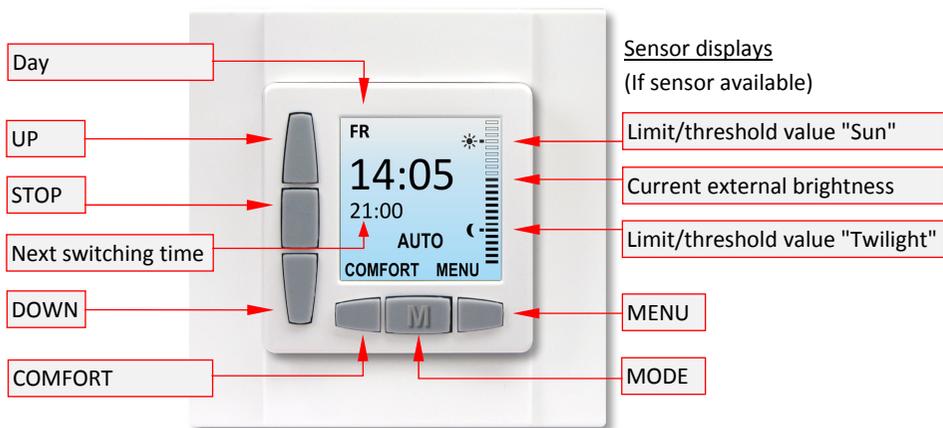


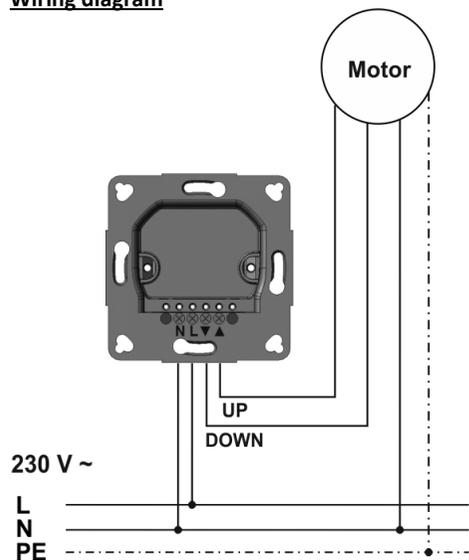
Operating instructions

ROJAL S - Timer

The ROJAL S is an electronic timer for controlling a 230V~ blind or shutter drive. Functions: day/week program, holiday switching, inching mode, variable travel time, auto slats turn / ventilation function, automatic switchover winter-/summertime, variable comfort position (partial lowering), backlit colour display and connection for an optional sun/twilight sensor.



Wiring diagram



Technical data

Operating voltage:	230V/50Hz
Switching voltage:	250V AC
Switching capacity:	3A (cos phi=1)
Temperature range:	0°C to +35°C
Travel time:	0-180 s.
Accuracy:	< 3 s/day
Power reserve :	≥ 72 hours
Terminal:	max. 2.5mm ²
Power consumption:	< 1W
Degree of protection:	IP 20
Safety class:	II
Brightness sensor setting range:	
Sun function	5-70 kLux
Twilight function	1-500 Lux

ATTENTION! Work on the 230V mains may only be carried out by authorised electricians!



This appliance is not intended for use by person (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

Operating the timer

UP < 1 s.	Inching mode or move up (if inching mode deactivated)
UP > 1 s.	Move up
DOWN < 1 s.	Inching mode or move down (if inching mode deactivated)
DOWN > 1 s.	Move down
STOP	Stop running motor
COMFORT	Move to Comfort position (shade position/partial lowering)
MODE > 2 s.	Change operating modes (MAN, AUTO, HOLIDAY)
MENU > 2 s.	Input/output programming

Possible operating modes

Press and hold the **MODE (M) button > 2 s.** to switch between the available operating modes. Three modes are available:

- MAN** Manual operations (automatic timing and sensor functions deactivated)
- AUTO** Automatic timing and sensor functions (if sensor available) activated
- HOLIDAY** Automatic timing, random generator and sensor functions (if available) activated

In the operating mode **HOLIDAY** the random generator is activated in addition to the automatic timing. The programmed switching times are delayed randomly by 1-30 minutes. The next switching time is shown correspondingly in the display with the symbol "+" (e.g. 21:00+).

Inching mode

Pressing the UP/DOWN buttons briefly (< 1 s.) slants the blind slats or positions the blinds exactly. The inching mode can be switched on/off at any time in the menu SETTINGS/INCHING MODE.

