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SOU-2

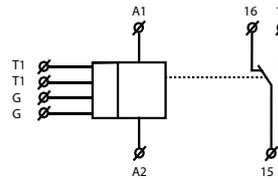
Twilight digital switch with integrated time switch



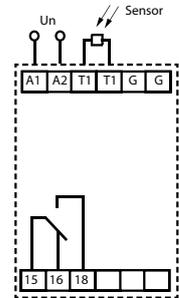
Characteristics

- It is used to control lighting based on the level of ambient light intensity and real time (a combination of twilight switch / light switch and switching clock in one product).
- With the possibility to block the function of the twilight switch at a time when the lighting is undesirable or uneconomical.
- External light sensor with IP65 protection, adapted for wall mounting (sensor holder included) or panel.
- Backlit LCD display.
- Backup of the set time using the battery.
- Easily replace the backup battery without disassembling the device.
- Switching mode AUTO:PROGRAM > according to the set program or RANDOM > switches randomly - simulation of the presence of people.
- PROGRAM:LIGHT > switches according to the set level of illumination or TIME PROGRAM > switches according to the set time program.
- Switching mode HOLIDAYS > blocking of the set program.
- Switching mode MANUAL > permanently on or off.
- Programming can also be done in backup mode (battery power).
- In backup mode, relay output contacts do not work.
- Automatic transition winter/daylight saving time (by region).
- Display languages - CZ / SK / EN / ES / PL / HU / RU.

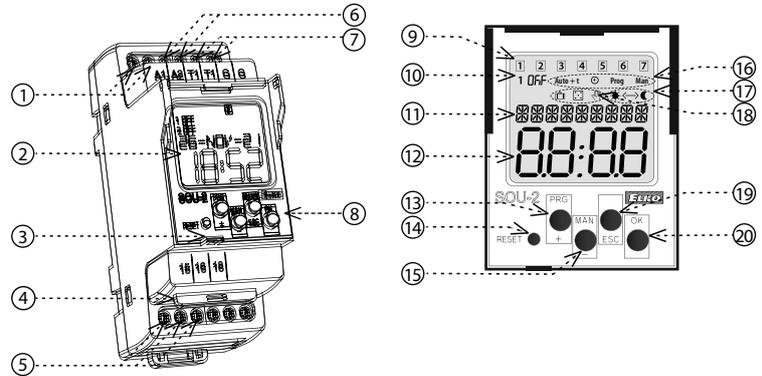
Symbol



Connection



Description



1. Supply voltage terminals
2. Display with back-light
3. Place for seal
4. Backup battery plug-in
5. Output contact (15-16-18)
6. Terminals - sensor (T1)
7. Shield connection terminals (if shielded cable is used)
8. Control buttons
9. Indicates the day in the week
10. Status indication
11. Display of data / settings menu / light intensity
12. Time display
13. Control button PRG / +
14. Reset
15. Control button MAN / -
16. Operating modes indication
17. 12/24 hours format
18. Indication of the switch program
19. Control button ESC
20. Control button OK. Switches display date / light intensity

CONTROL OF A DISPLAY WITH BACKLIGHT

Power on: Display is illuminated with a backlight for 10 seconds from the last button press. The display continuously shows the settings – date, time, day of the week, contact state and programme. Permanent on / off is activated by simultaneous presses of the MAN, ESC, OK buttons.

After activating the permanent on/off, the display will flash briefly.

Backup mode: After 2 minutes, the display switches to the sleep mode, i.e. shows no information. The display can be activated by pressing any button.

Type of load	cos φ ≥ 0.95								
Mat. contacts AgSnO ₂ contact 8 A	AC1 250V / 8A	AC2 250V / 5A	AC3 250V / 4A	AC5a uncompensated x	AC5a compensated x	AC5b 250W	AC6a 250V / 4A	AC7b 250V / 1A	AC12 250V / 1A
Type of load									
Mat. contacts AgSnO ₂ contact 8 A	AC13 x	AC14 250V / 4A	AC15 250V / 3A	DC1 30V / 8A	DC3 30V / 3A	DC5 30V / 2A	DC12 30V / 8A	DC13 30V / 2A	DC14 x

Technical parameters

SOU-2

Supply terminals:	A1 - A2
Supply voltage tolerance:	AC 230V (50-60 Hz)
Consumption:	4 VA / 1.7 W
Supply voltage tolerance:	-15 %; +10 %
Backup battery type:	CR 2032 (3V)

Output

Number of contacts:	1x changeover (AgSnO ₂)
Rated current:	8 A/AC1
Switched capacity:	2000 VA/AC1, 240 W/DC
Switched voltage:	250V AC/30V DC
Dissipated power (max.):	0.6 W
Mechanical life:	30.000.000 ops.
Electrical life (AC1):	100.000 ops.

