

Operating instructions Universal timer switch display



1. Function

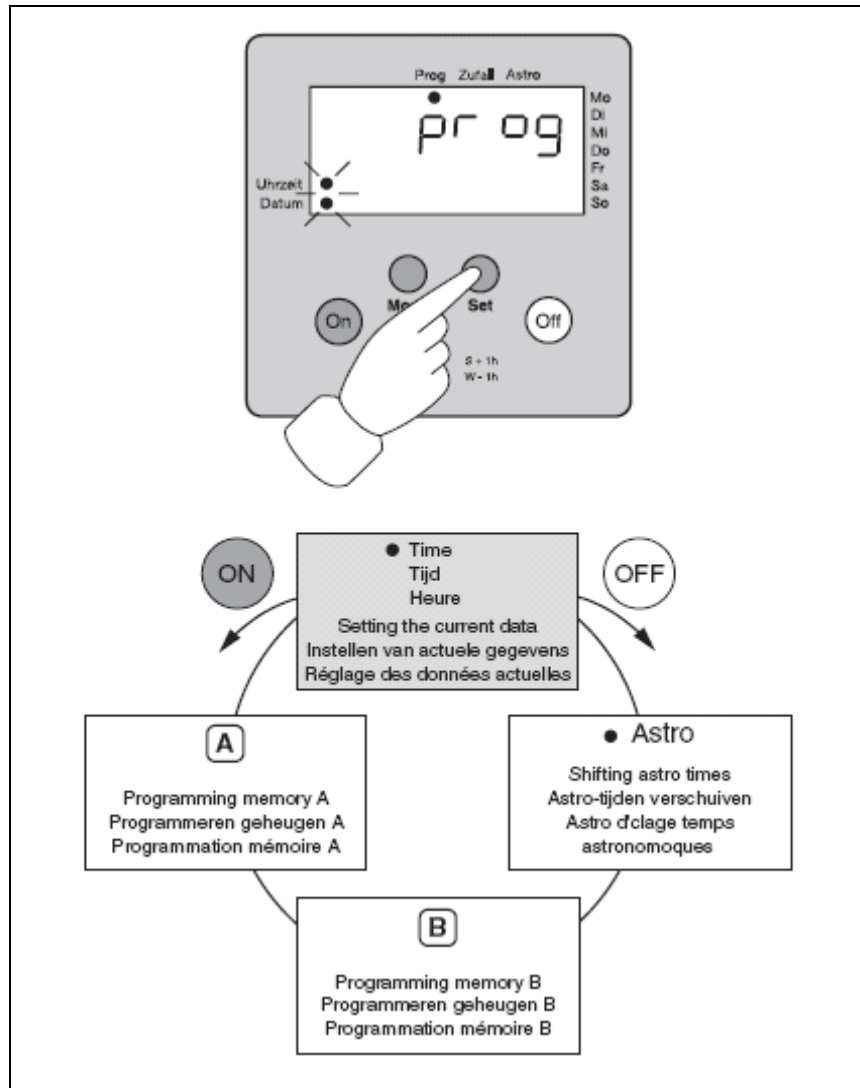
The Time Switch display is a system component and is installed in a box as per DIN 49073 (deep box recommended) in conjunction with the Time Switch insert. The unit facilitates the programmed, time-controlled switching of various lamps (refer to Specifications) up to a maximum of 1000 W.

Product features:

- Simple operation through a four-key field.
- Two independent program memories for a total of up to 18 switching time events (e. g. nine ON and nine OFF time events).
- Factory-programmed switching times in two program memories **A**, **B**.
- Timer function **C** (automatic shut-off after a preset time).
- Random function.
- Astro function.
- Summer/winter time change-over by key operation.
- Individual astro function by astro time shift.
- Actuation via extensions (insert) possible.
- Reset to facilitate to select factory default setting.
- Power reserve: Programs permanently saved. Current data (time, month, date, day) stored up to 24 hours (maintenance-free and without backup batteries).

2. Programming

Note: If no operation is made for longer than 2 minutes during programming, the Time Switch will automatically return to displaying the current data. Programming can be cancelled any time by pressing the key **SET** for about 3 seconds.



2.1. Setting Current Data

Prior to entering your data please make a reset to bring back the device to factory default setting:

Depress the **MODE** and **SET** keys at the same time until all display segments light up for a short time (approx. 7 sec.). This completes the reset.

To put the Time Switch into operation, please enter the current data:

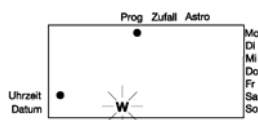
Hold the **SET** key depressed until the display reads **prog**.

Use key **ON** or **OFF** to select the following settings (please refer to the diagramm):

- Time, Date • : Set current data
- A** : Programming memory A
- B** : Programming memory B
- Astro • : Shift astro times

Accept the Time, Date symbol by shortly depressing the **SET** key. The Time Switch is now in the current data setting mode.

① Setting summer/ winter time



The currently selected function is blinking. Use key **ON** or **OFF** to set summer time **S** or winter time **W**.

