces the daily ON period by up to 60 minutes (OFF up to 30 min. earlier in the morning, ON up to 30 min. later in the evening).

2 Offset



2 Offset



If the offset setting is in degrees the time switch switches on and off at times of equal brightness, despite the differences in twilight time lengths over the course of the year. Sunrise and sunset correspond to -50' for the centre of the sun (the edge of the sun is visible on the horizon).

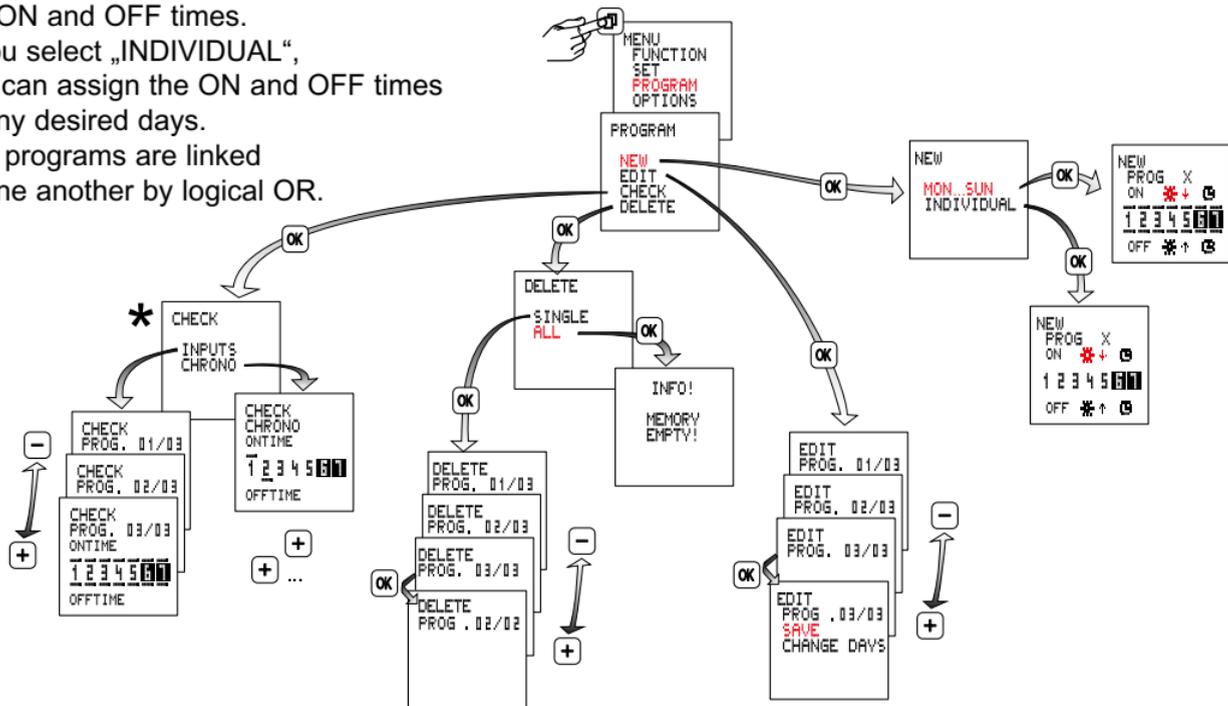
3 Programming

A program consists of an ON time, an OFF time and the associated ON and OFF days.

If you select „MON TO SUN“ (Monday to Sunday), the days are already assigned and you only need to set the ON and OFF times.

If you select „INDIVIDUAL“, you can assign the ON and OFF times to any desired days.

The programs are linked to one another by logical OR.

