

Operating Instructions

Busch-Timer®

Comfort timer control element
for blind control
6455



1	Safety.....	3
2	Intended use	3
3	Environment.....	3
4	Setup and function.....	4
4.1	Modules	4
4.2	Features of function and equipment.....	4
4.3	Brightness sensor	5
4.4	Glass break sensor	5
5	Operation.....	6
5.1	Hints on operation.....	6
5.2	Key assignment	7
5.3	Manual operation	7
5.4	Display and icons.....	8
5.5	Overview of the menu structure	9
5.6	Adjusting the device.....	11
5.6.1	Selecting languages.....	11
5.6.2	Setting date and time	12
5.6.3	RESET (resetting the device).....	13
5.7	Operating modes.....	14
5.7.1	Deleting switching times.....	15
5.8	Setting switching times.....	16
5.8.1	BLOCK programming.....	16
5.8.2	ASTRO function	18
5.8.3	Individual switching times.....	20
5.8.4	Additional switching times	21
5.9	Calling up special functions.....	22
5.9.1	Activating additional switching times.....	22
5.9.2	Return pulse.....	23
5.9.3	Duration of down movement	25
5.9.4	ASTRO blocking time.....	27
5.9.5	Sensor.....	28
5.9.5.1	Sun protection function	28
5.9.5.2	Twilight function	29
5.10	Display during mains power failure	30
6	Technical data.....	31
7	Mounting / Installation	32

1 Safety



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Work on the 230V supply system may only be performed by authorised electricians!
- Disconnect the mains power supply prior to installation and/or disassembly!

2 Intended use

The device is to be used exclusively with the components that are supplied and licensed as described in chapter "Setup and function".

3 Environment



Consider the protection of the environment!

Used electric and electronic devices must not be disposed of with domestic waste.

- The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.

The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.

(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)

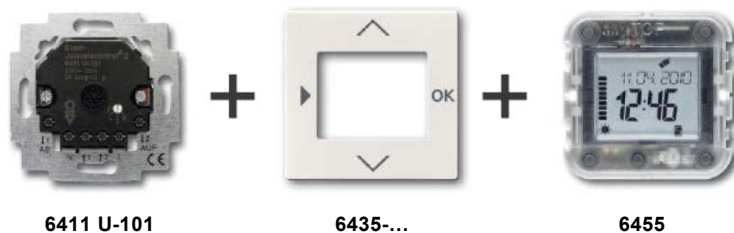
(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)

4 Setup and function

The timer control element described in these instructions serves for the manual and time-controlled switching of blinds, roller shutters and awnings. The application "Blind control" is described in the following and the term "Blind" is used representatively also for roller shutters and awnings.

4.1 Modules

The following modules are used for controlling blinds. The device can only be operated with a central cover plate 6435-.... The cover plate is latched onto the control element as a so-called "floating rocker".

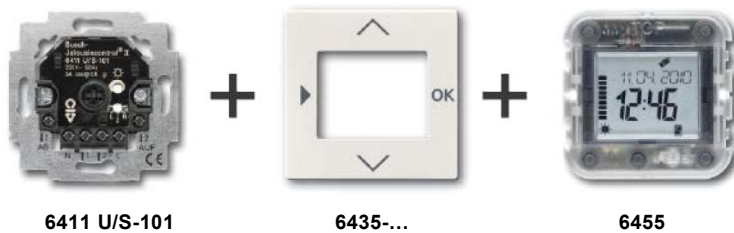


6411 U-101

6435-...

6455

Alternative:



6411 U/S-101

6435-...

6455

4.2 Features of function and equipment

- With astro program
- Individual astro displacement and astro blocking time
- The shades can be manually operated at any time
- Easy adjustment using menu and text-based display
- Factory-set switching times can be individually adjusted
- Automatic summer/wintertime switch-over
- Switching times/programs are safely stored in the event of a mains power failure
- 14 hours power reserve for time and date (maintenance-free as a capacitor)
- Simple toggling between manual / automatic / holiday mode
- Combined with flush-mounted insert 6411 U/S-101, sun protection and twilight function
- Freely adjustable sun protection and twilight function
- freely adjustable running times for shades and ventilation
- Control element is adjustable without flush-mounted insert
- 4 switching times per day can be freely adjusted for each day of the week
- Astro switching times and switching times can be combined

4.3 Brightness sensor

The connection of brightness sensors makes the automatic closing of blinds possible as anti-glare during intense sunlight or as protection for furnishings.

A brightness sensor can be attached directly to the flush-mounted insert with sensor connection, which is attached to the pane with the aid of a suction cup. The values at which a function is triggered can be set individually on the flush-mounted insert via a potentiometer and on the comfort timer control element in the display, so that the blind closes at the desired brightness.

If a set brightness is exceeded for a few minutes, the blind travels down until it covers the sensor. The sensor is then exposed again as the blind travels briefly up to measure the current brightness.

If the running time is set so that the sensor cannot be covered, the blind stops at the set running time. If the brightness drops below the set value for several minutes, the blind travels up again. This means that the function remains independent of whether the brightness sensor is overridden or not.

4.4 Glass break sensor

If the window pane is broken the blind is closed immediately by the glass break sensor to prevent the living area from sustaining damage. The display of the comfort timer control element indicates the time when the damage occurred.

The blind can only be raised again manually onsite after the alarm unit has been triggered. Commands via the extension unit or automatic switching times of the timer control element are ignored.

The glass break sensor is attached to the pane by means of the enclosed double-sided adhesive tape. For larger glass areas up to four glass break sensors can be combined on a single pane and connected to a flush-mounted insert.

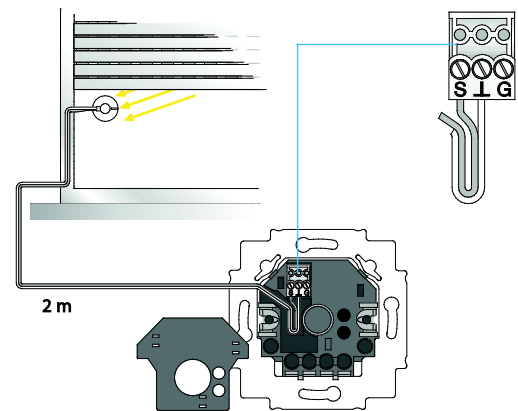


Fig. 1: Connected brightness sensor

The sensor can be attached at any position on the window pane.

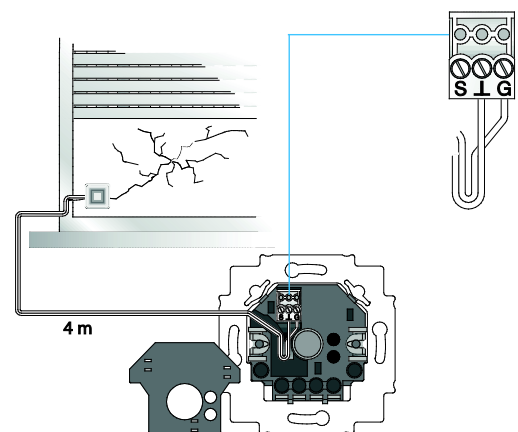


Fig. 2: Connected glass break sensor

5 Operation

5.1 Hints on operation

In the event of a power failure, the internal clock continues to operate for about 14 hours. After this the time and date have to be reprogrammed. All other data remain saved.

The operating element can be removed from the flush-mounting insert for approximately 20 minutes and adjusted separately.

A total of 4 switching times per day can be set (switching times plus additional switching times).

The system changes automatically between winter and summer time.

If the display is on --:-- , this can mean the following:

- no time has been set
- the memory is not occupied
- the function is not active

Flashing numbers / values can be changed. If no entry is made, the display switches back to the operating mode after 1 minute.

The times of the menus BLOCK, ASTRO, INDIVIDUAL can be combined with one another.

5.2 Key assignment

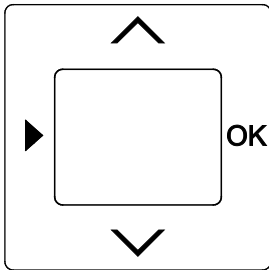


Fig. 3: Button assignment of cover plate

Button	Function	In setting mode	Adjusting values	Deleting switching times
▶	Calling up menu level and switching to setting mode	Return to operating mode		Press all buttons of the rocker switch simultaneously for approx. 5 seconds
▲	Blind UP (bright)	Select menu item	Adjust values	
▼	Blind DOWN (dark)			
OK	Confirmation	Select menu	Accept value	

5.3 Manual operation

Manual operation is always possible. You can control the blind manually as follows:

Button	Function	Actuation
▲	Blind UP (bright)	Brief press of the button: - The blind travels to the top end position - A renewed brief press of the button stops the blind immediately. Long button press: - The blind travels up as long as the button is pressed.
▼	Blind DOWN (dark)	Brief press of the button: - The blind travels to the bottom end position - A renewed brief press of the button stops the blind immediately. Long button press: - The blind travels down as long as the button is pressed.