Accept by shortly depressing the **SET** key.

② Setting the current month



The month display is blinking. Use key **ON** or **OFF** to set the month (01..12).

Accept by shortly depressing the **SET** key.

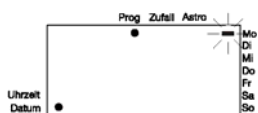
③ Setting the current date



The day display is blinking. Use key **ON** or **OFF** to set the day (01..31).

Accept by shortly depressing the **SET** key.

④ Setting the current day



The weekday display is blinking. Use key **ON** or **OFF** to set the day (MO..SU).

Accept by shortly depressing the **SET** key.

⑤ Setting the current hour



The hour display is blinking. Use key **ON** or **OFF** to set the hours (00..23).

Accept by shortly depressing the **SET** key.

⑥ Setting the current minute



The minute display is blinking. Use key **ON** or **OFF** to set the minutes (00..59).

Accept by shortly depressing the **SET** key.

The Time Switch has taken over the current data and changed over to its normal operating mode.

2.2. Factory Setting and Reset

Manual operation has, in all cases, priority over automatic mode. In the two program memories **A** and **B**, independent programs can be stored (e.g. for everyday life, holidays, etc.). A maximum of 18 different switching time

events can be used in the two program memories altogether (e.g. nine time events per memory). Program memories are factory-preset but can be overwritten by your own programming (in such case, erase switching times not required).

Memory **A**:

- Event 1: OFF 07:00 hrs, MO-FR, astro function active
- Event 2: OFF 09:00 hrs, SA-SU, astro function active
- Event 3: ON 20:00 hrs, MO-FR, astro function active
- Event 4: ON 21:00 hrs, SA-SU, SA-SO, astro function active

Memory **B**:

- Event 1: OFF 07:00 hrs, MO-FR.
- Event 2: OFF 09:00 hrs, SA-SU
- Event 3: ON 20:00 hrs, MO-FR
- Event 4: ON 21:00 hrs, SA-SU

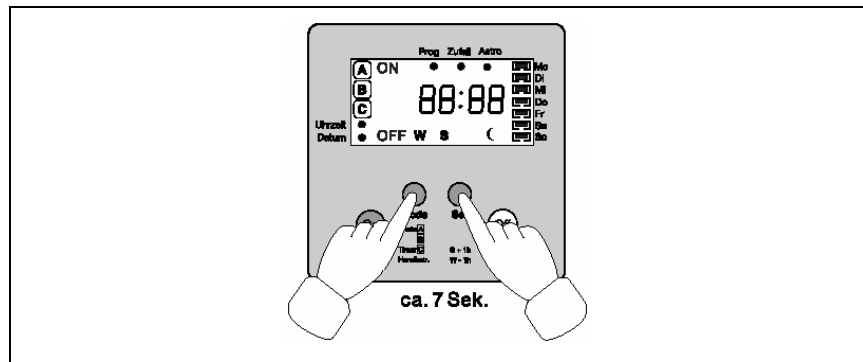
Timer function **C** (automatic shut-off):

The timer has been factory-preset to 15 minutes. For individual settings, please refer to Chapter 7.

By **RESETTING** the Time Switch, programming can be reset to factory defaults. In this case the current data and your own programming will be deleted.

To Reset:

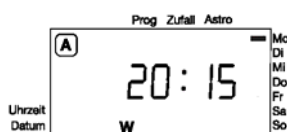
Depress the **SET** and **MODE** keys at the same time until all display segments light up for a short time (approx. 7 seconds). This completes the reset.



3. Mode Selction

3.1. Selecting the Program Memory

The Time Switch has two separate program memories for up to 18 switching times. Thus, two individual switching time programs (e.g. week and holiday program) can be compsed and one of them, in each case, activated by selecting the corresponding program memory.



Shortly depressing the **MODE** key selects the program memory (**A**, **B**) or **C** timer function .

Note:

Memory **C** contains the timer function (refer to Chapter 7,) and cannot be occupied by switching time events.

The display shows the program memory selected or the timer function. When **A** or **B** are selected, only the switching time events programmed in this selected program memory will be executed.

If neither programm memory and no timer function **C has been selected, the Time Switch is in the manual mode. Programmed switching time events will not be executed.**

3.2. Manual Operation

Using the **ON** key turns **ON** the consumer, whereas the **OFF** key turns it **OFF**. For this purpose the key must be held depressed for at least 1 second.