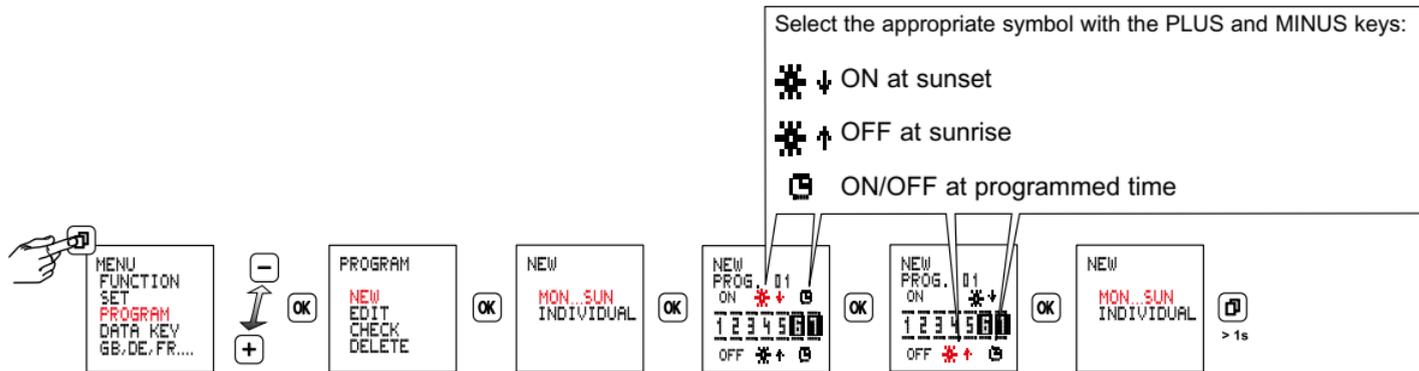


*
CHRONO = All switch commands are executed in chronological order in a week
INPUT = Programs are executed in the order in which they are entered

3 Programming

Programming examples

① The timer is to switch on at sunset on each day of the week and switch off at sunrise.



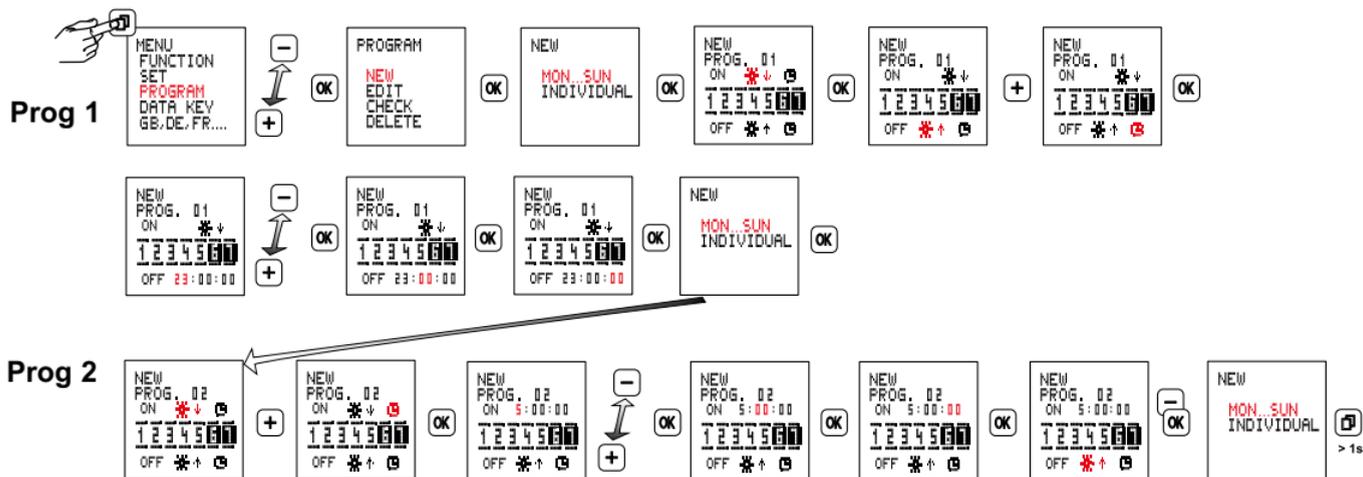
3 Programming

Programming examples

- ② The timer is to switch on at sunset on each day of the week and switch off at sunrise. In addition, it is to be switched off each night between 23:00h and 5:00h. This requires the use of two programs.

Program 1: ON at sunset and OFF at 23:00h

Program 2: ON at 5:00h and OFF at sunrise.