5.4 Display and icons

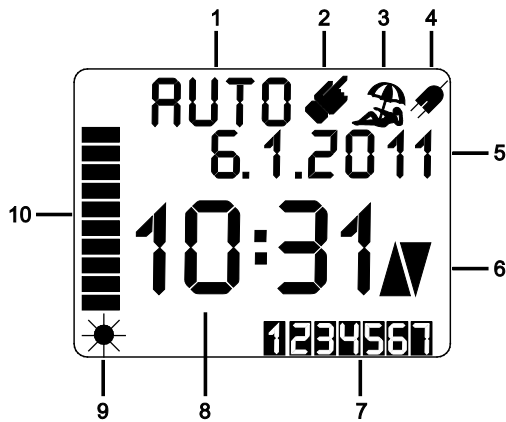


Fig. 4: Display with symbols

No.	Function	
1	"Automatic" operating mode	
2	"Manual" operating mode	
3	"Holiday" operating mode	
4	Mains power failure	
5	Info line / date	
6	Venetian blind control UP/DOWN	
7	Current weekday	
8	Time / switching time	
9	Sun protection / twilight function	Only in connection with 6411 U/S-101 and sensor
10	Current actual value of the sensor	



Note

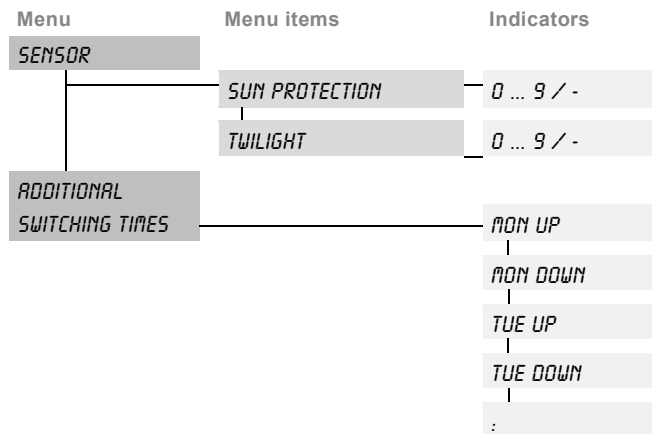
If the text is too long for the info line, it will run continuously through the info line.

5.5 Overview of the menu structure

Menu	Menu items	Indicators	Setting (function)	
LANGURGE	COUNTRY		Select country (language setting).	
SWITCHING TIMES	BLOCK	MON-FRI UP	Set switching times for moving the blind up or down. The same times are taken over for the days from Monday to Friday.	
		MON-FRI DOWN		
		SAT-SUN UP		
		SAT-SUN DOWN		
	ASTRO	MON-FRI UP	TIME SHIFT	Set a time shift of ±90 minutes. The astro switching times are pre-programmed; however, with the shift the switching time can be adapted to the regional conditions.
		MON-FRI DOWN	TIME SHIFT	
		SAT-SUN UP	TIME SHIFT	
		SAT-SUN DOWN	TIME SHIFT	
	INDIVIDUAL	MON UP		Set the switching times for moving the blind up or down for each weekday independent of each other.
		MON DOWN		
TUE UP				
TUE DOWN				
DATE / TIME	DAY / MONTH / YEAR		Set date.	
	HOURS / MINUTES		Set time.	
SPECIAL FUNCTIONS	ADDITIONAL SWITCHING TIMES	-- ON	Set an additional up and down command for each weekday.	
	RETURN PULSE	0 ... 255	Set the time for moving the blind UP. After the DOWN movement the return travel pulse causes the blind to move UP for the set time (e.g. for slat adjustment).	
	DURATION OF DOWN MOVEMENT	Set the down movement to move to an intermediate position of the blind.	
	ASTRO	Set blocking time, to limit the set astro times. Astro blocking time UP: "not rather UP than ...". Astro blocking time DOWN: "not rather DOWN than ...".	

Continued on the following page

Continuation: Overview of the menu structure



Setting (function)

The menu is only displayed if a sensor has been connected.
Set the brightness value at which the blind travels DOWN.

The menu is only displayed when the additional switching times have been activated beforehand under "Special functions".
Set additional switching times for moving the blind up or down for each weekday independent of each other.

5.6 Adjusting the device

All settings of the device are carried out supported by text-controlled operator prompting. The language, time and date have to be set first during initial commissioning..



Note

Values which need to be changed flash and are displayed in grey in the following illustrated examples.

5.6.1 Selecting languages

The language is set via the country selection and the astro time is automatically assigned. The current location (country) of the timer must be selected because of the different time zones.



Note

The astro function daily adjusts the switching times automatically to the yearly process of sunrise and sunset.

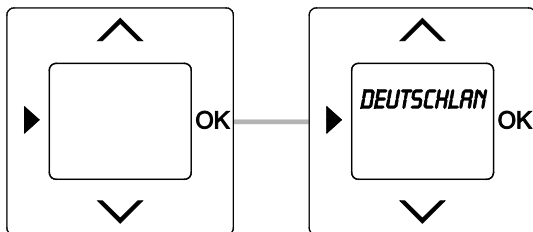



Fig. 5: Country / language selection

Button	Indication	Entry / Comments
	<i>GERMANY</i>	Selecting languages - Select the country via the arrow buttons.
OK		- Confirm your selection with the OK button. You simultaneously switch to the next menu item. This is followed by setting the year, month, day, hour and minute. See section 5.6.2.



Note

To change the language at a later point in time the device settings must be reset via the reset function. See section 5.6.3.

5.6.2 Setting date and time

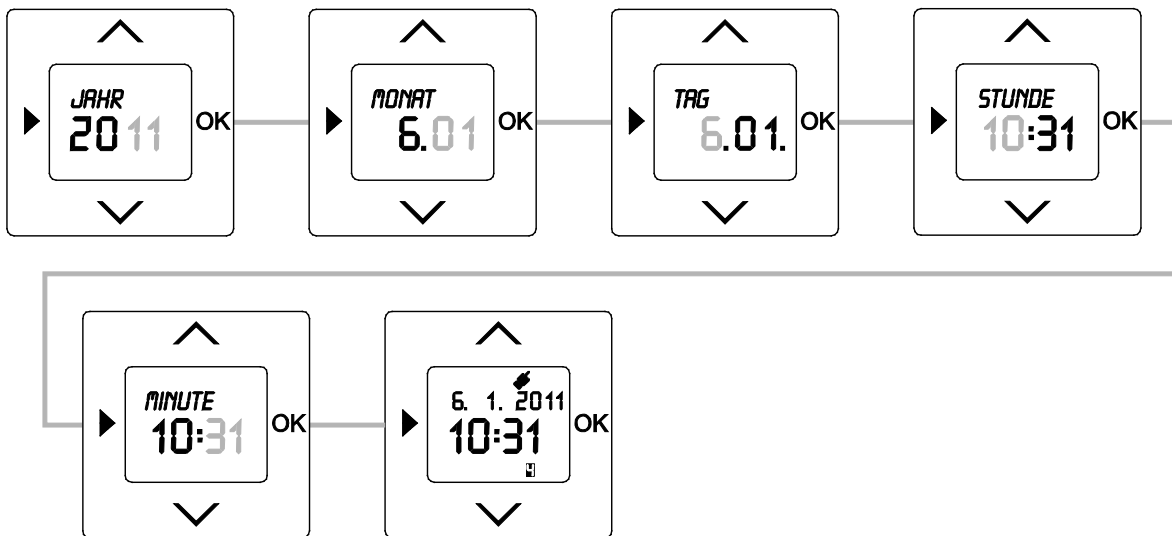


Fig. 6: Setting the date and time

Sequence of operating steps

The first two steps need only be carried out if the date and time are to be changed later. During initial commissioning you will be asked to enter the year directly after selecting the language.