3.3. Winter-/ Summer Time Selection

A short press on the **SET** key, permits changing between:



- Winter time and

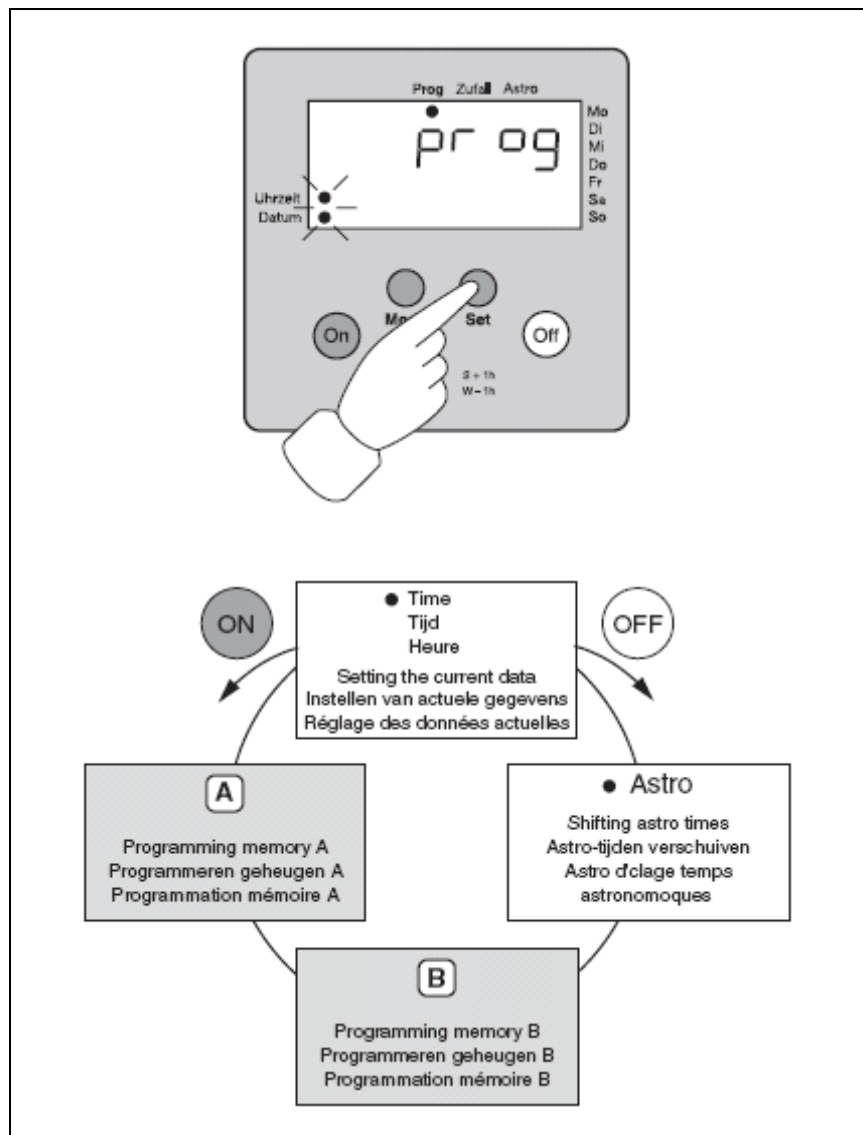
- Summer time

4. Programming individual switching times

Note: If switching time events overlap (identical time and day of the week for ON and OFF), the OFF event will be executed

Example: MO ON 8:15 hrs. not executed. MO OFF 8:15 hrs. executed.

Depress the **SET** key funtil the display reads 'prog'.



4.1. Selecting the program memory

Use key **ON** or **OFF** to select program memory or select that programm memory where your new switching time events are to be stored.

Accept your selection by shortly depressing the **SET** key.

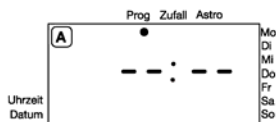
The Time Switch is now in the mode for programming new switching time events.

① Selecting a memory location

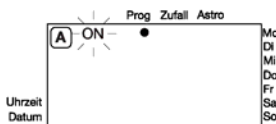
Key **ON** or **OFF** indicates the switching time events already stored in the program memory can be displayed.

With the **ON** key, you can scroll towards earlier events, while the **OFF** key brings you to later events. New switching time events are automatically sorted into this list.

Note: A maximum of 18 different switching time events can be stored. These events can be distributed over two program memories (A, B). If all these 18 switching time events have been programmed (e. g. nine ON and nine OFF times), the display reads 'FULL' at the end of the table of events.



Select the desired memory location where the new/changed switching time event is to be stored with the **ON** or **OFF** key. Accept your selection by shortly depressing the **SET** key. Any switching time event existing at this memory location will be overwritten. Empty memory locations are indicated by a "—" symbol.



② Programming **ON** or **OFF**

Use the **ON** or **OFF** key to select the new switching time either as an ON or OFF event. The associated symbol will flash in the display

Accept your selection by shortly pressing the **SET** key.



③ Programming the hour

The hour display is blinking. Use key **ON** or **OFF** to select the hour (00..23) where the switching time event to be programmed is to be executed.

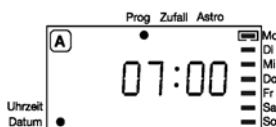
Accept your selection by shortly pressing the **SET** key.



④ Programming the minute

The minute display is blinking. Use key **ON** or **OFF** to select the minute (00..59) where the switching time event to be programmed is to be executed.