Time circuit

Accuracy:	max. ±1s/ day at 23 °C
Minimum interval:	1 min
Program data stored for:	min. 10 years

Program circuit

Illumination range:	10-50000 lx
Sensor failure indication:	displayed on LCD*
Number of program places:	100
Program:	daily, weakly, yearly

Other data

Operating temperature	-10 °C to +55 °C (-4 °F to 131 °F)
Storage temperature:	-30 °C to +70 °C (-22 °F to 158 °F)
Dielectrical strength:	4 kV (supply - output) 3.5 kV (supply - sensor)
Operating position:	any
Mounting:	DIN rail EN 60715
Protection degree:	IP40 from front panel/IP20 terminals
Overvoltage category:	III.
Pollution degree:	2
Max. cable size (mm ²):	max. 1x 2.5, max. 2x 1.5/ with sleeve max. 1x 1.5
Dimensions:	90 x 35 x 64 mm (3.5" x 1.4" x 2.5")
Weight:	142 g (5 oz.)
Dimension of sensor:	58 x Ø 24 mm (2.3" x Ø 0.9")
Weight sensor:	16 g (0.5 oz.)
Standards:	EN 61812-1, EN 60669-1, EN 60669-2-1

* ERROR - sensor short circuit

Light sensor



Photosensor SKS-200 is external and is connected to terminals T1. Sensor is installable to panel (by screw-able transparent cover) to opening with diameter 20 mm. A part of the sensor is a plastic holder for placing into the wall or to another place. Length of a line connector to the sensor cannot be more than 50 m. Double-core cable can be used as wire diameter min. 0.2 - 0.75 mm² / with sleeve: 0.25 - 0.34 mm².

Protection degree is IP65.

To keep this protection:

- photocell sensor SKS-200 cover must be sealed by a rubber circle (part of the sensor)
- cable must be of round cross-section
- the opening must be tight to the used cable

Mode precedence

mode precedence	display	output mode
mode with the highest priority >>>	ON / OFF	manual control
>>	ON / OFF	holiday mode
>	ON / OFF	time program Prog
	LIGHT	light

LIGHT and TIME PROGRAM can work at the same time on a single channel.

Control description

		entrance into programming menu
		browsing in menu
		setting of values
		quick shifting during setting of values
		entrance into required menu
		confirmation
		switch. between display
		one level up
		a step back
		back to the starting menu

Device differs short and long button press. In the manual marked as:

○ - short button press (<1s)

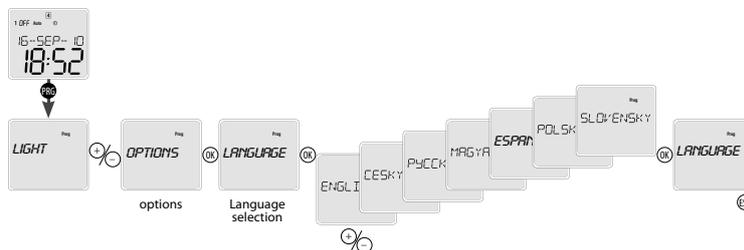
● - long button press (>1s)

After 30s of inactivity (from the last press of any button) will device automatically returns into starting menu.