Button	Indication	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
∧∨	DATE-TIME	- Select menu "Date - Time" via the arrow buttons.
OK	YEAR /	- Confirm your selection with the OK button. The preset year flashes.
∧∨	2011	- Set the year via the arrow buttons.
OK	MONTH /	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Month". The preset month flashes.
∧∨	6.01	- Set the month via the arrow buttons.
OK	DAY /	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Day". The preset day flashes.
∧∨	6.01	- Set the day via the arrow buttons.
OK	HOURL /	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Hour". The preset hour flashes.
∧∨	10:31	- Set the hour via the arrow buttons.
OK	MINUTE /	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Minute". The preset minute flashes.
∧∨	10:31	- Set the minutes via the arrow buttons.
OK		- Confirm your entry with the "OK" button. The timer changes into the operating mode.



Note

Pressing the menu button switches from setting mode to operating mode. All entries that were confirmed previously with the OK button are taken over.

5.6.3 RESET (resetting the device)

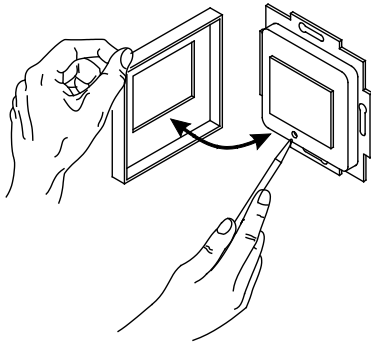


Fig. 7: Reset

1. Remove the cover and press the reset button.
2. Replace the cover.
3. Then, again set the language, the date and the time, see section 5.6.



Note

After a reset the settings of the language, date and time are deleted. The set switching times remain saved.

5.7 Operating modes

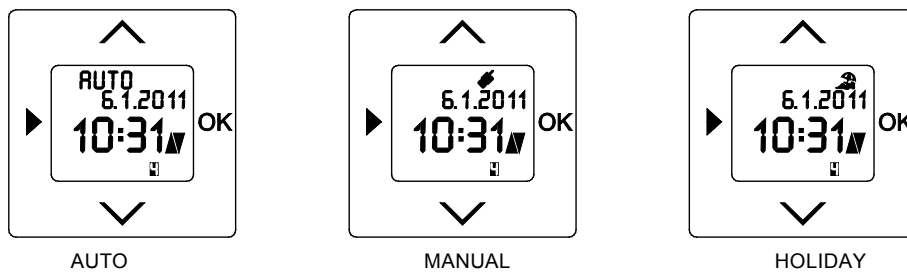




Fig. 8: Display views of operating modes

Symbol	Operation mode
	<p>MANUAL MODE</p> <p>Control is executed only manually. For information concerning the operation please refer to the operating manual 6411 U/x-10x. The user can always switch to the manual mode and back. Automatic switching times, as well as brightness and twilight functions are not carried out.</p> <p>General actuation</p> <p>You can control the blind as follows:</p> <p>UP / ▲ :</p> <ul style="list-style-type: none"> - Touching the top surface - The blind travels to the top end position or - Hold the top surface <p>The blind travels up as long as the button is pressed.</p> <p>DOWN / ▼ :</p> <ul style="list-style-type: none"> - Touch the bottom surface - The blind travels to the bottom end position or - Hold the bottom surface <p>The blind travels down as long as the button is pressed.</p> <p>A brief actuation while the blind travels will stop it immediately.</p>
AUTO	<p>AUTOMATIC MODE</p> <p>The programmed switching times will be executed automatically.</p>
	<p>HOLIDAY MODE</p> <p>Control is executed as in automatic mode. A random generator shifts the switching times by up to 30 minutes daily.</p>

- Press the OK button to change the operating mode.
Manual operation of the blind is always possible via the arrow buttons (UP and DOWN).

5.7.1 Deleting switching times

To be able to delete the switching times during an incorrect entry, the procedure is described here first. For setting the switching times, please continue reading on the next page.

Deleting all switching times

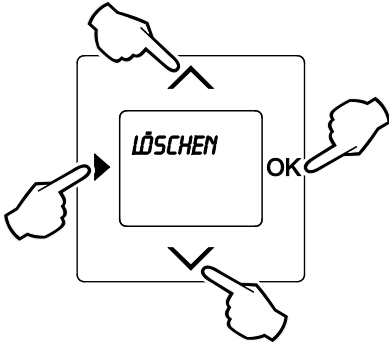


Fig. 9: Delete function

1. Press all 4 buttons simultaneously, or the entire operating surface for more than 5 seconds.
2. Confirm the enquiry with the OK button.
All set switching times will now be deleted. The date, time and language settings remain saved.

Deleting the current switching time in the setting mode

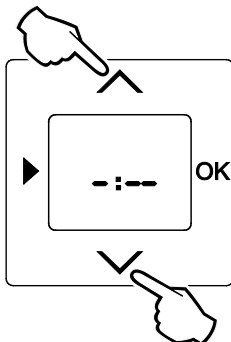


Fig. 10: Delete function of current value

Individual values can be deleted if "Setting mode / switching times" has been selected and the time display flashes.

1. Briefly press both arrow buttons.
2. Confirm the enquiry with the OK button.
Only the current value is deleted. The display shows -: - - .

5.8 Setting switching times

The settings of the switching times that are available and how the menu items are called up is described here. A detailed description of the individual functions is contained in the following sub-sections.

5.8.1 BLOCK programming

So that the switching times need not be entered again for each individual day, the BLOCK programming function is available. This means that the switching times are entered once for block (Mon - Fri) and once more for block (Sat - Sun).



Note

Within each block the same switching times apply to each day. If the switching times for each day are to be set independent from each other, see section "Setting individual switching times".

Preset block switching times:	Mon–Fri OPEN: 07:00	If the display is on -:--, this can mean the following: – no time has been set – the memory is not occupied – the function is not active
	Mon–Fri CLOSE: 20:00	
	Sat–Sun OPEN: 08:00	
	Sat–Sun CLOSE: 21:00	

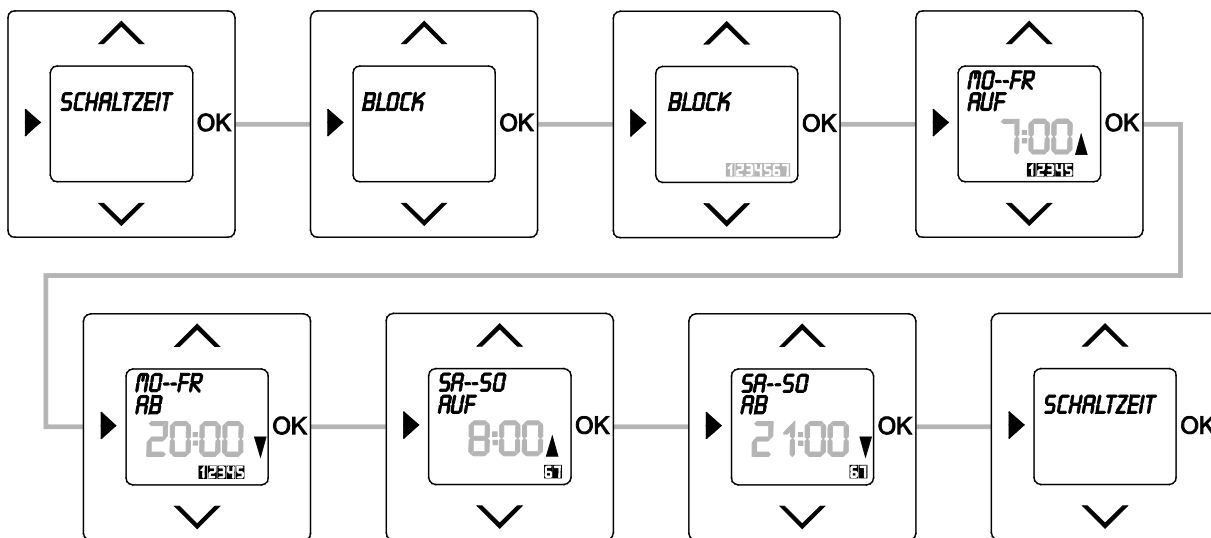


Fig. 11: Menu item – Block

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
OK	BLOCK	- Press the OK button to select menu item "Block".
OK	1234567	The weekdays flash. - Press the OK button again.
OK	MON-FRI UP / 7:00	The preset up-time flashes.
^ / v	7:30	- Set the desired up-time via the arrow buttons. In this example the up-time has been set at 7:30.
OK	MON-FRI DOWN / 20:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Mon - Fri DOWN". The preset down-time flashes.
^ / v	20:30	- Set the desired down-time via the arrow buttons. In this example the down-time has been set at 20:30.
OK	SAT-SUN UP / 08:00	- Press the OK button again. The preset up-time flashes.
^ / v	08:30	- Set the desired up-time via the arrow buttons. In this example the up-time has been set at 8:30.
OK	SAT-SUN DOWN / 21:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Sat - Sun DOWN". The preset down-time flashes.
^ / v	21:30	- Set the desired down-time time via the arrow buttons. In this example the down-time has been set at 21:30.
OK	SWITCHING TIMES	- Confirm your entry with the "OK" button. The switching times have been set.
▶		- Press the menu button to switch to the operating mode.