Accept your selection by shortly pressing the **SET** key

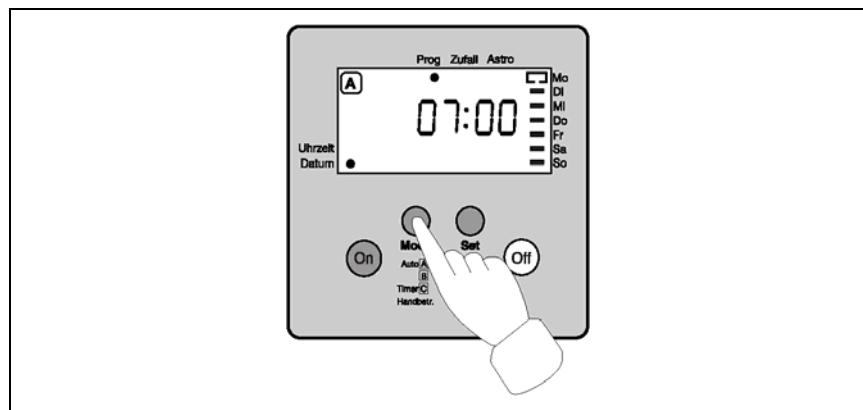


⑤ Programming the days

The **ON** or **OFF** keys select the days where the event is to be executed. The current day is shown in a frame.

If no weekday is selected, the switching time event will be deleted.

The **MODE** key can be used for cancelling or selecting the day.



When the day for an event has been selected, a bar is shown inside the frame. An empty frame indicates that the event is not executed at this day. Use key **ON** or **OFF** to change to the next day and select or cancel with the **MODE** key. After depressing the **MODE** key, the indicator frame passes on the next day. Proceed in this way to select all days on which the event is to be executed. When desired days have been selected: Accept by shortly depressing the **SET** key.



⑥ Programming the random function

Use the **ON** or **OFF** key to activate or deactivate the random function for the programmed switching time event. When the random symbol is blinking the random function is deactivated for this switching time event. Accept selecting the random function by shortly depressing the **SET** key.



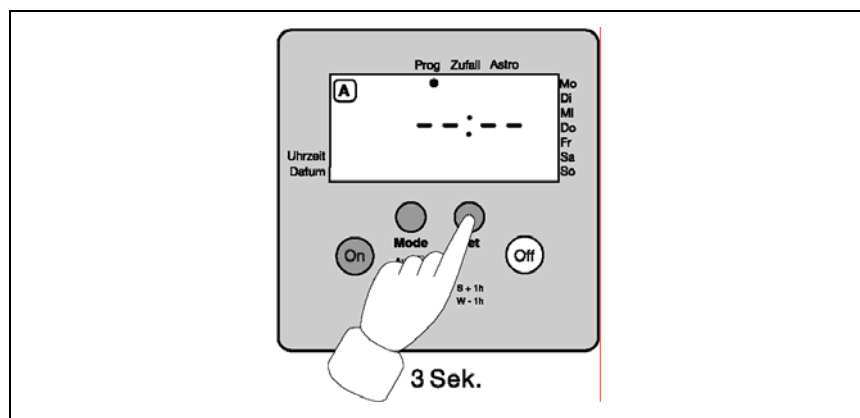
⑦ Programming the astro function

Use the **ON** or **OFF** key to **activate** or **deactivate** the astro function for the programmed switching time event. When the astro symbol is blinking the astro function is deactivated for this switching time event.

By shortly depressing the **SET** key, the time, day, running direction, astro function and random function data is now stored in the program memory. The Time Switch is ready for the programming of the next switching time event.

⑧ End of programming

After storing all desired switching time events in the program memory, exit the programming mode by depressing the **SET** key for at least 3 seconds. With this key, programming can be stopped at any time.



5. Deleting Switching Times

Depress the **SET** key for approx. 2 seconds until the display reads **prog.**

Selecting the program memory

Use key **ON** or **OFF** to select program memory **A** or **B**. Select the program memory where the switching time events are to be deleted.

Accept your selection by shortly depressing the **SET** key.

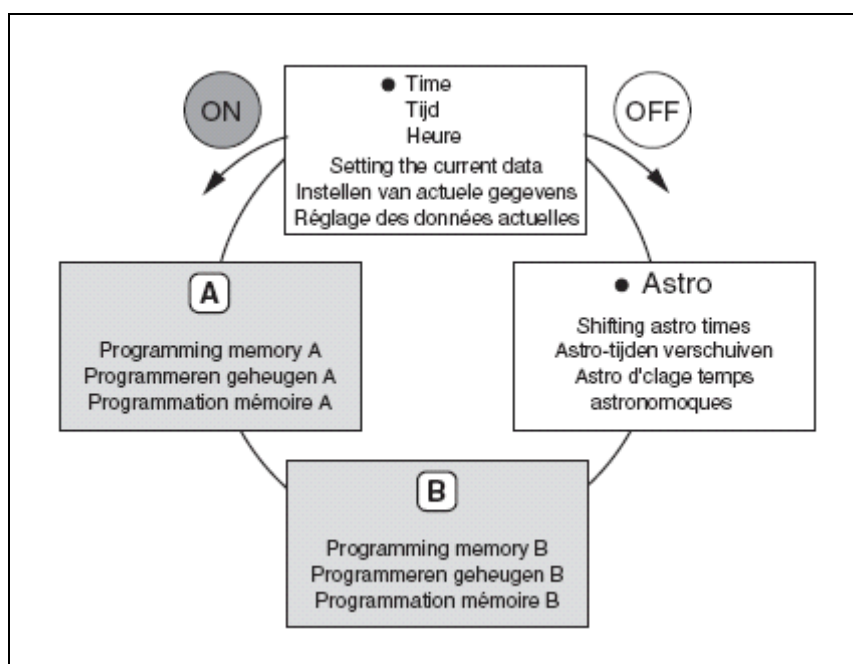
Use key **ON** or **OFF** to select the switching time event to be deleted.