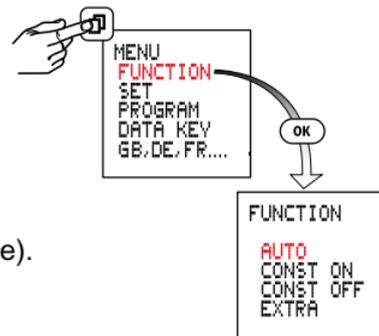
4 Modes

- **Auto** - Automatic operation
- **Constant ON**
- **Constant OFF**

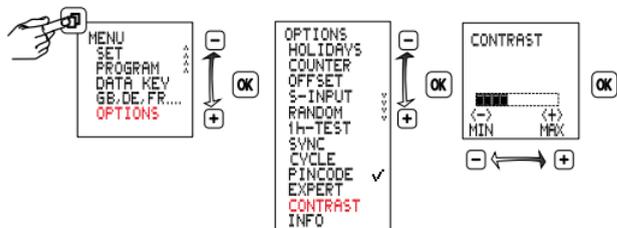
Note: The output is switched on if a control input signal is present.

- **Extra**

The switch status imposed by the program is inverted (manual override).
With the next effective switch command,
the time switch resumes control of on/off switching.



5 Contrast adjustment



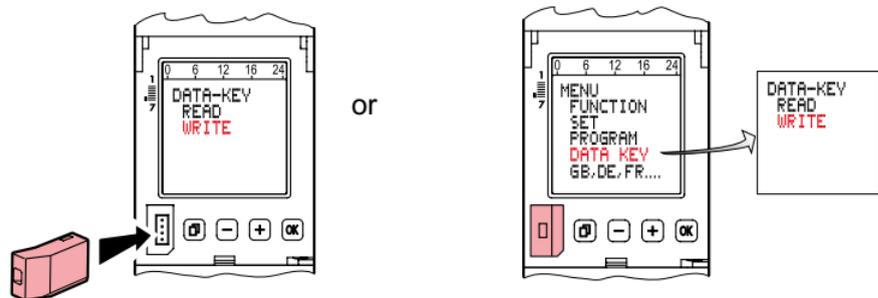
6 1 h-Test

When this function is activated, the output is switched on for one hour.



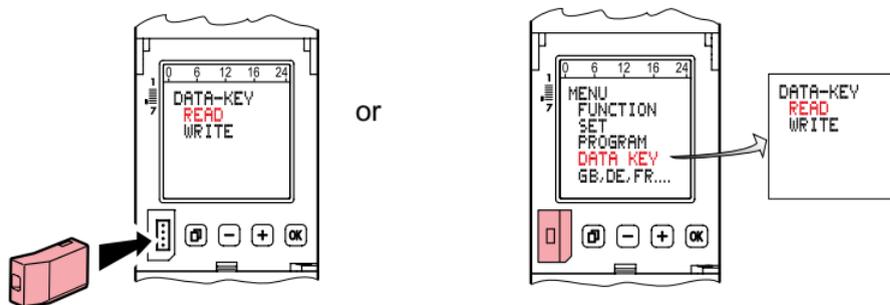
After one hour, the time switch returns automatically to the programmed mode.

7 Data key



Load the programs of the time switch on to a data key (WRITE KEY)

Warning! all programs stored on the data key will be overwritten.

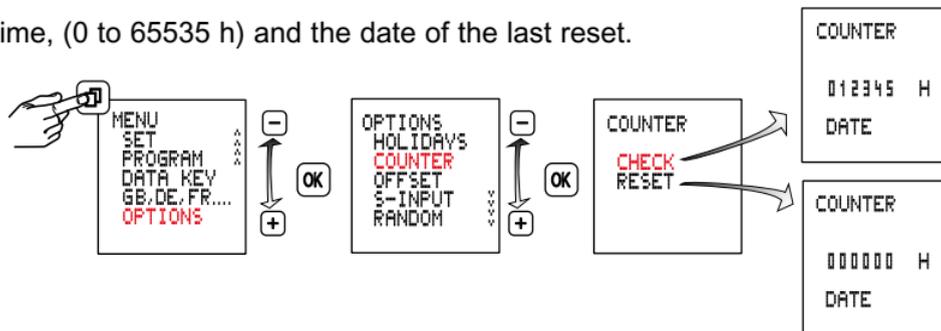


Load the programs from the data key to the time switch (READ KEY)

Warning! all programs programmed in the time switch will be overwritten.