5.8.2 ASTRO function

By activating the astro function the switching times are automatically adjusted each day to the yearly process of sunrise and sunset.

The astro switching times are designed as blocks for Mon-Fri and Sat-Sun. Also the entry of a time shift (± 90 minutes) is possible in addition to the astro time. With the time shift the astro time can be adapted to the regional conditions.

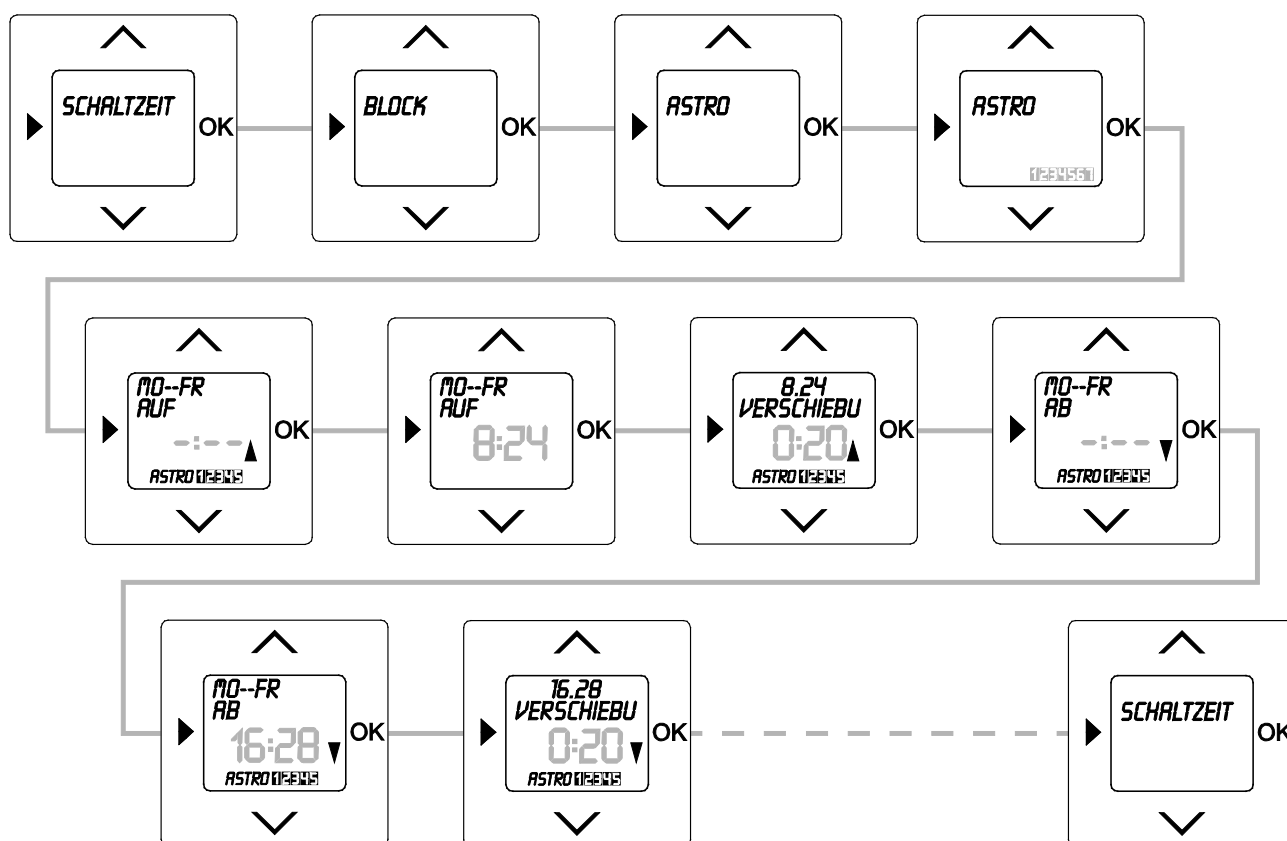




Fig. 12: Menu item – Astro

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
OK	BLOCK	- Press the OK button. Menu item "Block" is displayed.
▲▼	ASTRO	- Select menu item "Astro" via the arrow buttons.
OK	MON--FRI UP / ...	- Press the OK button. You simultaneously switch to the next menu item "Mon - Fri UP". The display flashes.
▲▼	MON--FRI UP / 8:24	- Press one of the arrow buttons. The up-time flashes. The astro time for sunrise is fixed and cannot be changed.
OK	TIME SHIFT	- Confirm the time with the "OK" button. You simultaneously switch to the next menu item "Time shift".

Continuation: Sequence of operating steps

Button	Display	Entry / Comments
	0:20	- Set the time shift for the specified astro time via the arrow buttons, so that the switching time is adapted to the regional conditions. In this example the up-time has been pushed back 20 minutes. No shift will be set if a flashing display -:- is confirmed.
OK	MON--FRI DOWN / -:-	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Mon - Fri DOWN". The display flashes.
	MO--FR RB / 16:28	- Press one of the arrow buttons. The down-time flashes. The astro time for sundown is fixed and cannot be changed.
OK	TIME SHIFT	- Confirm the time with the "OK" button. You simultaneously switch to the next menu item "Time shift".
	0:20	- Set the time shift for the specified astro time via the arrow buttons, so that the switching time is adapted to the regional conditions. In this example the down-time has been pushed back 20 minutes. No shift will be set if a flashing display -:- is confirmed.
OK	0:20	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Sat - Sun UP".
	SAT--SUN UP / 8:24	- Press one of the arrow buttons. The up-time flashes. The astro time for sunrise is fixed and cannot be changed.
OK	TIME SHIFT	- Confirm the time with the "OK" button. You simultaneously switch to the next menu item "Time shift".
	0:20	- Set the time shift for the specified astro time via the arrow buttons, so that the switching time is adapted to the regional conditions. In this example the up-time has been pushed back 20 minutes. No shift will be set if a flashing display -:- is confirmed.
OK	0:20	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Sat - Sun DOWN".
	SAT--SUN DOWN / -:-	The display flashes.
	SAT--SUN DOWN / 16:28	- Press one of the arrow buttons. The down-time flashes. The astro time for sundown is fixed and cannot be changed.
OK	TIME SHIFT	- Confirm the time with the "OK" button. You simultaneously switch to the next menu item "Time shift".
	0:20	- Set the time shift for the specified astro time via the arrow buttons, so that the switching time is adapted to the regional conditions. In this example the down-time has been pushed back 20 minutes. No shift will be set if a flashing display -:- is confirmed.
OK	SWITCHING TIMES	- Confirm your entry with the "OK" button. The switching times have been set.
		- Press the menu button to switch to the operating mode.

5.8.3 Individual switching times

The times for moving up and down for each day can be set independent of each other via menu item "Individual".