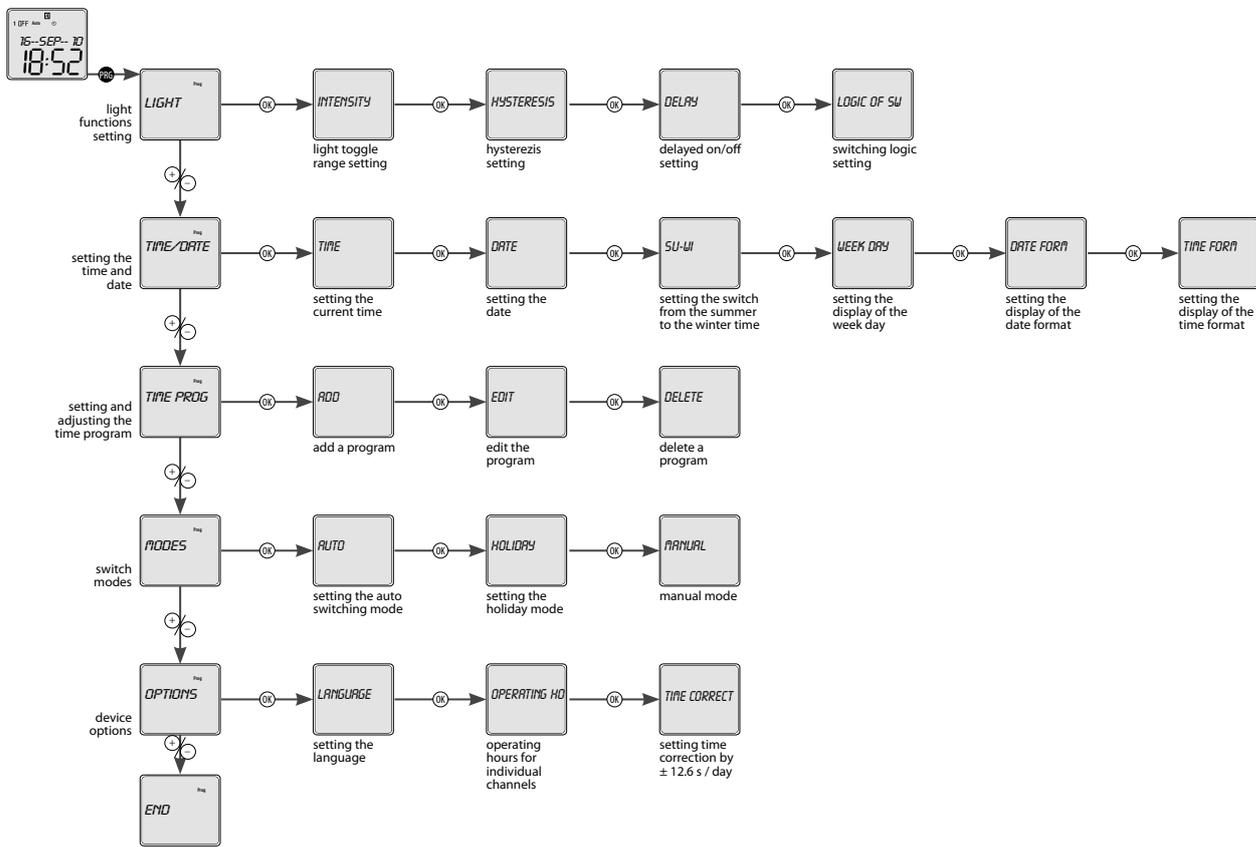
In the start screen, press to toggle between displaying the date or light intensity.

The measured value after exceeding 999 is measured in the hundreds of thousands by displaying the letter „k“ at the end. A comma separates the thousands line.

