

Installation and Operating Instruction for B.E.G. time switch (with Astro function) TS-ASTRO1

Removable control panel

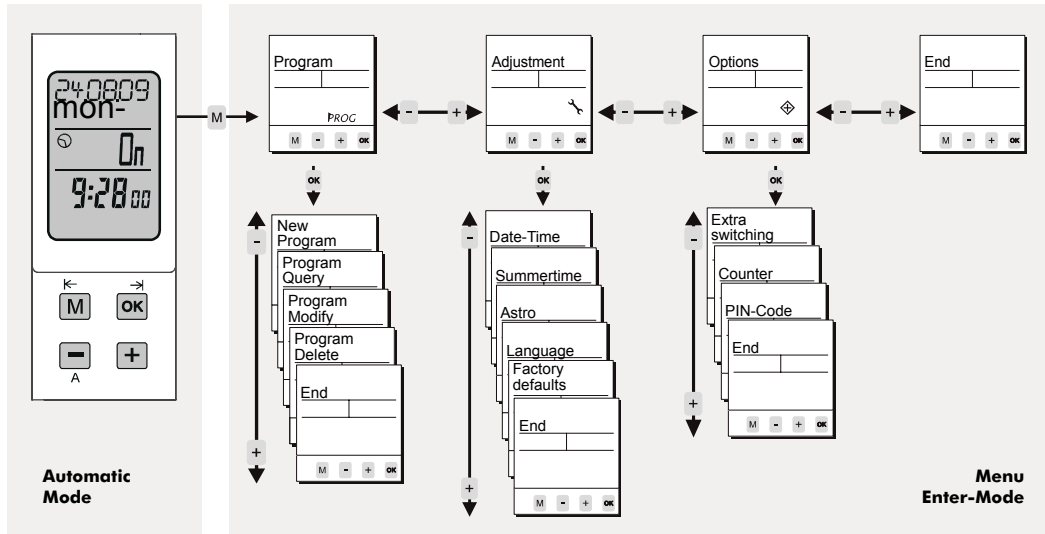
Connection diagram

1. Safety instructions

- ⚠ The installation and assembly of electrical equipment must be only carried out only by a skilled person! Otherwise fire danger or danger of an electric shock exists!
- ⚠ Connect the supply voltage/frequency as stated on the product label!
- ⚠ Warranty void if housing opened by unauthorised person!
- ⚠ The electronic circuit is protected against a wide range of external influences. Incorrect operating may occur if external influences exceed certain limits!

- 2. Initial operation**
- The time switch is delivered in sleep-mode, the display is switched off.
 - Press **OK**-button for 1 second.
 - The current date and time is already programmed and European daylight savings time is activated.
 - Select the desired language by pressing **+/-**-buttons and confirm it by pressing **OK**. (Remark: By pressing **M** you move one step backwards from the current position.)
 - If required, date, time and daylight savings time mode can be adjusted also by pressing **+/-**-buttons and a subsequent confirmation with **OK**.
 - When using the astro function it is obligatory to enter the geographical position of the place of the installation of the device. Choose with **+/-**-buttons between location (pre-defined cities) and position (longitude and latitude). Confirm your choice again with **OK**. (The easiest way is choosing a pre-defined city within the locations-menu.)
 - Enter the nearest city or the geographical coordinates with **+/-**-buttons and confirm with **OK**.

3. Menu overview



- 6. Symbol legend**
- Power plug symbol (flashing): While the power supply is disconnected, the display shows a power plug symbol (flashing). The time switch is then operated in the reserve mode. Press **OK**-button for 1 sec. to "wake up" the time switch.

Menu Program

New Program	See point 8 (New program)
Program Query	To query the programming steps and remaining memory locations
Program Modify	Within Program modify each single switching time can be modified.
Program Delete	Deletion of switching time(s). The program for all channels, single channels and single programming steps within on channel can be deleted.

Menu Options

Extra switching time	See point 7/8
Counter	Displays the hour counter and pulse counter for each channel and the time switch itself.
PIN-Code	The time switch can be locked with a 4-digit PIN-Code. The code can be adjusted, activated and deactivated. If you have forgotten the code please call customer service.

Menu Adjustment

Date-time	Adjustment of date and time
Summer-time	Adjustment of the daylight saving time mode
Astro	Adjust your geographical position with pre-defined choice of regions/countries and cities or with longitude, latitude and time zone.
Language	Choice of languages
Factory defaults	Reset to the state of delivery. Date, time and switching program will be lost!

