B.E.G. LUXOMAT® TIME SWITCHES

ENERGY SAVINGS WITH THE NEW TIME SWITCHES FROM B.E.G.

▪ www.beg-luxomat.com ▪

- Control time
- Fast & direct
- Cost efficient

ENVIRONMENT

With B.E.G. energy savings = cost reduction + environmental pro

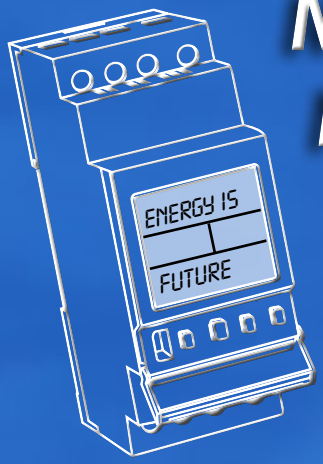
WEEKLY TIME SWITCHES

ASTRO TIME SWITCHES

YEARLY TIME SWITCHES

ACCESSORIES

ANALOGUE TIME SWITCHES



MORE ENERGY SAVINGS MADE POSSIBLE BY TIME CONTROLLED SWITCHING

TIME CONTROLLED

TABLE OF CONTENTS

PRECISE TIME ON VIEW

Fast and comfortable programming thanks to text controlled LCD-Menu and easy control panels for direct use.

TRAVEL THROUGH PRESENT TIME

Simple installation of a date based holiday program as well as an automatic changeover of summer and winter periods according to GMT.

TIME MEASUREMENT WITH STRUCTURE

Flexible creation of new switching times with gradually and targeted menu driving for individual query, change and deleting.

EFFECTIVE SECURITY EVERY TIME

Possibility to enter a PIN-Code for an optimal protection against unauthorized operation and program changing.

OPTIMIZED TIME MANAGEMENT

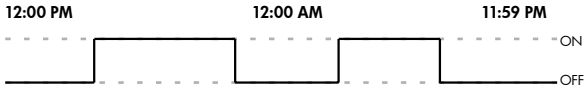
Copy other week-days with equal switching times by means of copy function for a quick adaptation of daily and weekly programs.

SWITCHING ALWAYS ON TIME

Accurate control of pulse times as well as fast installation of periodical switching times with a cycle function.

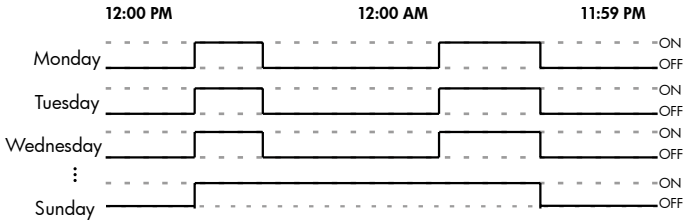
▪ Daily program 24h^{prog}

Irrespective of the day of the week the same switching program is carried out each day. Multiple switching functions can be programmed within 24 h.



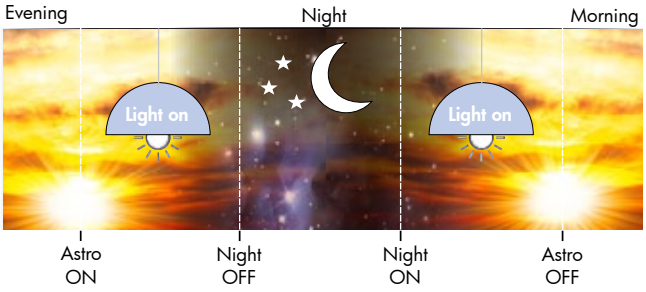
▪ Weekly program week^{prog}

Depending on the day of the week (Mo - Su) different daily programs can be configured. Unrestricted block programming allows a free choice of days of the week within one switching function. The choice of switching functions is the following: ON, OFF, permanent by date (holiday), pulse (pulse not available in astro time switches).