Reset/factory settings

Where required the factory settings of all function parameters can be reset in the menu item SETTINGS/RESET:

Operating mode	MAN	Inching mode	OFF
UP – switching time	07:00	Turn function	0 s.
DOWN – switching time	21:00	Comfort position	10% shade
Time/date	12:00, 01 July 2011	Limit value "Sun"	approx. 30 kLux
Travel time	60 s.	Limit value "Twilight"	approx. 4 Lux

Switchover winter/summer time

The switchover from winter to summer time is done automatically by means of the date. Where necessary, this can be switched on in the menu item SETTINGS / SU-/WINTERTIME.

Display colour scheme

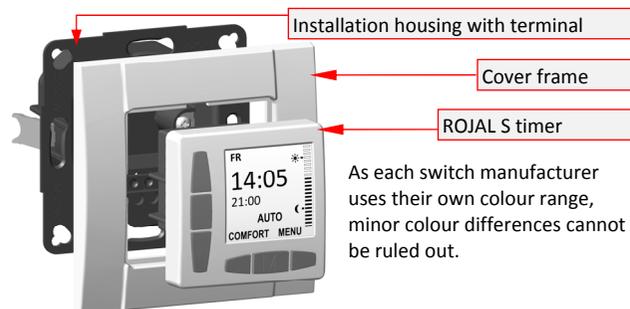
The display colour scheme can be set in the menu item SETTINGS/COLOUR SCHEME. The LCD light is switched off after 5 minutes in standby mode, and switches back on automatically on the next status change (a button is pressed, a switching process is triggered, the limit/threshold value of one of the sensor functions was reached).

Power reserve

All settings, switching times, etc. remain permanently stored. Only the current time and date have to be reset after a power failure ≥72 hours.

Compatibility with other switch programmes

The installation dimensions of 50 x 50mm (according to DIN 49075) enable the appliance to be installed in most standard switch programmes of leading switch manufacturers. In this case, the cover frame of the ROJAL S timer must be replaced by the DIN intermediate frame and cover frame for the respective switch programme. The table below shows a selection of compatible switch programmes.



As each switch manufacturer uses their own colour range, minor colour differences cannot be ruled out.

Compatible switch programmes (colour: ultrawhite similar to RAL 9010)

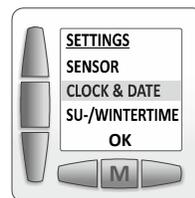
Manufacturer	Switch programme
Busch-Jaeger	Reflex SI/Impuls/Carat/Solo/Future/alpha nea/exclusive
DOWNerker	Modul 2/Arsys/S.1/DOWN.1, DOWN.3, DOWN.7/K.1,K.5
GIRA	S-Color/Standard 55/E2/E22/Event/Esprit/Flächenschalter
Merten	Artec/M1/Atelier/M-SMART/M-ARC/M-PLAN/M-STAR
JUNG	CD 500/A 500/AS 500/A Plus/LS-Design
Hager	Kallysto.pur/Kallysto.stil/Kallysto.art
presto vedder	Regina/Alessa/Fiorenza
PEHA	Standard/Dialog/Aura/NOVA
ELSO	RIVA/Scala/Fashion/Novia
Popp	Forever/Pallas

In addition, the construction and the terminal assignment of the ROJAL S are compatible with several other well-known models. For example, the Duomatic N, S, SD timers or the 7013 memory switch can be replaced with the ROJAL S by simply reconnecting.



Set time and date

The current time and/or the date must be set during the first start-up or after a longer power failure (≥ 72 hours) with the following steps:



1 Select menu item SETTINGS/CLOCK+DATE

Hold the **MENU > 2 s.** (bottom right), then select the item **SETTINGS** in the MAIN MENU and then select the item **CLOCK/DATE**, confirm by pressing **M (MODE)**.



2 Select the parameter

Use the **UP/DOWN** and **Left/Right** (bottom of the display) to select the desired parameter (e.g. the hours display) and confirm by pressing **M (MODE)**. The selected parameter starts to blink.



3 Set the desired value

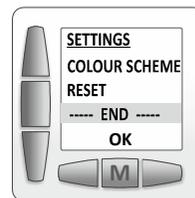
Use the **UP/DOWN** buttons to set the value and confirm by pressing **M (MODE)**.

The display stops blinking.

Repeat steps 2-3 if other parameters ("Minutes", "Day", "Month" or "Year") in the display have to be corrected.