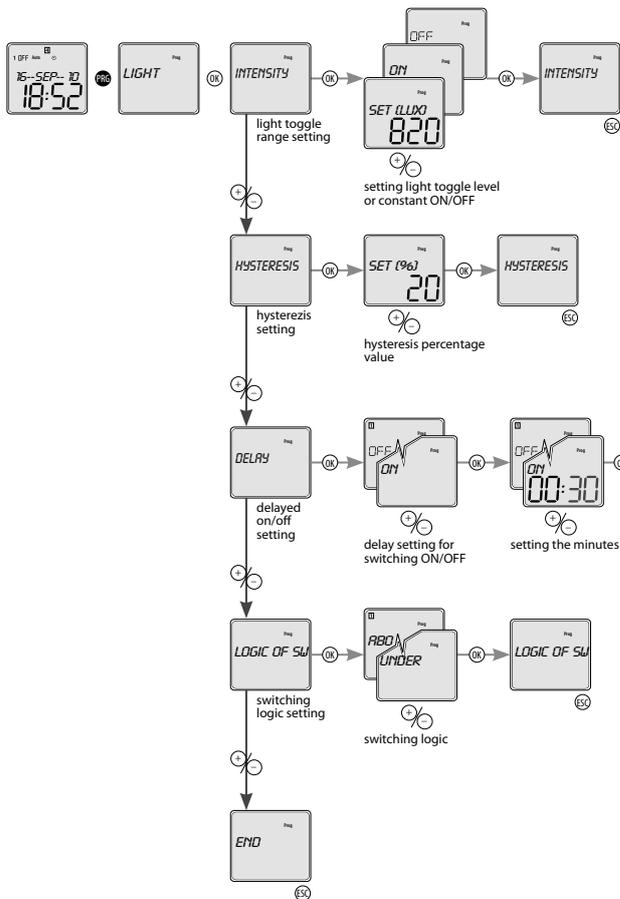
Language settings



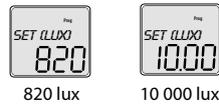
Menu overview



Light functions setting



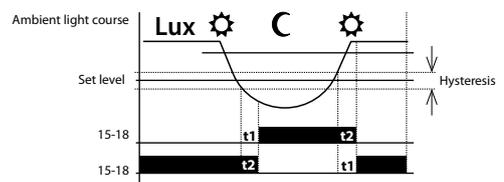
Setting value in lux:



The value may be entered in a range of 10 to 50,000 lux. After exceeding a value of 9,800 lux, a period separates the thousands line.

LOGIC OF SWITCHING

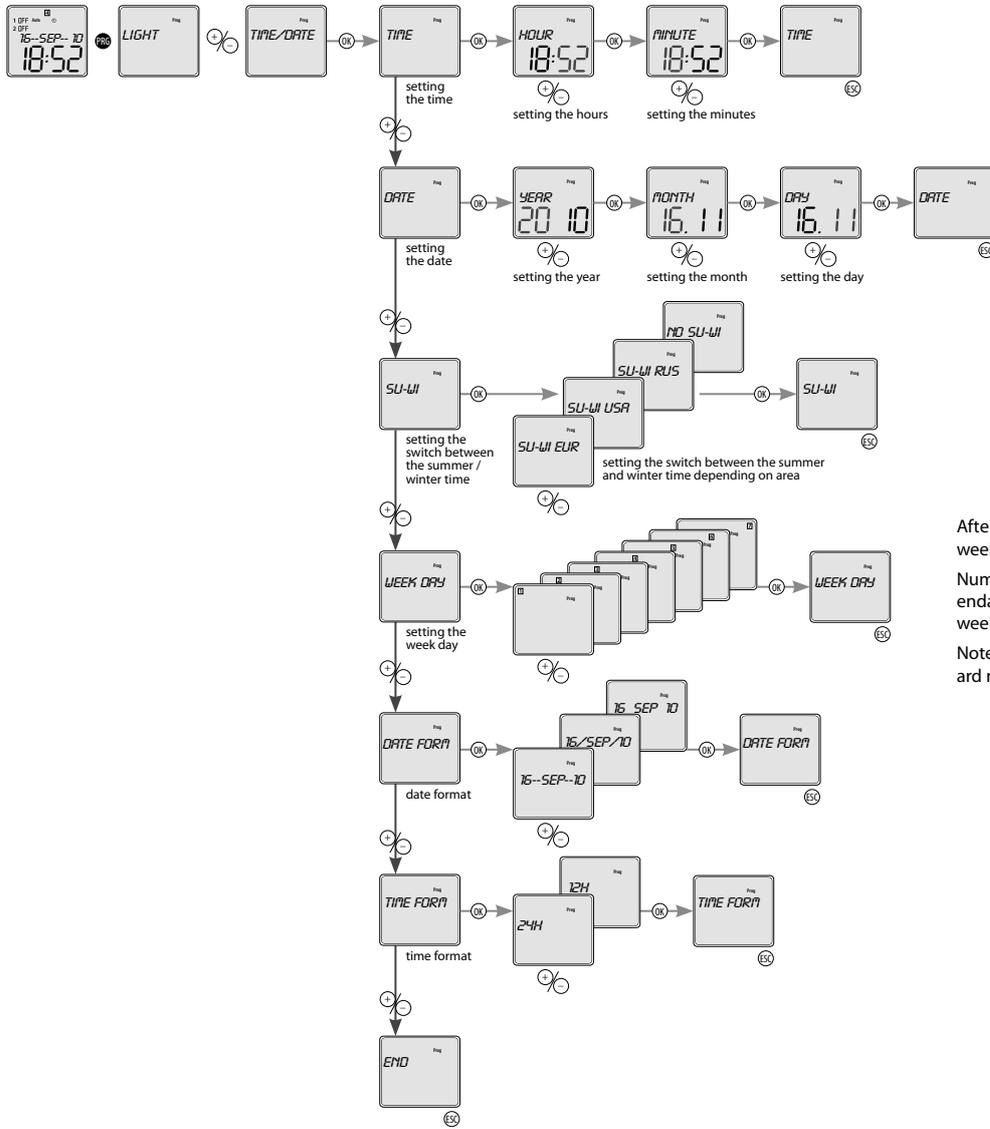
ABOVE - when exceeding the toggle range, the light intensity relay switches on.
UNDER - when exceeding the toggle range, the light intensity relay switches off.