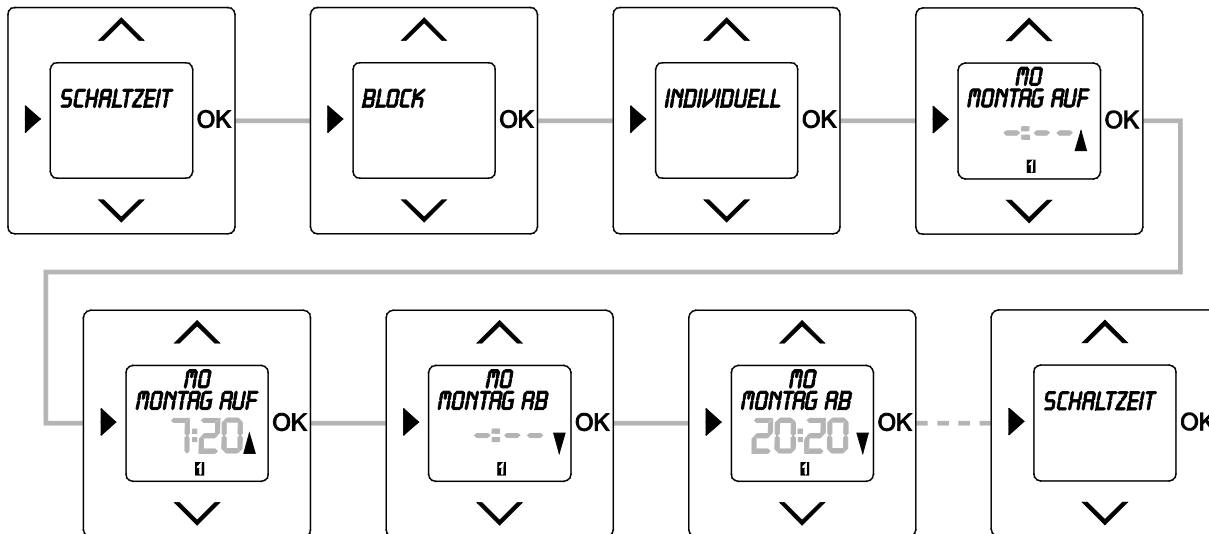


Fig. 13: Menu item – Individual

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
OK	BLOCK	- Press the OK button. Menu item "Block" is displayed.
▲▼	INDIVIDUAL	- Select menu item "Individual" via the arrow buttons.
OK	MONDAY UP / -:-	- Press the OK button. You simultaneously switch to the next menu item "Monday UP". The display flashes.
▲▼	MONDAY UP / 7:00	- Press one of the arrow buttons. The suggested up-time flashes.
▲▼	7:20	- Change the time via the arrow buttons. In this example the up-time has been set at 7:20. No switching time will be set if the flashing display -:- is confirmed.
OK	MONDAY DOWN / -:-	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Monday DOWN". The display flashes.
▲▼	MONDAY DOWN / 20:00	- Press one of the arrow buttons. The suggested down-time flashes.
▲▼	20:20	- Change the time via the arrow buttons. In this example the down-time has been set at 20:20. No switching time will be set if the flashing display -:- is confirmed.
OK	TUESDAY UP / 7:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next weekday. If desired, use the same procedure for every further weekday.
OK	SWITCHING TIMES	- Confirm your entry with the "OK" button. The switching times have been set.
▶		- Press the menu button to switch to the operating mode.

5.8.4 Additional switching times

An additional up and down command can be set for each weekday in menu item "Additional switching times". This makes it possible, for example, to reproduce a lunch break or the blind moves into a ventilation position with the first down-time and with the second down-time the blind closes completely.

To enable the additional switching times to be entered, the menu item must first be activated in menu "Special functions". See section 5.9.1. Only then will the additional switching times appear on the "Menus" level.

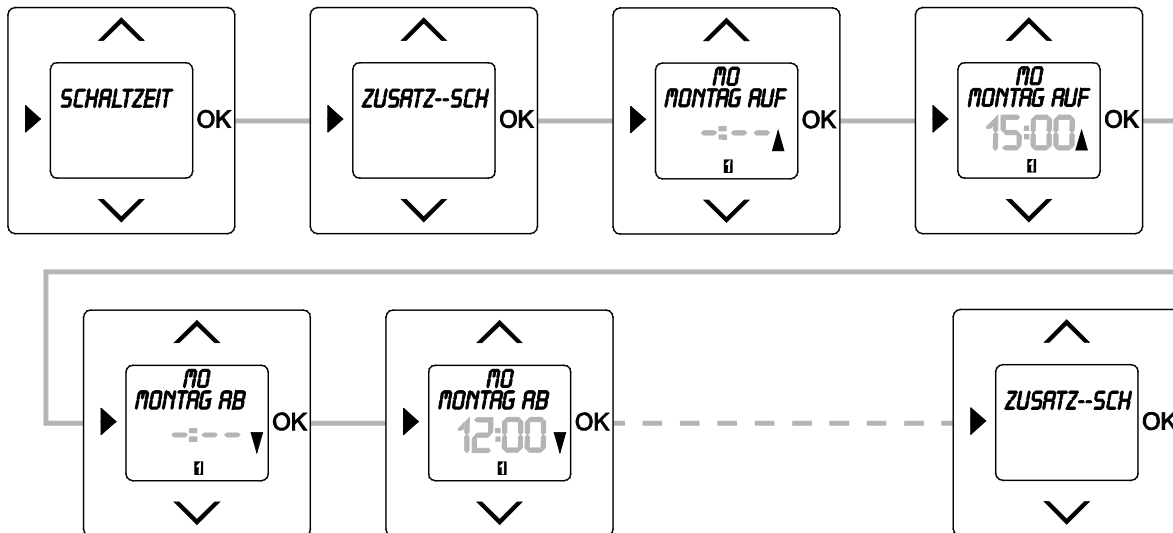


Fig. 14: Menu item – Individual

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
⌵	ADDITIONAL SWITCHING TIMES	- Select menu item "Additional switching times" via the arrow buttons.
OK	MONDAY UP / ---	You simultaneously switch to the next menu item "Monday UP". The display flashes.
⌵	MONTAG AUF / 15:00	- Press one of the arrow buttons. The suggested up-time flashes.
⌵	15:00	- Change the time via the arrow buttons. In this example the up-time of 15:00 has been taken over. No switching time will be set if the flashing display --- is confirmed.
OK	MONDAY DOWN / ---	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Monday DOWN". The display flashes.
⌵	MONDAY DOWN / 12:00	- Press one of the arrow buttons. The suggested down-time flashes.
⌵	12:00	- Change the time via the arrow buttons. In this example the down-time of 12:00 has been taken over. No switching time will be set if the flashing display --- is confirmed.
OK	TUESDAY UP / 15:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next weekday. If desired, use the same procedure for every further weekday.
OK	ADDITIONAL SWITCHING TIMES	- Confirm your entry with the "OK" button. The switching times have been set.
▶		- Press the menu button to switch to the operating mode.

5.9 Calling up special functions

The settings of the special functions that are available and how the menu items are called up is described here. A detailed description of the individual functions is contained in the following sub-sections.

5.9.1 Activating additional switching times

To enable additional switching times to be entered, menu item "Additional switching times" must first be activated. See the following description:

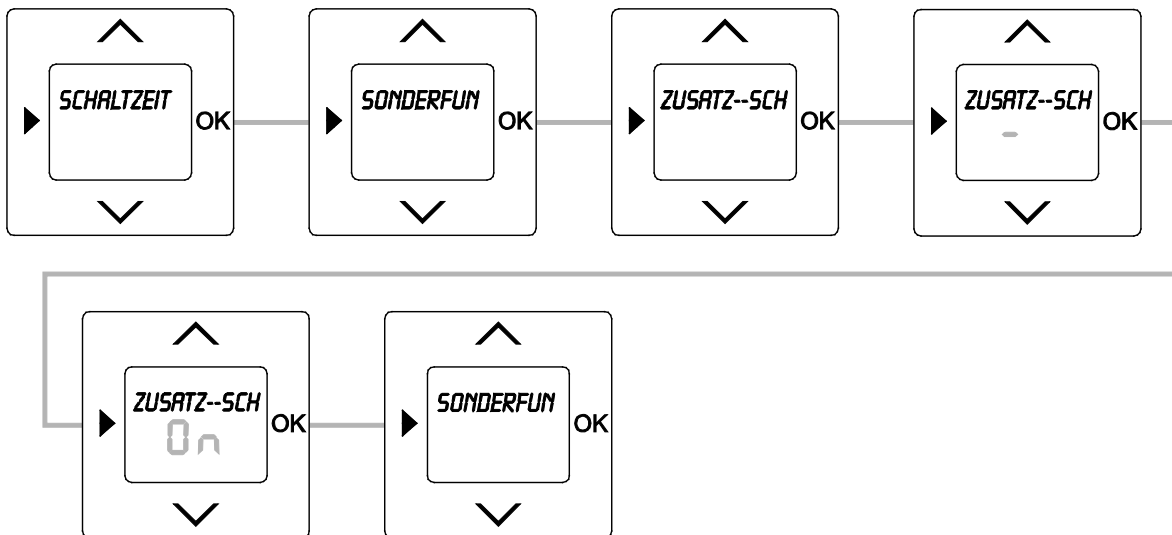


Fig. 15: Menu item – Special functions / Additional switching times

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
^ v	SPECIAL FUNCTIONS	- Select menu "Special functions" via the arrow buttons.
OK	ADDITIONAL SWITCHING TIMES	- Press the OK button.
^ v	- ON	- Activate or deactivate the additional switching times via the arrow buttons. Automatic switching times are not available. Two additional switching times per day can be executed.
OK	SPECIAL FUNCTIONS	- Confirm your selection with the OK button. The selection is stored. You simultaneously switch to menu "Special functions". <i>When selecting On: The further procedure for setting the "Additional switching times" is described in section 5.8.4.</i>
▶		- Press the menu button to switch to the operating mode.