4. Key function

Automatic-Mode

M	To access the Enter-Mode (program, adjustments, options) from the Automatic-Mode.
A	To switch the channel ON or OFF until the next programming step occurs.
OK	To activate the time switch when operated without power supply.

Menu / Enter-Mode

←	To revert to the beginning of the current (sub-) menu.
+/-	To adjust the flashing digit. To scroll through a choice.
→	To confirm the selection or the entered data.

5. Channel ON OFF / Permanent P

Channel ON OFF
By pushing **A**-buttons (**+/-**-buttons) a manual switch of the channels take place. The resulting switching status is marked with the hand-symbol and remains until the next programming step occurs. (temporary over-ride)

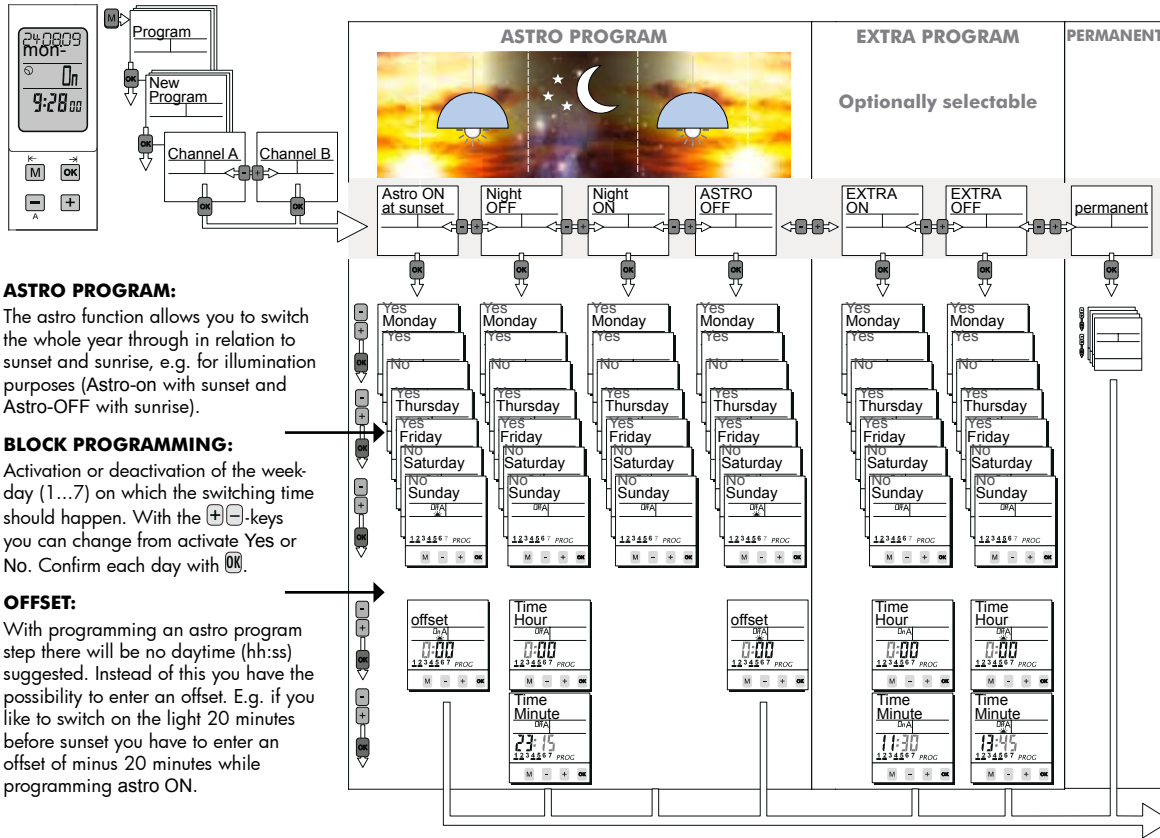
Permanent switching status P
By pressing the corresponding channel button **A** for more than 3 sec. the channel is permanently switched ON or OFF. The status remains until the next manual switching occurs (> 3 sec.). (permanent over-ride)

- ON/OFF/PChannel is switched ON / Channel is switched OFF / Permanent
- For the current date the "holiday program"/ "permanent by date" is activated
 - Standard programming step.
 - Current state is based on a manual over-ride
The state will be cancelled with the next programming step.
 - 1 2 3 4**
5 6 7
Days of the week Monday, Tuesday, ... Sunday; The underscores indicate if the program is activated for the days above.
 - Astro function: Current state is based on a sunrise or sunset taking into account an optionally adjusted Offset.
 - The time switch is locked; to unlock the device the PIN has to be entered.