If the function *LIGHT* is active, then symbol „Auto“ is displayed on the screen.
 If the entered switching delay is shown on the display „Auto + t“.

t1 - delay time when switching on
 t2 - delay time when switching off

Date and time setting

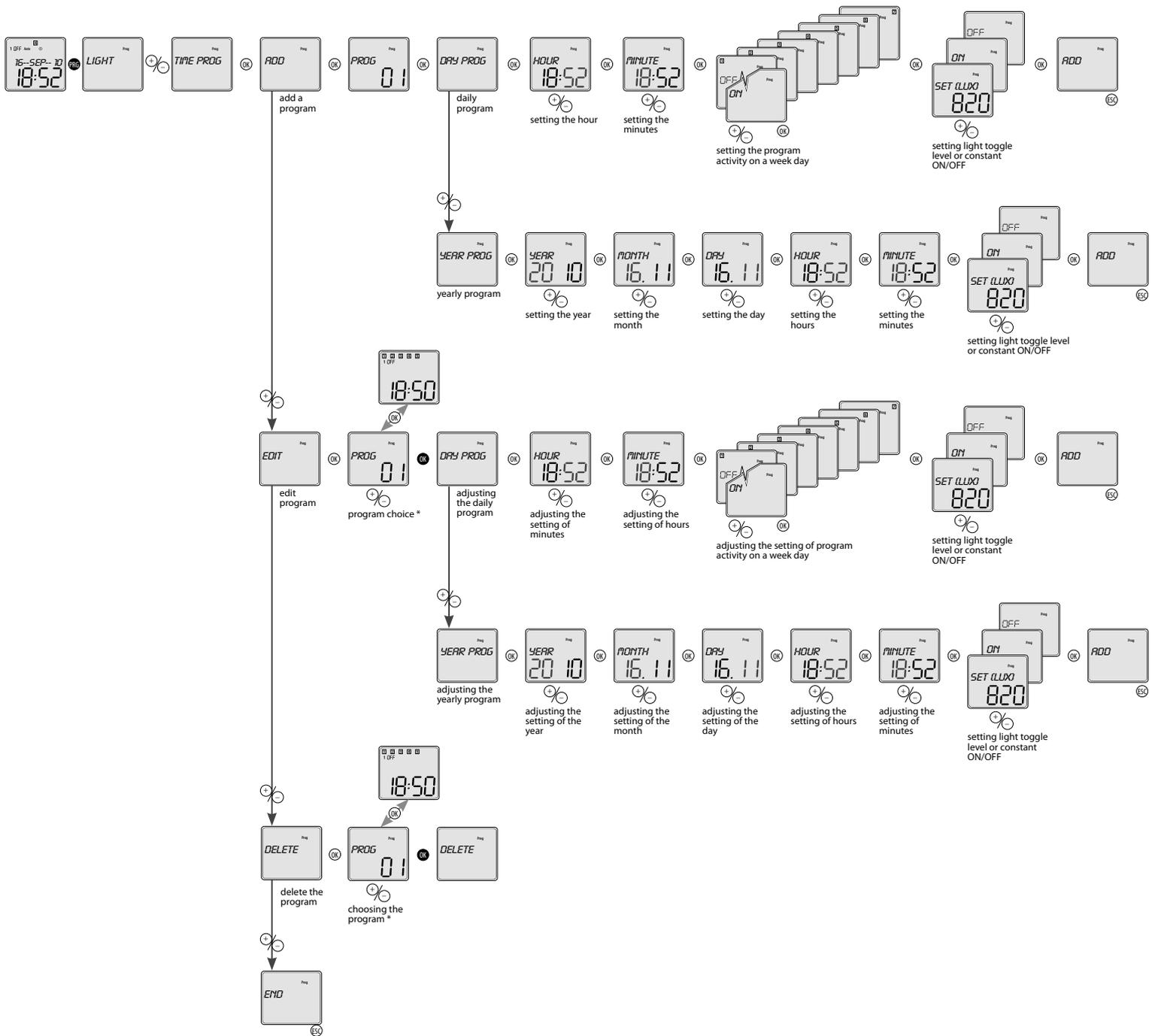


After entering the date is normally calculated and numbered by day of the week: Monday = first day of the week.