▪ Astro program / Solar program astr-☼-

Astronomical or solar time swtiches can be used as an alternative to twilight switches (also known as photo-electric or day/night switch). When using an astro time switch NO light sensor is needed. By means of "astro switching times" (Astro ON / Astro OFF) the time switch automatically calculates the start of dusk in the evening or the beginning of dawn in the morning and calculates the time for sunset and sunrise respectively. This calculation is updated each day throughout the whole year. Additionally, conventional switching functions of a weekly time switch can be programmed (ON, OFF, (holiday) permanent by date).



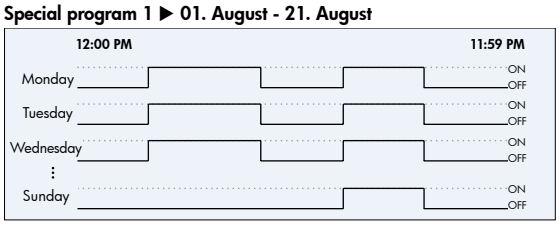
Offset: A chronological offset can be entered. This offset customises the astro switching times. Therefore the time switch can execute an astro switching time either before or after sunset/sunrise or, if the offset is left at zero, exactly at sunrise/sunset.

Position/location: To guarantee exact calculation of local sunset and sunrise times, you can easily enter your approximate geographical coordinates (longitude and latitude).

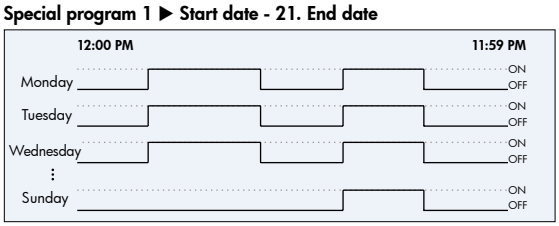
▪ Yearly program year^{prog}

Yearly time switches are suitable to achieve more sophisticated time controls compared to standard weekly programs. By means of special (weekly) programs different weekly programs can be carried out within different periods during the year (from start date to end date).

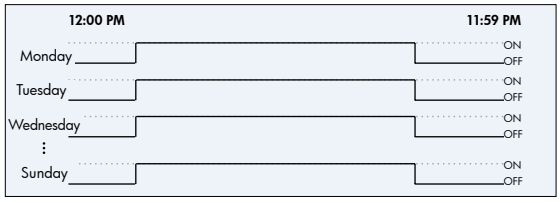
Special program 1 ▶ 01. August - 21. August



Special program 1 ▶ Start date - 21. End date



Special program 1 ▶ Start date - 21. End date



Easter function: One additional function when carrying out a special weekly program is the Easter function. If you selected it for a period with start date and end date, these dates, are shifted by the shift of Easter holiday for successive years (Gaussian Easter formula). This function is applicable for holidays e.g. Ash Wednesday, Palm Sunday, Maundy Thursday, Good Friday, Easter Day, Pentecost, Feast of Corpus Christi, Carnival.

Extra switching time: A further feature is the extra switching times. Single switching times can be programmed for a specific date (e.g. Anniversary). The residual switching program remains unaffected. A helpful add-on is the option "weekday function". If you assign this to your extra switching time the shift of this weekday of the month will be taken into account for successive years. E.g.: A switching time that should be carried out every 2nd saturday of february every year.

ENERGY SAVINGS YEARLY TIME SWITCH

Power density	Configuration	ON-Switching of the light	Consumption
max. power density 10 W/m²	Typical open-plan office 300 m²	11 hours 260 days 1 weekends 1 nights in a month	11244 kWh /year
max. power density 10 W/m²	Typical open-plan office 300 m²	11 hours 260 days	8580 kWh /year
			2664 kWh /year
			25 % savings

▪ Permanent by date (holiday function)

You have the possibility to switch a channel during a period (from start date to end date) permanently ON or OFF.

▪ Pulse function pulse

The pulse function is a function for a switching time with defined pulse length ranging from 00:01 to 59:59 mm:ss.