5.9.2 Return pulse

With function "Return pulse" you can let the blind move up from the bottom end position until the ventilation slots are open. With this function the blind is, after closing (DOWN command), moved in the UP direction for the set time.

The adjustment range lies between 0 and 255.

Setting	Meaning
0	No return pulse
255	Maximum duration, corresponds to around 30 seconds

The return pulse is executed only if the blind was started previously from the top end position.

The return pulses can be entered separately for the following functions:

- Switching times
- Additional switching times (if active)
- Twilight function (only with sensor)

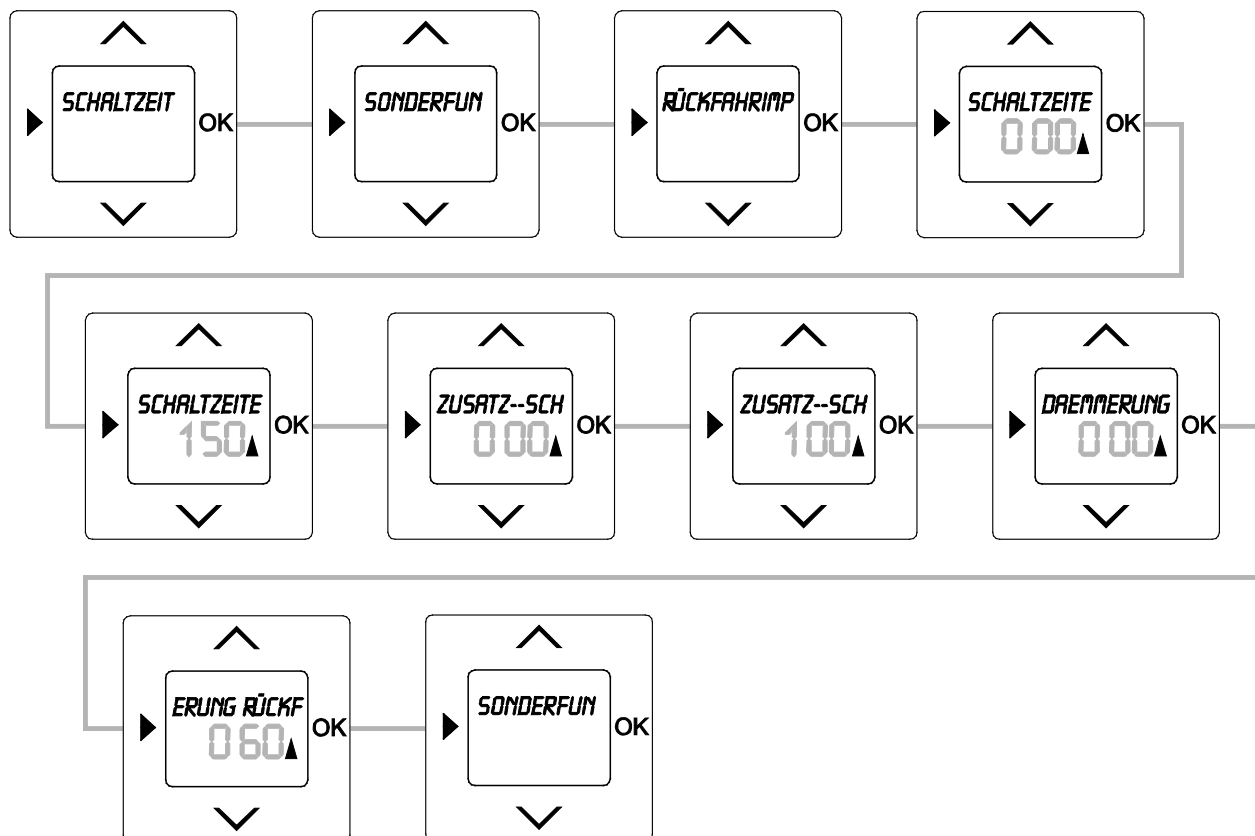







Fig. 16: Menu item – Return pulse



Sequence of operating steps

Button	Display	Entry / Comments
	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
	SPECIAL FUNCTIONS	- Select menu "Special functions" via the arrow buttons.
OK	ADDITIONAL SWITCHING TIMES	- Press the OK button. Menu item "Additional switching times" is displayed.
	RETURN PULSE	- Select menu "Return pulse" via the arrow buttons.
OK	RETURN PULSE SWITCHING TIMES 0 00	- Confirm your selection with the OK button. You simultaneously switch to the next menu item "Return pulse switching times". The display flashes.
	1 50	- Set a return pulse from 0 to 255 via the arrow buttons. In this example a return pulse of 150 has been set.

The following menu item is displayed only if "Additional switching times" has been activated.

OK	ADDITIONAL SWITCHING TIMES FOR RETURN PULSE 0 00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Twilight return pulse". The display flashes.
	1 00	- Set a return pulse from 0 to 255 via the arrow buttons. In this example a return pulse of 100 has been set.

The following menu items are displayed only if a brightness sensor has been connected.

OK	TWILIGHT RETURN PULSE 0 00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Twilight return pulse". The display flashes.
	0 60	- Set a return pulse from 0 to 255 via the arrow buttons. In this example a return pulse of 60 has been set.
OK	SPECIAL FUNCTIONS	- Confirm your entry with the "OK" button. You simultaneously switch to menu "Special functions".
		- Press the menu button to switch to the operating mode.

5.9.3 Duration of down movement

With the 'duration of downward movement' setting the movement to a freely selectable intermediate position between the upper and lower setting is possible. If necessary, the duration can be reduced by up to 5 seconds. This position can only be moved to from the top end position.

The preset DOWN time of 3 minutes can be especially reduced for the following functions:

- Switching times
- Additional switching times (if active)
- Twilight function (only with sensor)
- Sun protection function (only with sensor)