Numeral showing the day of the week, may not correspond to the calendar day of the week. It can be set in the menu „Display settings of the week“. Set the number from the set to the current date.

Note: After the date is changed, the numbering of days back to the standard numbering ie Monday = first day of the week.

Time program



* OFF

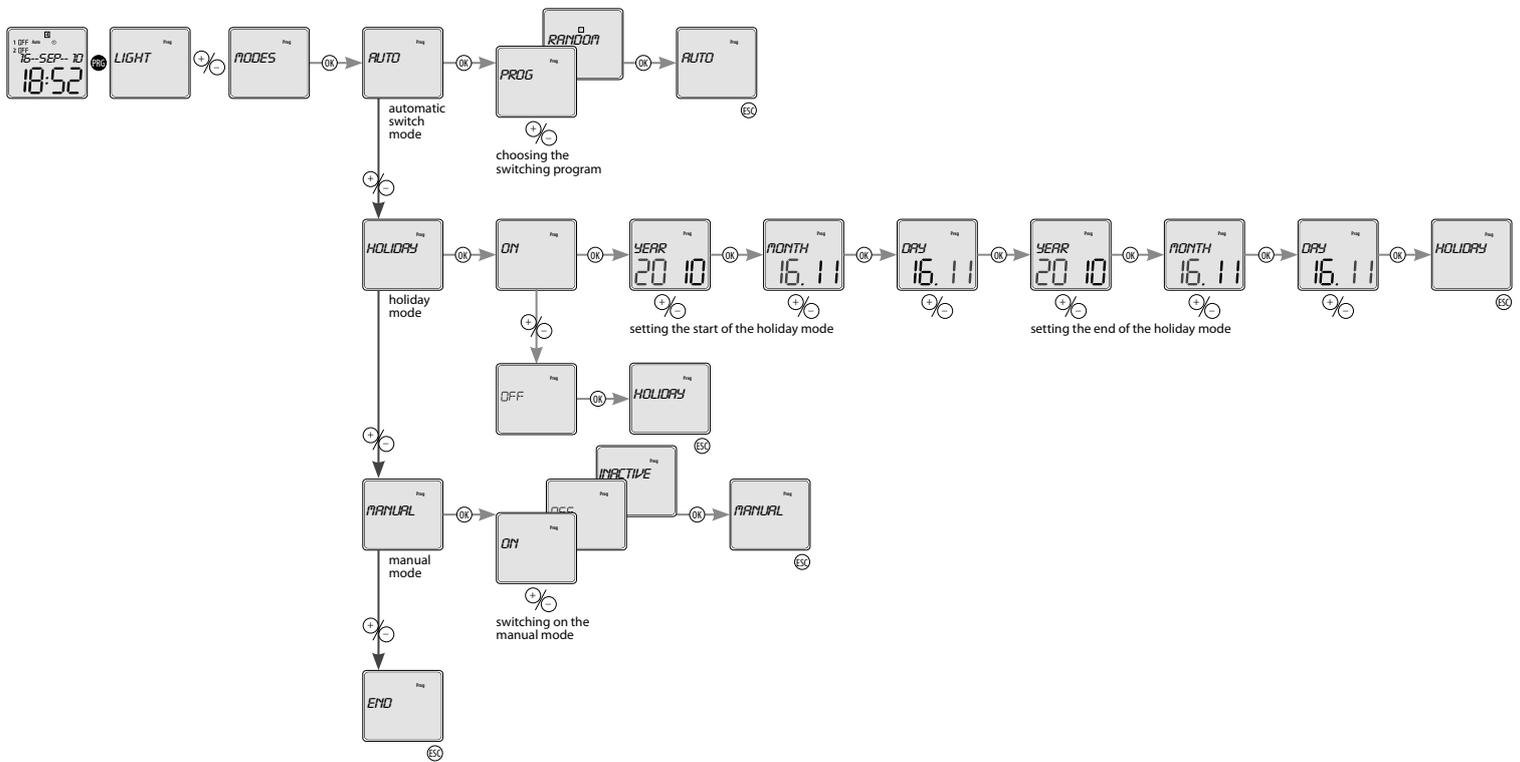
- 1. ON - permanently ON
- 1. OFF - always off
- 1. OR - controlled by twilight switch