7. Program permanent / Extra switching time / Reset

permanent	One permanent by date programming step (holiday function) for each channel is possible. During the desired period (the function is valid for the whole days) the channel can be switched off (permanent off) or on (permanent on). The choice permanent will not be offered anymore within the menu new program when already in use. The switching time can be modified and deleted within Program modify and Program delete respectively. (see point 8)
Extra Switching time	You can program further "extra" switching times e.g. if you like to use a channel of the time switch for a non-"Astro lighting-application". You have to activate the "extra switching times" within the menu Options. The "extra switching times" works like a standard weekly program (ON/OFF). After activating the "extra switching time" it will be offered within the programming menu new program. (see point 8)
Reset-Function	Press all front keys for 2 seconds. The time switch is reset. The values for date and time will be deleted and have to be re-entered. The switching program has not been deleted!

8. Instruction Manual - Time switch (with Astro function)



ASTRO PROGRAM:

The astro function allows you to switch the whole year through in relation to sunset and sunrise, e.g. for illumination purposes (Astro-on with sunset and Astro-OFF with sunrise).

BLOCK PROGRAMMING:

Activation or deactivation of the week-day (1...7) on which the switching time should happen. With the (+) (-)-keys you can change from activate Yes or No. Confirm each day with **OK**.

OFFSET:

With programming an astro program step there will be no daytime (hh:ss) suggested. Instead of this you have the possibility to enter an offset. E.g. if you like to switch on the light 20 minutes before sunset you have to enter an offset of minus 20 minutes while programming astro ON.

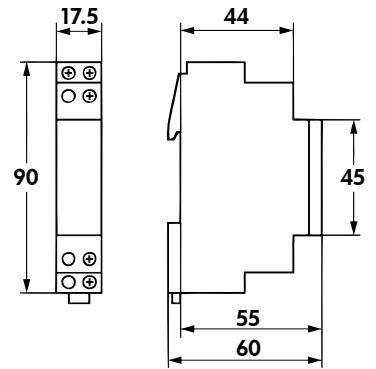
9. Technical data

■ Supply voltage	230V, 50 – 60Hz
■ Power consumption	approx. 1.5VA
■ Channel (potential-free)	Change-over, contact gap < 3 mm (μ)
■ Contact material	AgSnO ₂ + W-tungsten contact
■ Switching capacity per channel	16A / 250V at $\cos(\varphi) = 1$
■ Filament lamp	2.000W
■ Halogen lamp	2.000W
■ Fluorescent lamp uncompensated	1.000VA
■ Fluorescent lamp series compensated	1.000VA
■ Fluorescent lamp parallel compensated	550VA
■ Fluorescent lamp double switch	1.000VA
■ Mercury discharge lamp uncompensated	4 x 125W, 2 x 250W, 1 x 400W, 1 x 700W
■ Mercury discharge lamp parallel compensated	6 x 50W (7 μ F), 4 x 125W (10 μ F), 2 x 250W (18 μ F), 1 x 400W (25 μ F), 1 x 700W (40 μ F)
■ Sodium discharge lamp uncompensated	2 x 250W, 1 x 400W
■ Sodium discharge lamp parallel compensated	2 x 150W (20 μ F), 1 x 250W (32 μ F), 1 x 400W (45 μ F)
■ Compact fluorescent lamp convent. lamp ballast	1.000VA
■ Compact fluorescent lamp electron. lamp ballast	4 x EB, power independent
■ Switching functions	ON, OFF; Astro on, Astro off
■ Memory locations	30
■ Minimum interval	1 min.
■ Time base	Quartz crystal
■ Power back-up (at 20°C)	approx. 4 years (depending on the lifetime of the Lithium battery)
■ Program security	unlimited (EEPROM)
■ Quartz cryst. accuracy (at 20°C)	$\leq \pm 1$ sec./day
■ Display	LCD
■ Permitted ambient temperature	-10°...+50°C
■ Enclosure	self-extinguishing thermoplastic
■ Dimensions	45 x 17.5 x 55 mm
■ Distribution board mounting	35 mm DIN-rail (DIN EN 50022)
■ Type of connection	Screw terminals (pull-up type)
■ Type of protection	IP20 to DIN EN 60529
■ Type of protection class	II when installed according to regulations

10. Article / Part-Nr. / Accessory

Time switch (with Astro function)	Part-Nr.
LUXOMAT® TS-ASTRO1	92669

11. Dimensions



Battery CR 1/3 N
(LiMnO₂) 3V.
Complies with Article 11,
EU directive 2006/6/CE.