There are two different ways to delete the switching time events:

1. By depressing the **MODE** key for at least 3 seconds.
2. By cancelling all the days associated with the switching time event.

An empty memory location is indicated by a "—" symbol.

Having deleted the switching time events, exit the programming mode by depressing the **SET** key for at least 3 seconds.



6. Programming an Astro Time Shift

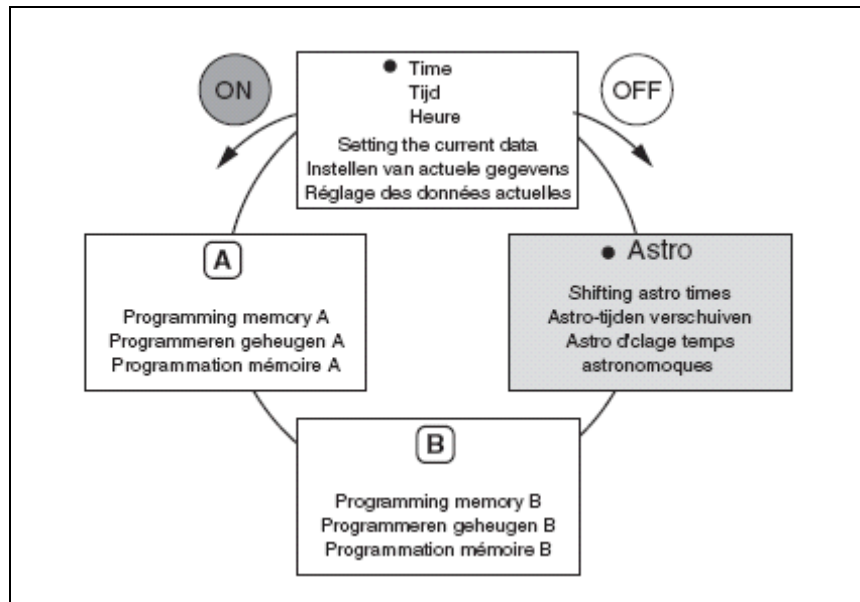
The astro shift function facilitates the individual adaptation of the factory-pre-calculated sunrise and sunset times to your local conditions. This shift is executed for all days throughout the year.

Depress the **SET** key for approx. 2 seconds until the display reads **prog.**

Use key **ON** or **OFF** to select the Astro symbol ●.

Accept by shortly depressing the **SET** key.

The maximum astro time shift for the sunrise and sunset times is 1 hour and 59 minutes, in each case.



① Sunrise hour astro time shift



The hour display is blinking. Use the **ON** or **OFF** key to set the hour (-1, -0, 0, 1) by which the astro curve is to be shifted.

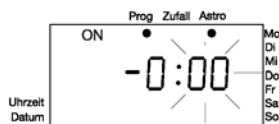
-1 : Shifting the astro curve 1 hour towards earlier times.

1 : Shifting the astro curve 1 hour towards later times

-0, 0 : No shifting within the hour range, sign for shifts within the minute range (please refer to the next programming step).

Accept by shortly depressing the **SET** key.

② Sunrise minute astro time shift



The minute display is blinking. Use key **ON** or **OFF** to set the minute (00..59) by which the astro curve is to be shifted.

Accept by shortly depressing the **SET** key.

③ Sunset hour by astro time shift



The hour display is blinking. Use key **On** or **OFF** to set the hour(-1, -0, 0, 1) by which the astro curve is to be shifted.

-1 : Shifting the astro curve 1 hour towards earlier times.

1 : Shifting the astro curve 1 hour towards later times.

-0, 0 : No shifting within the hour range, sign for shifts within the minute range (please refer to the next programmin step)

④ Sunset minute astro time shift



The minute display is blinking. Use the **ON** or **OFF** key to select the minute (00..59) by which the astro curve is to be shifted.

By shortly depressing the **SET** key, the new astro times are stored in the memory. The programming mode is terminated and the Time Switch is back in the operating mode.

7. Selecting the Timer Function

When the timer function is activated the light is turned on for a preset time between 1 minute and up to 23 hours and 59 minutes.



Choosing the Timer Function

Select memory **C** by shortly depressing the **MODE** key (**C** is blinking in the display).