4 Leave the active window

If all parameters are set correctly, use the **UP/DOWN** buttons to select the field "**OK**" and confirm by pressing **M (MODE)**.



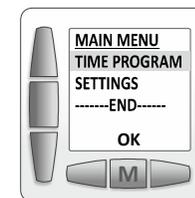
5 Return to main menu

Use the **UP/DOWN** buttons to select the item **-END-** and confirm by pressing **M (MODE)**, or...

leave programming

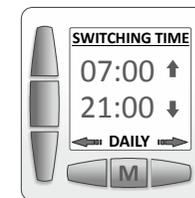
Alternatively, hold the button **MENU > 2 s.** (bottom right) and leave programming.

Set switching times



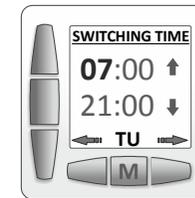
1 Select the menu item TIME PROGRAM

Hold the **MENU > 2 s.** (bottom right), use the **UP/DOWN** buttons to select the item **TIME PROGRAM**, confirm by pressing **M (MODE)**.



2 Select the weekday or "Daily"

Use the bottom buttons **Left/Right** to move to the desired weekday (**Mon, Tue** etc.) or stay in the "**DAILY**" window to set the same **UP** and **DOWN** switching times for all weekdays.



3 Select the value to be corrected

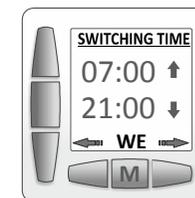
Use the **UP/DOWN** and **Left/Right** to select the desired parameter (e.g. the hours display "**07**") and confirm by pressing **M (MODE)**. The selected parameter starts to blink.



4 Set the value

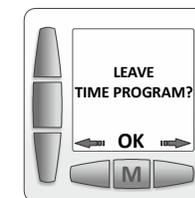
Use the **UP/DOWN** buttons to set the value and confirm by pressing **M (MODE)**. The display stops blinking.

Repeat steps 3-4 if other parameters in the display have to be corrected.



5 Change to other day

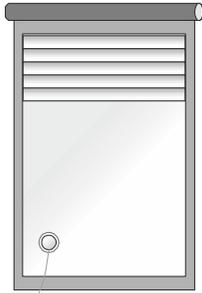
Use the **UP/DOWN** buttons to select the display "**Weekday**" (bottom center display), move to the other weekday with the **Left/Right** buttons and repeat the settings, or...



Leave the time program

Use the **Left/Right** buttons to move to the "**Leave time program?**" (between "**Daily**" and "**Mo**") and confirm by pressing **M (MODE)**.

Brightness sensor



The optional brightness sensor can be used to achieve optimal shading of the interior rooms when the sunlight is very bright and/or to close the shutter automatically on the onset of twilight.

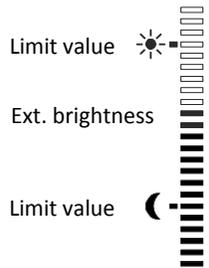
Use the suction pad to attach the sensor to the bottom half of the window pane. Clean or degrease the pane at this point before attaching the suction cap to enable it to adhere better.



The timer recognises the brightness sensor automatically when it is connected.

The display shows the brightness scale and the item **SENSOR** in the menu **SETTINGS**.

Where required, the sun and twilight function can be activated or deactivated separately in the item **SENSOR**. In addition, the two limit values/threshold values can be amended at any time in this item.



The sensor's sun and twilight functions are only active in the **AUTO** and **HOLIDAY** modes and are shown in the display with the symbols "Sun" or "Moon". The positions of these symbols on the brightness scale correspond to the currently set limit values of the two functions.

In the daily sequence the die sensor functions start as soon as the shutter/blind is moved up **for the period of the preset "Travel time"**, e.g. triggered by:

- A) the UP switching time of the time program;
 - B) manual operation (the UP or COMFORT buttons).
- The "Sun" and "Moon" symbols appear in the display.

The sensor functions are ended as soon as a DOWN operation **for the period of the preset travel time** is concluded. This DOWN operation can be triggered by:

- A) the DOWN switching time of the time program;
- B) manual operation (DOWN button);
- C) the sensor's twilight function

The "Sun" and "Moon" symbols then disappear from the display.



Sun function If external brightness measured by the sensor increases during the day above the currently preset limit/threshold value "Sun", the sun symbol starts to blink immediately. If the external brightness remains permanently above the "Sun" limit value for the next 10 min., the sun symbol shows constantly after expiry of these 10 minutes and the shutter/blind moves to the preset Comfort position (partly lowered).