8 Hour counter

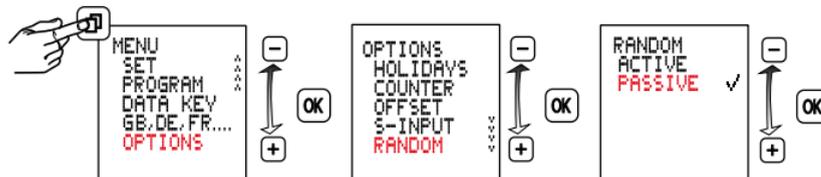
Displays the total relay ON time, (0 to 65535 h) and the date of the last reset.



9 Random function

Function to simulate presence.

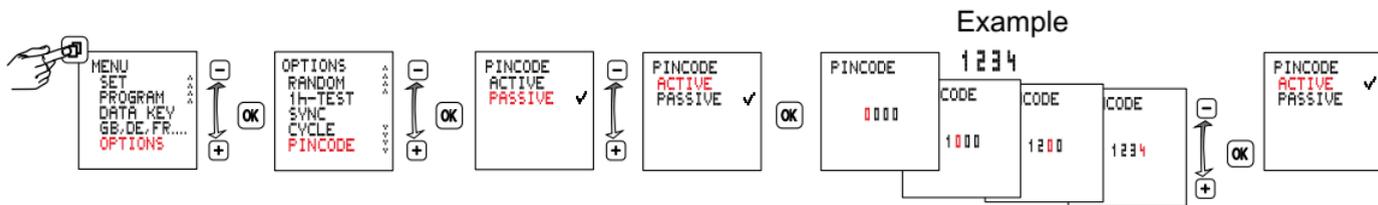
Function active: the programmed switching cycles are shifted at random within the range of ± 15 minutes.



10 Pincode

PIN CODE active: The menus of the time switch will not be accessible unless the PIN CODE has been entered. When the pin code is active, access to the button and key functions is disabled 1 minute after the last button press.

PIN free access can be re-enabled by selecting PASSIVE or by resetting the device.

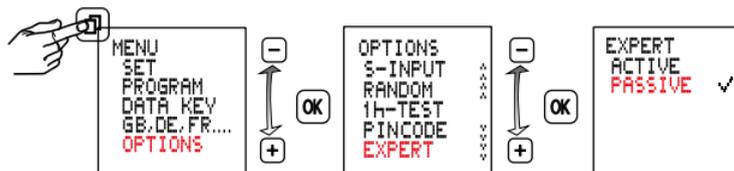


11 Expert mode

Some additional functions are available in Expert mode:

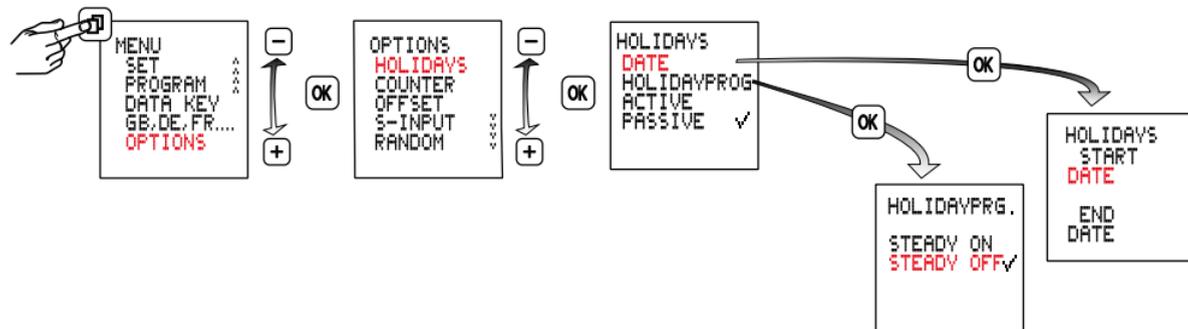
- Power grid synchronisation to improve the accuracy
- Cycle function
- Automatic channel switching

Note: Upon switching from ACTIVE to PASSIVE the additional menu items are hidden again and all the Expert mode settings are cancelled. After re-activating, Expert mode will operate again with the basic settings.



12 Holiday

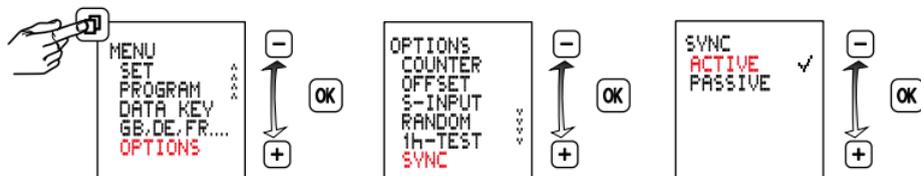
After activation the holiday program is executed between 0:00h on the start date and 24:00h on the end date (Constant ON/OFF). After the holiday program has run once, it must be reactivated.