This memory contains the timer function.

Important: The switching times contained in memory **A** und **B** are not executed when the timer is active.

The timer function is factory-adjusted to a period of 15 minutes.



By shortly tipping (1.5 sec. max.) the **ON** key, you can start the timer function.

This turns on the consumer.

The display counts down.

The colon between the hours and minutes flashes.

The light can be turned off any time by shortly tipping (1.5 sec. max.) the **OFF**.

When the counter reads '0' the consumer is turned off. The display then shows the present time (factory setting is 15 min.). By depressing the **ON** key, the present time can be restarted, even during the time the downcounter is running.



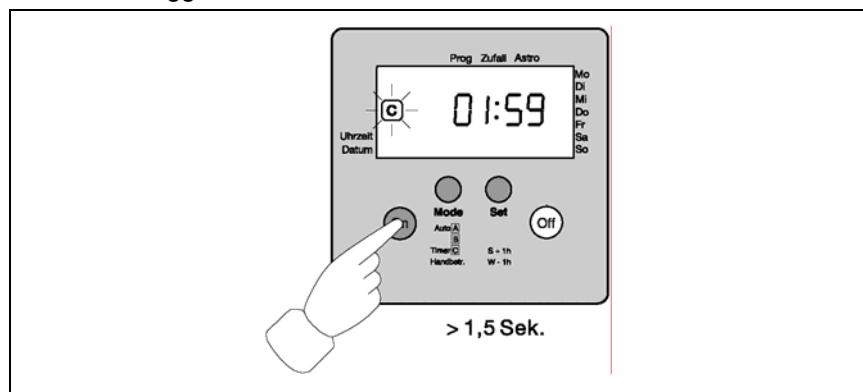
Individuell timer period setting

To increase the timer period, depress the **ON** key for more than 1,5 sec..

To decrease, depress the **OFF** key for more than 1.5 sec.

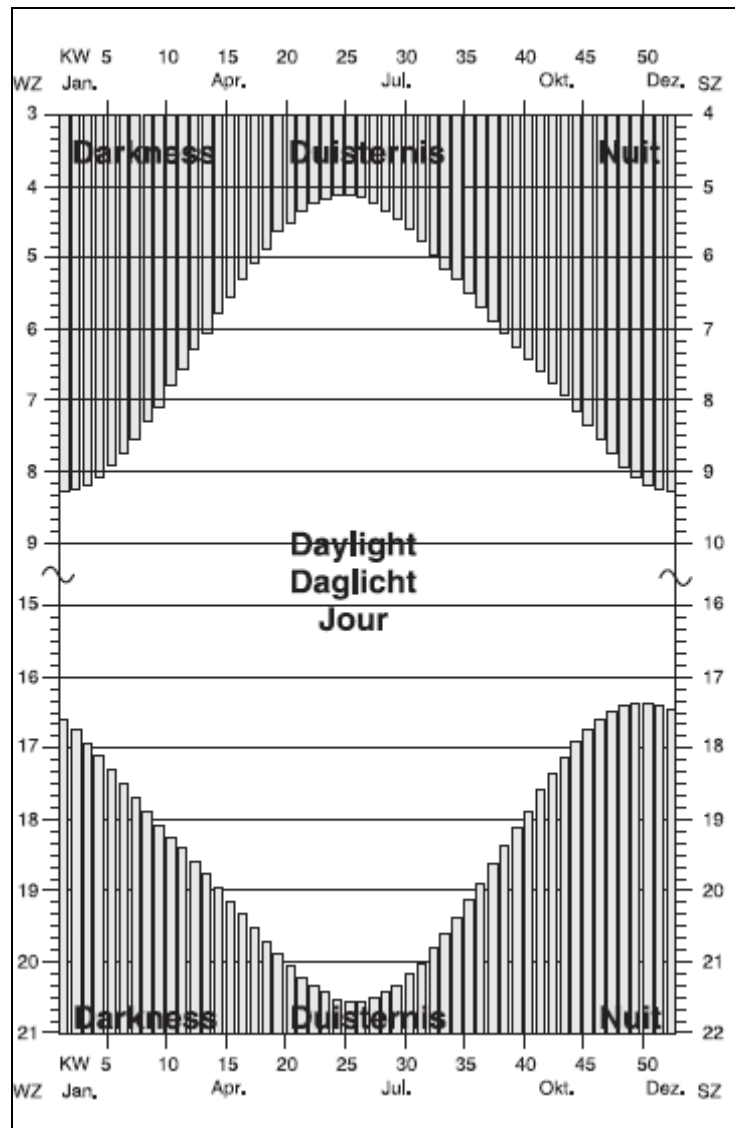
Setting range: 1 Minute minimum
 23 hours, 59 minutes maximum

During the procedure of setting an individual timing period, no switching event will be triggered.



8. Astro Function

If the light is to be turned on at sunset or to be turned off at sunrise, switching time events once programmed must be continuously adapted to the changing astronomical calendar in automatic mode (please refer to the illustration).