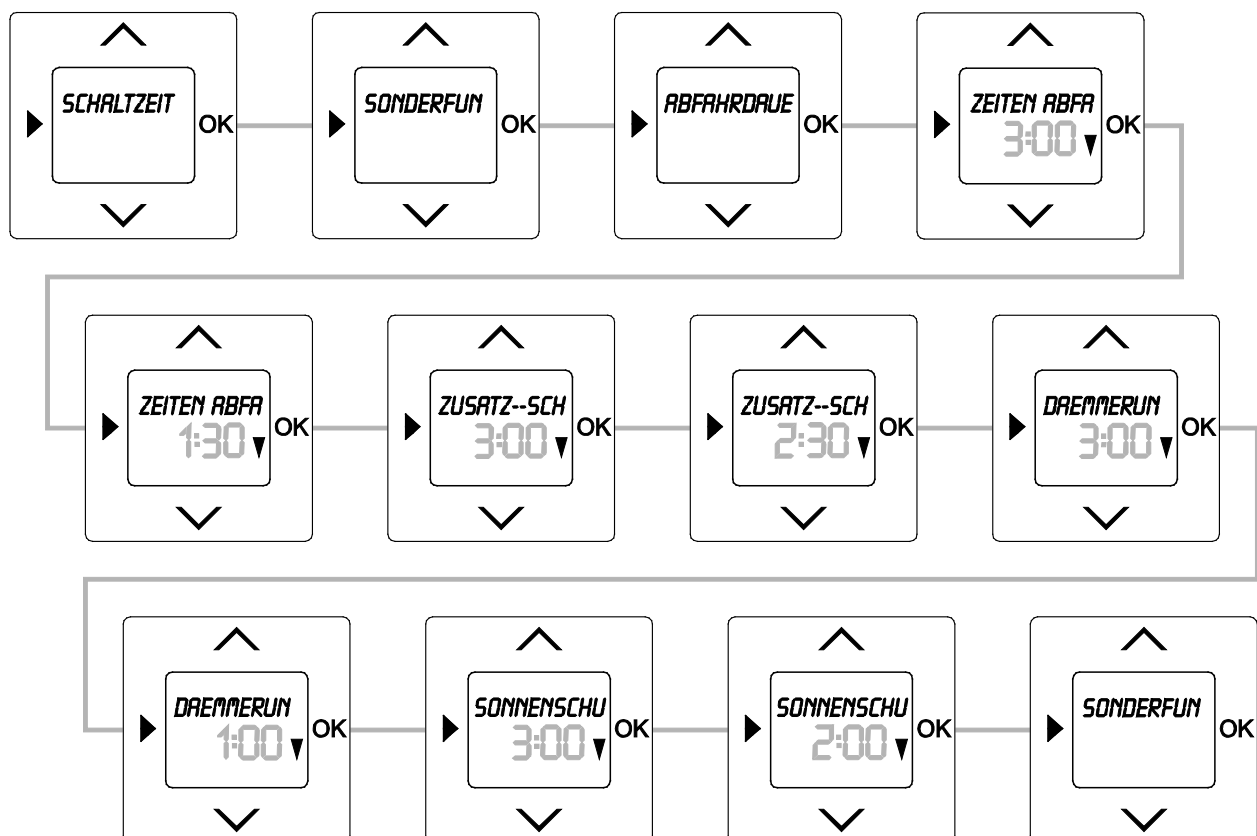







Fig. 17: Menu item – Duration of down movement




Sequence of operating steps

Button	Display	Entry / Comments
	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
	SPECIAL FUNCTIONS	- Select menu "Special functions" via the arrow buttons.
OK	ADDITIONAL SWITCHING TIMES	- Press the OK button. Menu item "Additional switching times" is displayed.
	DURATION OF DOWN MOVEMENT	- Select menu item "Duration of down movement" via the arrow buttons.
OK	SWITCHING TIMES OF DURATION OF DOWN MOVEMENT 3:00	- Confirm your selection with the OK button. You simultaneously switch to the next menu item "Return pulse switching times". The preset duration of down movement flashes.
	1 30	- Set the duration of down movement via the arrow buttons. In this example a duration of down movement of 1 minute and 30 seconds has been set.

The following menu item is displayed only if "Additional switching times" has been activated.

OK	ADDITIONAL SWITCHING TIMES FOR DURATION OF DOWN MOVEMENT 3:00	- Confirm your selection with the OK button. You simultaneously switch to the next menu item "Additional switching times for duration of down movement". The preset duration of down movement flashes.
	2 30	- Set the duration of down movement via the arrow buttons. In this example a duration of down movement of 2 minute and 30 seconds has been set.

The following menu items are displayed only if a brightness sensor has been connected.

OK	DURATION OF DOWN MOVEMENT AT TWILIGHT 3:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Duration of down movement at twilight". The preset duration of down movement flashes.
	1 00	- Set the duration of down movement via the arrow buttons. In this example a duration of down movement of 1 minute has been set.
OK	DURATION OF DOWN MOVEMENT FOR SUN PROTECTION 3:00	- Confirm your entry with the "OK" button. You simultaneously switch to the next menu item "Duration of down movement for sun protection". The preset duration of down movement flashes.
	2 00	- Set the duration of down movement via the arrow buttons. In this example a duration of down movement of 2 minute has been set.
OK	SPECIAL FUNCTIONS	- Confirm your entry with the "OK" button. You simultaneously switch to menu "Special functions".
		- Press the menu button to switch to the operating mode.

5.9.4 ASTRO blocking time

The set switching times of the astro function can be limited with the "Astro blockage time" function.

ASTRO blocking time	Meaning
UP	Not earlier UP than ... o'clock
DOWN	Not earlier DOWN than ... o'clock

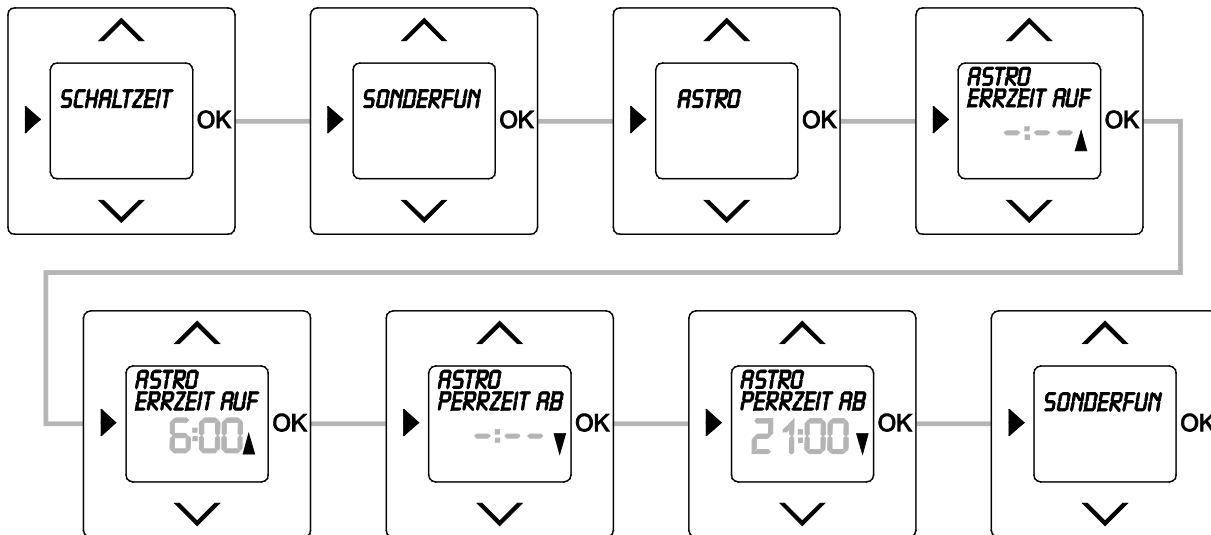


Fig. 18: Menu item – Astro blocking time

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
∧∨	SPECIAL FUNCTIONS	- Select menu "Special functions" via the arrow buttons.
OK	ADDITIONAL SWITCHING TIMES	- Press the OK button. Menu item "Additional switching times" is displayed.
∧∨	ASTRO	- Select menu "Astro" via the arrow buttons.
OK	ASTRO BLOCKING TIME UP :--	- Confirm your selection with the OK button. You simultaneously switch to the next menu item "Astro blocking time UP". The display flashes.
∧∨	6:00	- Set the earliest time via the arrow buttons from which the blind is to be moved up. In this example the preset time of 6:00 has been taken over.
OK	ASTRO BLOCKING TIME DOWN :--	- Confirm your selection with the OK button. You simultaneously switch to the next menu item "Astro blocking time DOWN". The display flashes.
∧∨	21:00	- Set the earliest time via the arrow buttons from which the blind is to be moved down. In this example the preset time of 21:00 has been taken over.
OK	SPECIAL FUNCTIONS	- Confirm your entry with the "OK" button. You simultaneously switch to menu "Special functions".
▶		- Press the menu button to switch to the operating mode.

5.9.5 Sensor

The "Sensor" setting is required when the brightness sensor is connected for controlling the blind in dependence of the intensity of sunlight (brightness). The setting of the brightness sensor is described here. For a description of functions see section 4.3.