13 Activating and deactivating grid synchronisation

Only available in EXPERT mode.

The default setting is PASSIVE. In order to improve the long-term accuracy, it is advisable to activate synchronisation if the time switch is supplied from a on 50/60 Hz grid with frequency adjustment.

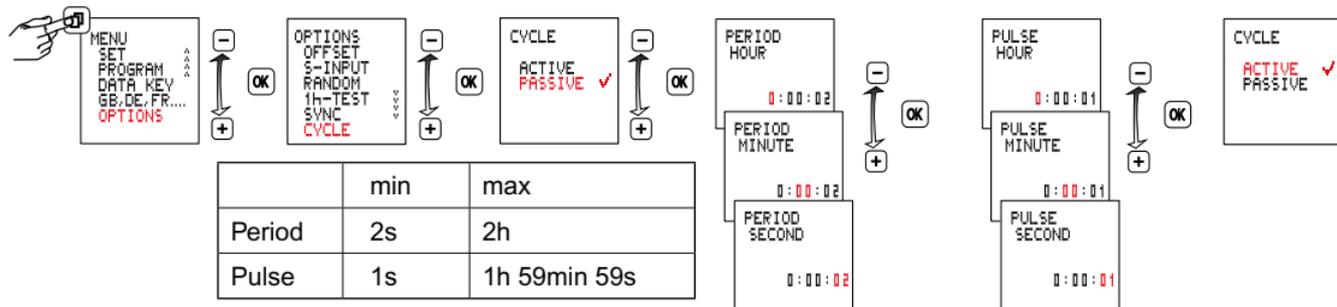


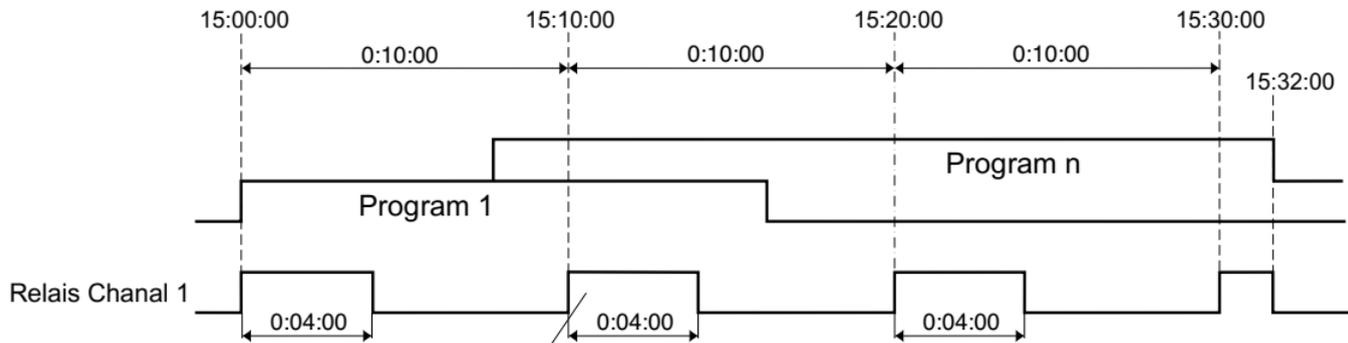
14

Cycle function

Only available in EXPERT mode

For cyclical switch commands the switching on time is set by logical “OR“ of programs of all types. A fixed cycle of ON and OFF time then operates within those limits. The cycle always starts with the ON time. The cycle duration and the ON time within the cycle are the same length for all switching times. The cycle duration and the ON time can be set independently in one-second increments. If the switching time is shorter than the cycle duration, the cycle will be shortened accordingly. The ON time will remain unchanged. If the switching time is actually shorter than the ON time, the ON time will be shortened accordingly.