For this purpose, the Time Switch calculates the time of sunrise and sunset for each day of the year (for the approximate location of Würzburg). By adding the astro program, programmed OFF switching time events are executed already at sunrise. **OFF** switching time events **during darkness in the morning** are executed. Programmed ON switching time events are only executed at sunset. **ON** switching time events **during darkness in the evening** are executed. See following page for an example. To adapt the pre-programmed astro times to the local conditions, the astro times can be shifted by a maximum of +/- 1 hour and 59 minutes.

Programming examples

If light is to be turned on daily at sunset and to be turned off at sunrise, the following programming and activated astro function can be used to effect this:

Event 1: MO-SU at 16:00 hrs. ON, Astro on

Event 2: MO-SU at 22:00 hrs. OFF, Astro on

To turn off at 6:30 hrs. in the morning, at the latest and to turn it on 19:10 hrs. in the evening at the earliest, use the following program with activated astro function (please refer to the illustration):

Event 1: MO-SU at 6:30 hrs. OFF, Astro on

Event 2: MO-SU 19:10 hrs. ON, Astro on

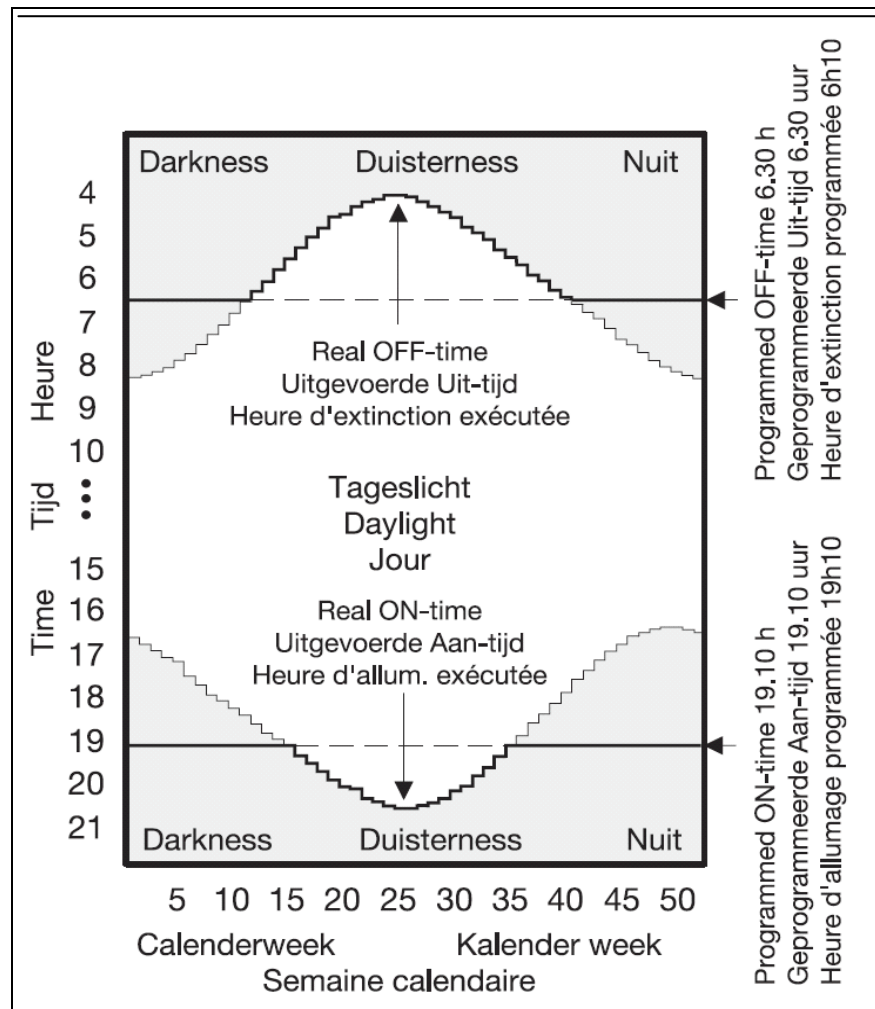
When the lights are to be switched on at sunset and off again at 23:00 h and on on again the next morning at 4:30h and then off at sunrise, the following times must be programmed:

Event 1: MO-SU at 16:00h ON, Astro on

Event 2: MO-SU at 23:00h OFF

Event 3: MO-SU at 4:30h ON

Event 4: MO-SU at 10:00h OFF, Astro on



9. Random Function

If the random function is activated for a certain switching time event, this switching time is varied by +/- 15 minutes. The random time shift is used for all switching times for which the random function is activated and changed daily.

If the astro function is additionally activated for this switching time event, this switching time event will be adapted to the respective time of sunrise or sunset and varied by a random time of +/- 15 minutes.