5.9.5.1 Sun protection function

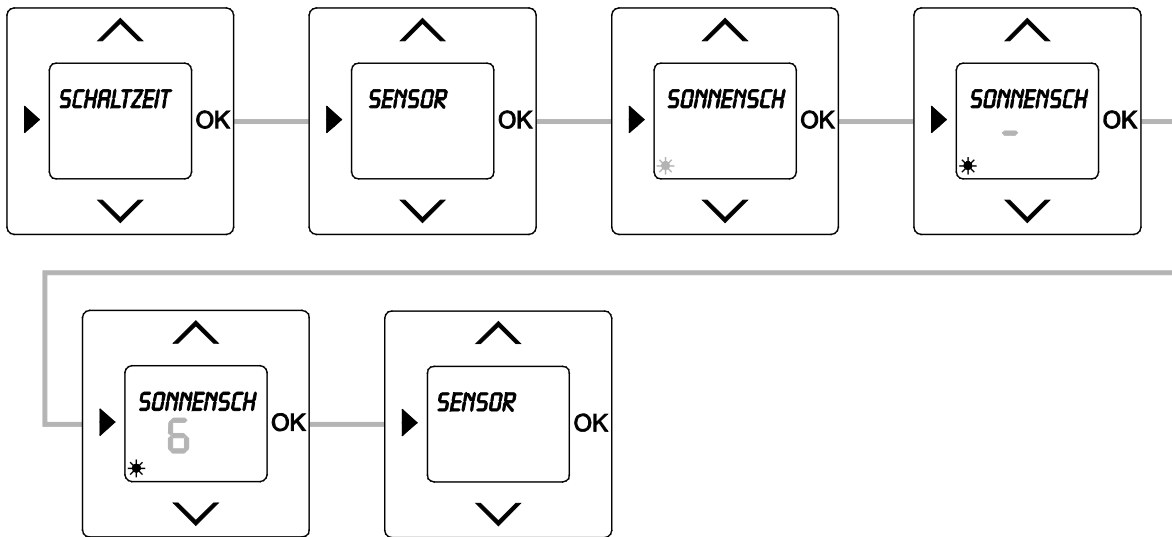



Fig. 19: Menu item – Sensor / Sun protection

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
∧∨	SENSOR	- Select menu "Sensor" via the arrow buttons.
OK	SUN PROTECTION	- Press the OK button. Menu item "Sun protection" is displayed.
OK	-	- Press the OK button again. The display flashes.
∧∨	6	- Set a brightness value (0 to 9) via the arrow buttons at which the blind moves DOWN. For setting (-) the function is OFF. In this example the value 6 has been set.
OK	SENSOR	- Confirm your entry with the "OK" button. You simultaneously switch to menu "Sensor".
▶		- Press the menu button to switch to the operating mode. The bar in the display indicates the current brightness value. The sun protection function automatically moves the blind down after exceeding the set brightness value. The sensor is overridden (darkened), the blind stops and moves up again until the sensor again has an "unrestricted view". To trigger the function the brightness must be exceeded for at least 90 seconds. Then the "Sun" symbol in the display flashes. The end position of the blind can be individually selected by the positioning of the sensor on the pane. If the shortfall in brightness is longer than 15 minutes, the blind automatically moves back up.

5.9.5.2 Twilight function

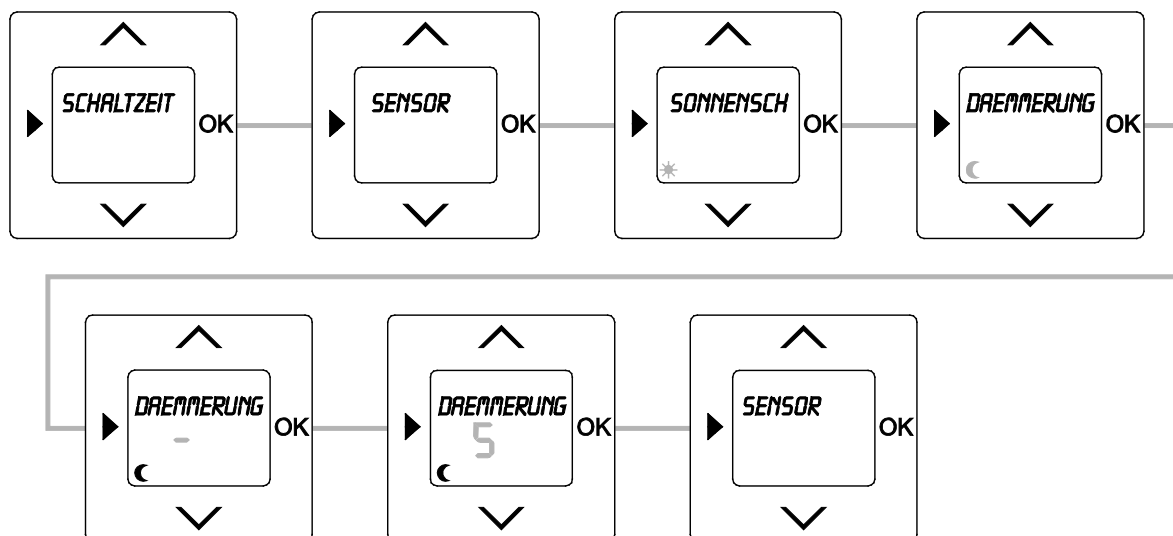



Fig. 20: Menu item – Sensor / Twilight

Sequence of operating steps

Button	Display	Entry / Comments
▶	SWITCHING TIMES	- Press the menu button to switch to the setting mode.
▲▼	SENSOR	- Select menu "Sensor" via the arrow buttons.
OK	SUN PROTECTION	- Press the OK button. Menu item "Sun protection" is displayed.
▲▼	TWILIGHT	- Select menu item "Twilight" via the arrow buttons.
OK	-	- Press the OK button. The display flashes.
▲▼	5	- Set a brightness value (0 to 9) via the arrow buttons at which the blind moves DOWN. For setting (-) the function is OFF. In this example the value 5 has been set.
OK	SENSOR	- Confirm your entry with the "OK" button. You simultaneously switch to menu "Sensor".
▶		- Press the menu button to switch to the operating mode. The bar in the display indicates the currently set brightness value. The twilight function closes the blind if the set brightness value falls short for more than 90 seconds. The twilight function is active only starting from 15:00 h. If the set twilight value falls short, the "Moon" symbol in the display flashes. After closing, the blind will remain closed until the next UP command.

5.10 Display during mains power failure

The illustration on the right shows an example of a display with the mains voltage activated.

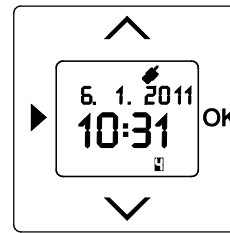


Fig. 21: Display during normal operation

The illustration on the right shows the display during a mains voltage failure or the control element unplugged. Prerequisite, however, is that the timer was charged previously for several hours.

The flashing plug symbol (see magnification) shows that the mains voltage supply to the timer is deactivated. The time continues to run in the background, but is not displayed to save energy.

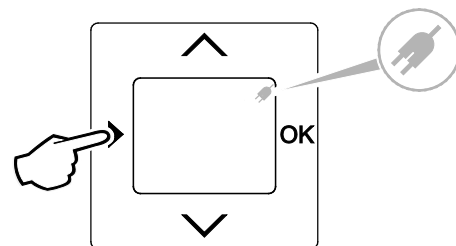


Fig. 22: Display during mains power failure

If the timer is again supplied by the mains network within a period of 14 hours, the current time will be shown in the display.

Operation of the unplugged control element

If the control element (the timer) was unplugged for programming, the menu level must first be called up with a long press of the button.

Operation is then carried out as normal.

6 Technical data

General

Power reserve	4 h
Protection type	IP 20
Ambient temperature	0 ... 35°C

7 Mounting / Installation



Warning

Electric voltage!

Risk of death and fire due to electrical voltage of 230 V.

- Work on the 230V supply system may only be performed by authorised electricians!
- Disconnect the mains power supply prior to installation and/or disassembly!



Notes on electrical connection

Prerequisite for mounting or attaching the control element is that the flush-mounted insert has been installed and electrically connected beforehand. The electrical connection is described in the separate instructions of the flush-mounted insert.

1. Pull the attachment off.
 - If the device is already mounted or assembled, pull off the attachment from the flush-mounted insert with the aid of the frame.

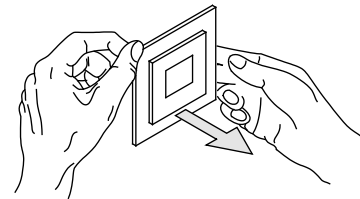
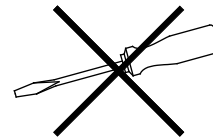


Fig. 23: Wall mounting: Pulling the attachment off

- If the state of the device is at the point of delivery, pull off the attachment from the flush-mounted insert with your hands.
- Pull the attachment off only with your hands. Do not lever parts off with screwdrivers or similar hard objects. This damages the device.
- When pulling off, first the resistance of the plastic clamps must be overcome.

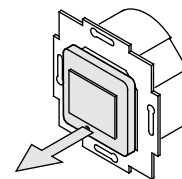
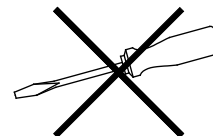


Fig. 24: State of the device at the point of delivery: pulling off the attachment

2. Plug the attachment together with the frame onto the flush-mounted insert.
 - Make sure that the plug-in connection on the rear side does not get jammed.
 - If mounting is difficult, check whether a burr has formed at the lock-in opening of the flush-mounted insert and remove it.

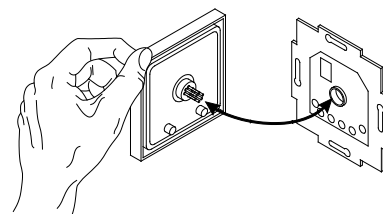


Fig. 25: Plug-on of attachment

The device is now mounted.

Operating Instructions

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