If the measured external brightness falls below the "Sun" limit value in the further course of the day, the sun symbol starts to blink again. If the external brightness remains permanently below the "Sun" limit value for the next 10 min., the shutter/blind moves up on expiry of this time.

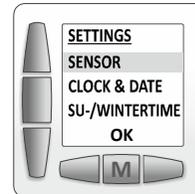
The Sun function can be carried out several times a day, depending on the change to the external brightness.



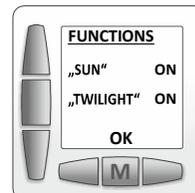
Twilight function If the measured external brightness falls in the course of the day (e.g. evening) below the "Twilight" limit/threshold value, the moon symbol starts to blink immediately. If the external brightness remains permanently below the "Twilight" limit value for the next 10 min., the moon symbol shows constantly after expiry of these 10 minutes and the timer triggers the command to move down (the shutter/blind is closed).

The sensor's Twilight function is independent of the DOWN switching time in the time program, i.e. the shutter can be automatically closed with the DOWN switching time of the time program or through the Twilight function.

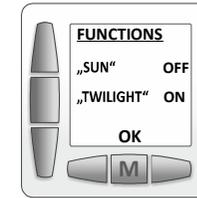
Set the sensor parameters



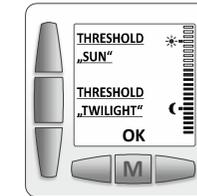
- 1 **Select SETTINGS/SENSOR**
Hold the button **MENU > 2 s** (bottom right), select the item **SETTINGS** and then the item **SENSOR**, confirm in each case by pressing **M** (MODE).



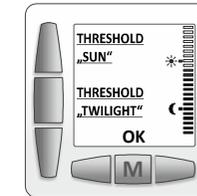
- 2 **Select the parameter**
Use the **UP/DOWN** buttons to select the parameter (e.g. Sun function "SUN" **ON**), confirm by pressing **M** (MODE). The "**ON**" display starts to blink.



- 3 **Select the parameter**
Use the **UP/DOWN** buttons to select the value (e.g. Sun function "SUN" **OFF**), confirm by pressing **M** (MODE). The display stops blinking.
Repeat steps 2-3 if other corrections are necessary.



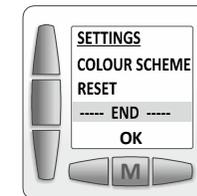
- 4 **Leave the active window**
Use the **UP/DOWN** buttons to select the field "**OK**" and confirm by pressing **M** (MODE).



- 5 **Select the parameter**
Use the **UP/DOWN** buttons to select the desired parameter (e.g. the symbol ☀ - Sun) and confirm by pressing **M** (MODE). The symbol ☀ (Sun) starts to blink.

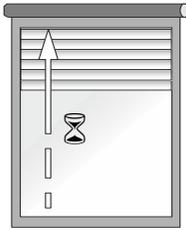
- 6 **Changing the limit/threshold value**
Use the **UP/DOWN** buttons to move the blinking symbol step-by-step to the desired position on the scale and confirm by pressing **M** (MODE). The symbol stops blinking.
If the "Twilight" limit value has to be adjusted as well, repeat steps 5-6 with the symbol ☾ (Moon)

- 7 **Leave the active window**
Select the field "**OK**" with the **UP/DOWN** buttons and confirm by pressing **M** (MODE).



- 8 **Return to main menu**
Select the item **END** with the **UP/DOWN** buttons and confirm by pressing **M** (MODE), or...
Leave programming
Alternatively, hold the button **MENU > 2 s.** and leave programming.

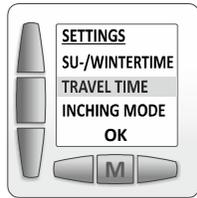
Set the motor travel time



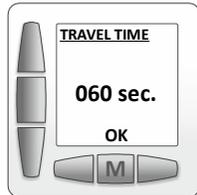
The travel time is the period in which the shutter/blind motor is switched as soon as an UP or DOWN command is triggered at the timer. The factory setting for the travel time is 60s. and this can be reset at any time as required in the menu item **SETTINGS/ TRAVEL TIME** to a period between 0 and 180s.

In the ideal case, the set travel time corresponds to the actual time that the shutter/blind requires to move from the lower to the upper end position.