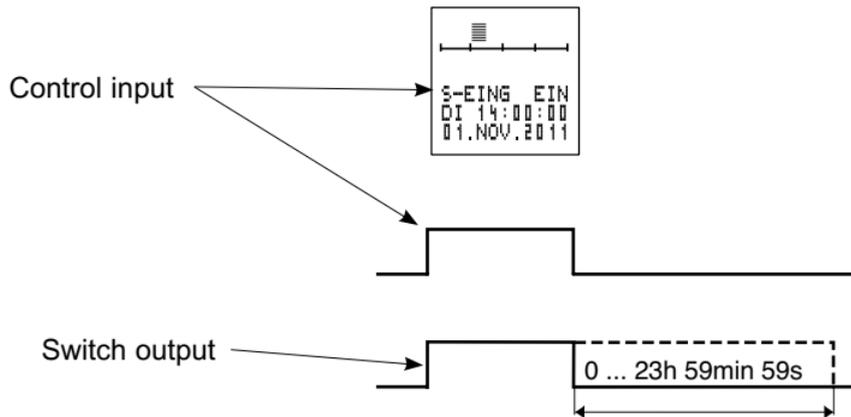
AUTO JUL
DI 14:00:00
01.NOV.2011

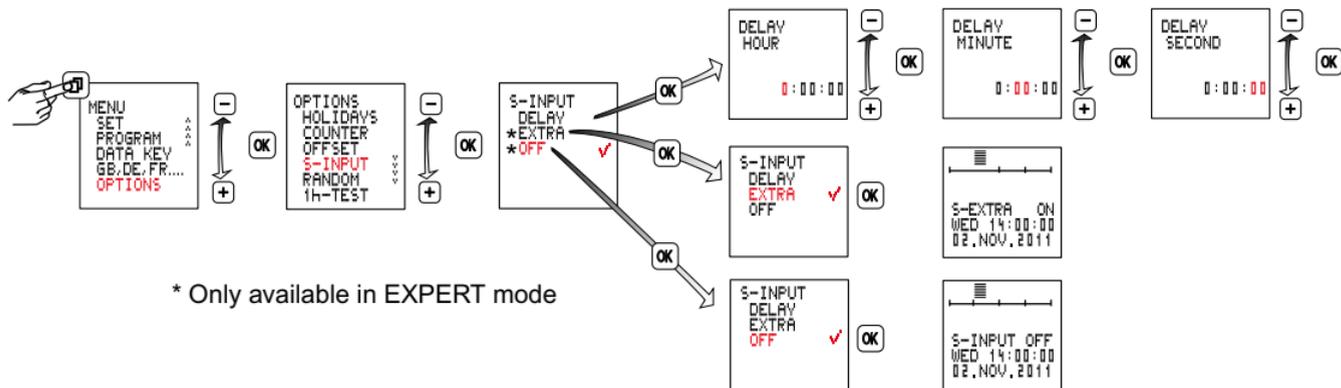
15

Control input with delay time

A control signal is superimposed on all program commands (OR circuit). While this control signal is applied, the output is switched ON.

When the control signal is switched off, the output is switched OFF after a delay time, unless an ON command is applied by a program.





DELAY

The output switches on when the control input is activated and remains switched on for the duration of the set delay time after the control input has been deactivated. Delay time setting range 0h 00min 00s ... 23h 59min 59s. The control input can be subsequently triggered within the delay time.

EXTRA

The control input signal inverts the switching state specified by the program. At the next valid switching command the time switch resumes switching On and Off.

OFF

The control input signal sets the switching state to OFF if the program specifies ON.

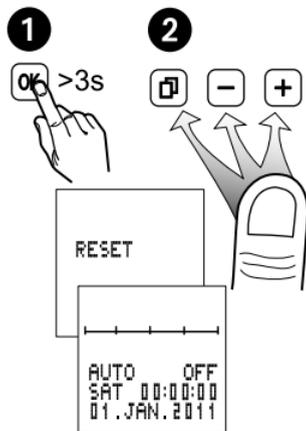
Reset

Warning!

The memory will be cleared,
and all set data will be lost.

Hold down **OK** for more than 3 seconds
and at the same time press and release
ESC **-** **+**.

The language, time, date, summertime/
wintertime and switching times will have to
be reentered.



Warning: Elektrical shock - Disconnect all power from the device before dismantling the module and replacing the battery.

Always use a Li cell type battery (LiMnO₂) CR2477, 3V
high temperature type min +85 °C