By shortly pressing **OK**, you can toggle between the program number and the display of its settings. Use **↻** to toggle preset programs. By holding **OK** you can proceed with the required step - CHANGE / DELETE. If you do not want to proceed, press **ESC** to go to the main settings without any change.

If the program memory is full, you will see **FULL** on the display.

If the programs memory is empty and you want to change or erase a program, the display will read **EMPTY**.

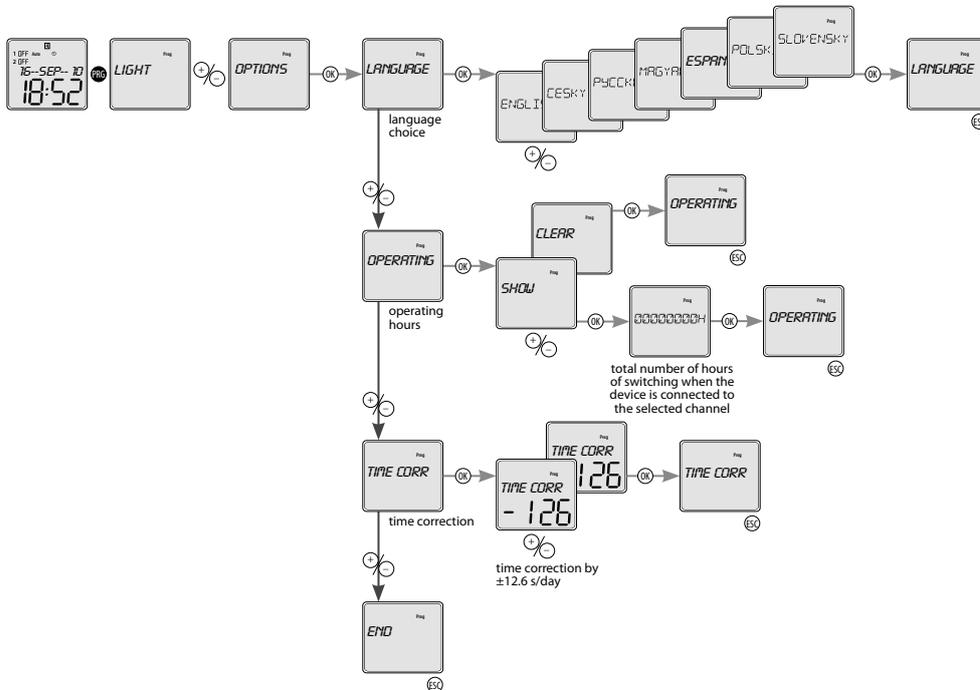
Setting the switching modes



What you see on the display:

- when a random mode is activated - *RANDOM* - the symbol is lit ☐.
- vacation mode *HOLIDAY*:
 - the illuminated symbol ■ indicates the vacation mode.
 - the flashing symbol ■ indicates the vacation mode.
 - the symbol ■ is not illuminated if the vacation mode is not set or has.
- when the manual mode is activated, the symbol is lit ☐ and the manually controlled channel is flashing.

Settings options



Time correction:

The shift unit is 0.1s per day.

The numeric value refers to seconds per 10 days.

Time correction is factory-set and individual for each product so that the real-time clock would run with minimum deviation. The time correction value can be arbitrarily adjusted, but after product RESET, the value returns to factory settings.