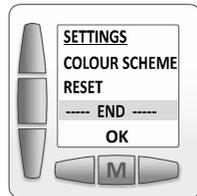
This adjustment is not essential but is practical, because the Comfort position as a percentage of the travel time is set and calculated.



1	Select menu item SETTINGS/ TRAVEL TIME
	Hold the button MENU > 2 s. (bottom right), select the item TRAVEL TIME in the menu SETTINGS and confirm with the M (MODE) button.

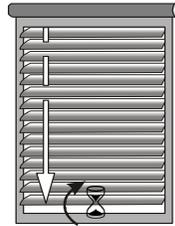


2	Set the travel time
	Set the desired time with the UP/DOWN buttons (between 0 and 180 s.) and confirm by pressing M (MODE) .



3	Return to main menu
	Use the UP/DOWN buttons to select the item -END- and confirm by pressing M (MODE) , or... Leave programming
	Alternatively, hold the button MENU > 2 s. and leave programming.

Set the auto slats turn function



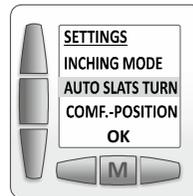
The auto slats turn function is a brief automatic UP movement of the shutter or blind after a completed DOWN operation. The brief UP movements can be used for subsequent slanting of the blind slats or to ventilate the shutters.

The auto slats turn function is carried out automatically:

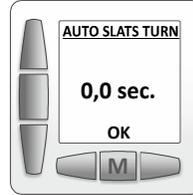
- On every DOWN operation (triggered by the DOWN switching time of the time programme, by manual operation or by the Twilight function of the brightness sensor), **after expiry of the preset travel time**;
- After complete movement to the Comfort position (triggered by pressing the COMFORT button or by the Sun function of the brightness sensor);

The turn function is not carried out if the operator interrupts the above operations manually.

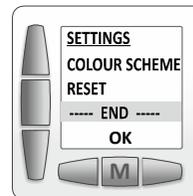
The duration of the turn impulse/ventilation movement can be set in the menu item **SETTINGS/TURN FUNCTION** from 0.0s. (no turn function) up to 5.0s.



1	Select menu item SETTINGS/ AUTO SLATS TURN
	Hold the button MENU > 2 s. (bottom right), select the item AUTO SLATS TURN in the menu SETTINGS and confirm by pressing M (MODE) .

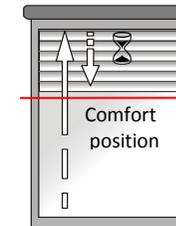


2	Set the duration of the turn/ventilation movement
	Set the desired value with the UP/DOWN buttons and confirm by pressing M (MODE) .



3	Return to main menu
	Use the UP/DOWN buttons to select the item - END- and confirm by pressing M (MODE) , or... Leave programming
	Alternatively, hold the button MENU > 2 s. and leave programming.

Set the Comfort position

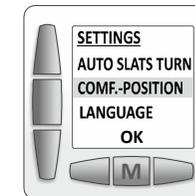


The Comfort position is an adjustable part lowering or shaded position of the shutter or blind that is approached after the sensor's Sun function is triggered (the "Sun" limit value was exceeded for 10 min.)

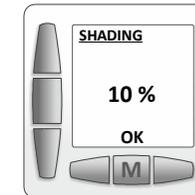
In addition, this position can be approached at any time by pressing the COMFORT button briefly, including where this is no brightness sensor.

The duration of the part lowering into the Comfort position is calculated as a percentage of the set travel time (e.g. if the travel time is set to 60s. and the Comfort position is 10%, the duration of the part lowering is 6s.). This percentage can be set at any time in the menu item **COMFORT POSITION** to shade degrees between 10% and 90%.

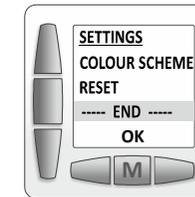
If the travel time was adjusted in the menu item **TRAVEL TIME** to the system's actually required movement time, a 40% Comfort position, for example, corresponds optically as well to 40% shading of the window.



1	Select menu item SETTINGS/COMF.-POSITION
	Hold the button MENU > 2 s. (bottom right), select the item COMF. FUNCTION in the menu SETTINGS and confirm by pressing M (MODE) .



2	Set the Comfort position (degree of shade)
	Set the desired value with the UP/DOWN buttons and confirm by pressing M (MODE) .



3	Return to main menu
	Use the UP/DOWN buttons to select the item - END- and confirm by pressing M (MODE) , or... Leave programming
	Alternatively, hold the button MENU > 2 s. and leave programming.