Installation

1. Warning

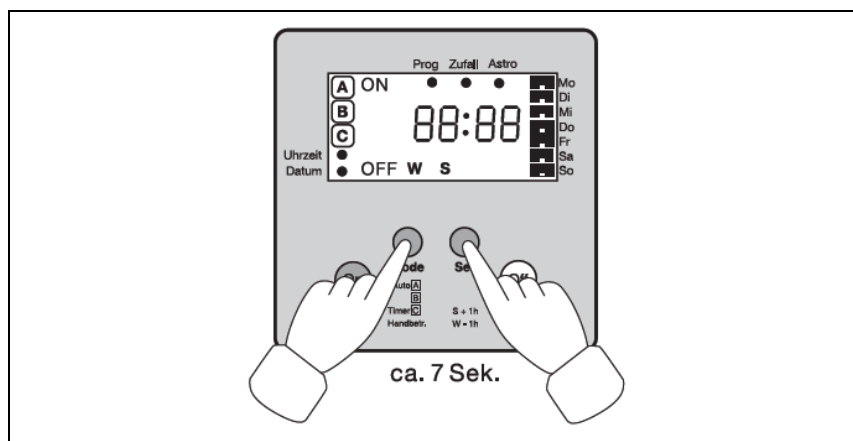
Attention: Electrical equipment must be installed and fitted by qualified electricians only.

The Time Switch has been designed for switching lamps. For detailed lamp loads, please refer to the flush-mounted insert's technical specifications. Do not switch any other loads. The Time Switch has been designed for the automatic switching of lights. If it is used for other purposes which may entail any hazards (e. g. the switching of heating appliances) the user will have to avert such hazards by applying additional, suitable safety measures.

2. Installation Instructions

After installation, make a reset to bring back the device to factory default setting.

Depress the **MODE** and **SET** keys at the same time until all display segments light up for a short time (approx. 7 sec.). This completes the reset.



The Time Switch display unit can only be put into operation together with the Time Switch insert.

The Time Switch insert (1) should be installed in a box as per DIN 49073 (deep box recommended).

The connecting terminals of the insert must be down.
Plug the Time Switch display unit (2) together with frame (3) onto the insert.
The Electrical contact is established by means of plug (4).

Annex

1. Specifications

Rated input voltage (insert):	230 V, 50/60 Hz, neutral conductor required
Switching capacity:	refer to 'Insert' Operating Instructions manual
Accuracy :	+/- 1 minute per month
Power reserve :	Approx. 24 hrs. (no battery required)
Switching time events :	18 max. (in 2 program memories)
Timer Function :	1 min. up to 23 hrs. 59 min.
Random generator :	+/- 15 minutes
Astro program :	Shifting by +/- 1 hour 59 min.
Interval between two switching events :	1 minute min.
Connection :	To be plugged onto Time Switch insert
Ambient temperature :	0 °C 45 °C
Storage temperature :	-10 °C +60 °C

Please hand this Operating Instructions Manual to your customer after installation.

2. Mains failure

In the event of mains failure, the display shows the "——" symbol for some time before it goes off. The switching time events programmed by the user and the current data are kept. The Time Switch has a power reserve of approx. 24 hours.

On restoring the power supply, the last switching time event in the program memory is executed and the lights are in the switching state determined by the program. The programmed data are preserved and the Time Switch is back in operation.

Example:

Light ON time: 20:15 hrs.

Mains failure at 20:10 hrs.

Mains voltage reappearing at 20:20 hrs.

The last 20:15 hrs. ON switching command is executed. The lights go on, the current position is reached.

For mains failures of **more** than 24 hours, the programmed switching time events are preserved. The current data (time, date) will get lost and must be re-entered. The display blinks and the device restarts at 12:00h carrying out the programmed switching events. Attention: the possibility of time shifts cannot be excluded.

3. What will happen if...

... the astro times do not seem to be executed correctly or show high deviations from sunrise and sunset, respectively?

Check the settings of the date and of the astro time shifts.

... there has been a mains failure?

The display shows the --:-- symbol, the 24 hour power reserve is activated. If the voltage failure is less than 24 hours, the unit resumes the set functions without any maintenance. After longer voltage failure, the current data (time, date) must be re-entered.

... the time events programmed are executed at a difference of one hour?

Check your summer/winter time settings and correct, if necessary.

... the device is to be reset to factory setting?

Perform a RESET. Depress the **MODE** and **SET** keys at the same time for approx. 7 seconds.

... the light goes off after some time after having been turned on manually?

An automatic switching time event was executed, or timer function **C** interval has run out.

4. Guarantee

We accept the guarantee in accordance with the corresponding legal provisions.

Please return the unit postage paid to our central service department giving a brief description of the fault:


ALBRECHT JUNG GMBH & CO. KG
Service-Center
Kupferstr. 17-19
D-44532 Lünen
Service-Line: +(49) 23 55 . 80 65 51
Telefax: +(49) 23 55 . 80 61 89
E-Mail: mail.vka@jung.de

General equipment

Service-Line: +(49) 23 55 . 80 65 55
Telefax: +(49) 23 55 . 80 62 55
E-Mail: mail.vkm@jung.de

KNX equipment

Service-Line: +(49) 23 55 . 80 65 56
Telefax: +(49) 23 55 . 80 62 55
E-Mail: mail.vkm@jung.de

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