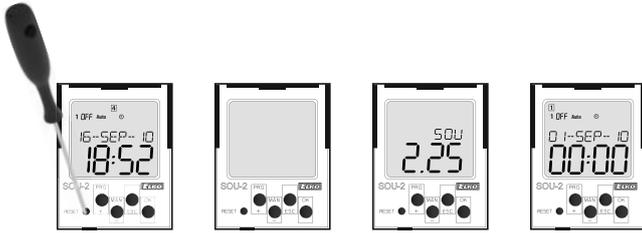
Deleting of all programs



in starting menu (time is shown on display) - press simultaneously button **PROG** and **OK** and display announces a notice ALL

press button **OK** to complete the deleting of all set programs

Reset

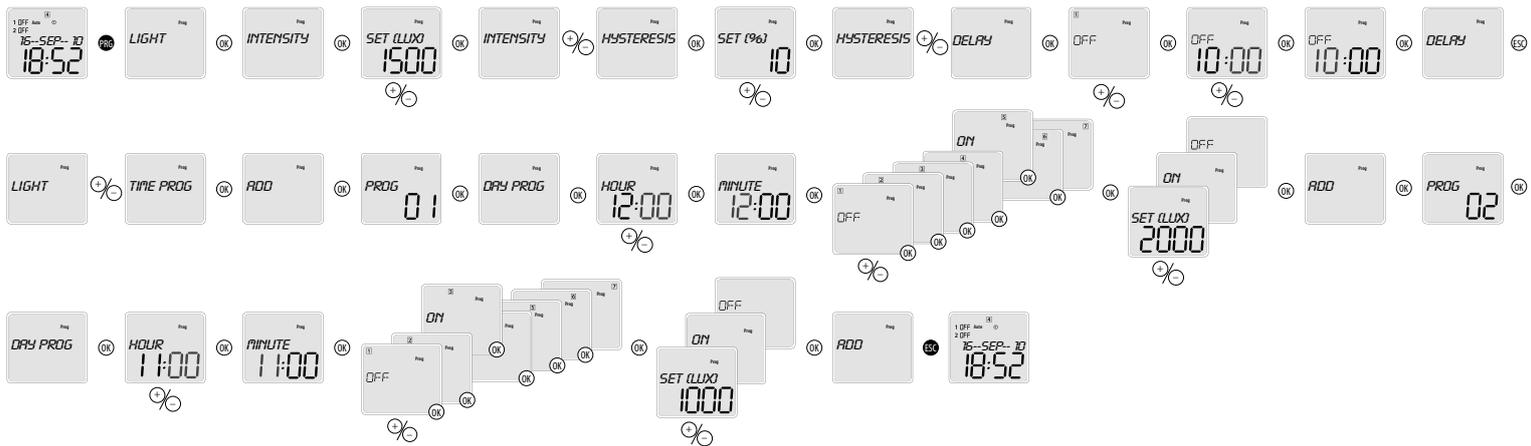


Performed by shortly pressing the hidden RESET button with a blunt-pointed object (e.g. a pencil or screw-driver with a diameter of at most 2 mm).

The type of device and software version will be displayed for 1 second, then the device will enter default mode. This means that the language is set to EN, all data is zeroed (light function, time/date, user programs, device options function).

An example of SOU-2 programming

Settings for switching upon exceeding the range of 1,500 lux. Settings of hysteresis at 10% and off delay at 10 min. Upon a change of the lux switching range each Friday at 12:00 p.m. to 2,000 and each Wednesday at 11:00 a.m. to 1,000 lux.



Warning

Device is constructed for connection in 1-phase main alternating current voltage 230 V and must be installed according to norms valid in the state of application. Connection according to the details in this direction. Installation, connection, setting and servicing should be installed by qualified electrician staff only, who has learnt these instruction and functions of the device. This device contains protection against overvoltage peaks and disturbances in supply. For correct function of the protection of this device there must be suitable protections of higher degree (A, B, C) installed in front of them. According to standards elimination of disturbances must be ensured. Before installation the main switch must be in position "OFF" and the device

Battery replacement



You can replace the battery without disassembling the device.

- Eject the plug-in module with battery
- Remove the original battery
- Insert the new battery so that the top edge of the battery (+) is aligned with the Plug-in module
- insert the plug-in module into the device - beware of polarity (+ up)

should be de-energized. Don't install the device to sources of excessive electro-magnetic interference. By correct installation ensure ideal air circulation so in case of permanent operation and higher ambient temperature the maximal operating temperature of the device is not exceeded. For installation and setting use screw-driver cca 2 mm. The device is fully-electronic - installation should be carried out according to this fact. Non-problematic function depends also on the way of transportation, storing and handling. In case of any signs of destruction, deformation, non-function or missing part, don't install and claim at your seller it is possible to dismount the device after its lifetime, recycle, or store in protective dump.