▪ Timer function timer (only for manual and external trigger signals)

The timer function can only be started by an external signal (external input) or by the channel buttons of the time switch. The switching performance is identical to the pulse function The pulse length is greater and ranges from 0:00:01 h:mm:ss to 9:59:59 h:mm:ss. The timer function is also known under following terms: On-pulse or Single shot.

▪ Cycle function cycle

The cycle function can be used to program a continuous ON-OFF-ON-OFF... switching time. The time switch operates then as an asymmetrical recycler (pulse/pause). The independently adjustable max pulse/pause lengths are 9:59:59 h:mm:ss. 4 different memory locations are reserved for 4 different cycles.

▪ Channel button

You can assign different switching functions to each single channel. This function is carried out when either pressing the corresponding channel button of the time switch or optionally by addressing the channel from the external input. The different switching functions are the following: ON/OFF (predefined setting, see alse “manual override”), cycle, timer, permanent.

▪ External iput Extern

The external input can be used as external trigger for different functions (ON/OFF, cycle, timer, permanent). The signal connected to the external input can be of type “switch” or “push-button”.

Staircase lighting timer: When using the timer function and advanced warning function.

Glow lamp load of the external input: Max. 75 mA (Used to supply the glow lamp in suitable light switches; not available in 70 mm versions.)

▪ Advance warning function

A useful function for lighting applications according DIN 18015-2. Two-fold flashing warns of darkness.

▪ Radio controlled clock dcf

Some time switches can be controlled by radio receiver (Part number 92683). The time switch is then synchronised to the time standard signal DCF77.

The transmitter is located close to Frankfurt/Main (Mainflingen). The range is approx. 15000 km.

▪ Data key function data

Time switches with this function can be programmed by data key TS-ACC-DS1 (accessory).

The functions are as follows:

- Data back-up of the time switch
- Programming the time switch with the pre-programmed key program
- Time switch executes only the key program

Programming package TS-ACC-DS2:

A useful accessory for the data key TS-ACC-DS1 is the programming package TS-ACC-DS2. You can easily program your switching program with the PC and transfer it to the time with the data key switch.

Removable programming module: data

The data key function is included within the removable module of the time switches TS-DW1 and TS-ASTRO1. In additional to manual programming these modules are also programmable with a programming package. The modules plugs into the PC interface (no data key needed).

▪ PIN-Code pin

Security by PIN-coding.

▪ Display with back light lcd

For a better contrast of displayed symbols, digits and letters.

▪ Permanently ON and OFF (manual)

By pressing the corresponding channel button for more than 3 sec. the channel is permanently switched ON or OFF.

▪ Manual override

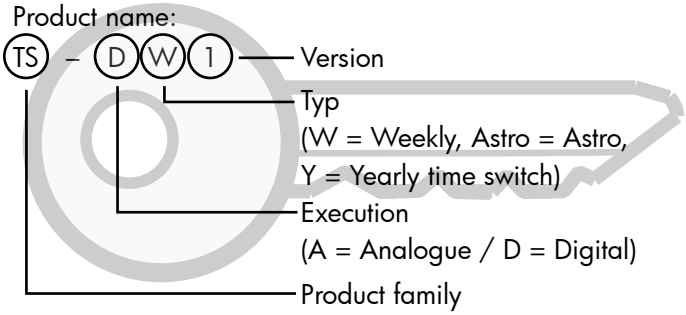
By pushing the channel button the corresponding channel will change its status.

▪ Time counter 2345 h

Time switches with integrated time counter are counting operation hours and the number of switchings of each channel as well as the operation hours of the time switch.

▪ Decoding of the type designations

Product name:



OVERVIEW DIGITAL TIME SWITCHES

WEEKLY TIME SWITCHES

Digital time switch	Part nr.	DIN-rail mounting	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Add-ons
TS-DW1	92656	▪	17.5 x 45	internal intern 46	1 channel	data	pulse	–	–
TS-DW2	92658	▪	35 x 45	internal intern 46	1 channel	data	pulse	–	–
TS-DW3	92659	▪	35 x 45	internal intern 46	2 channels	data	pulse	–	–

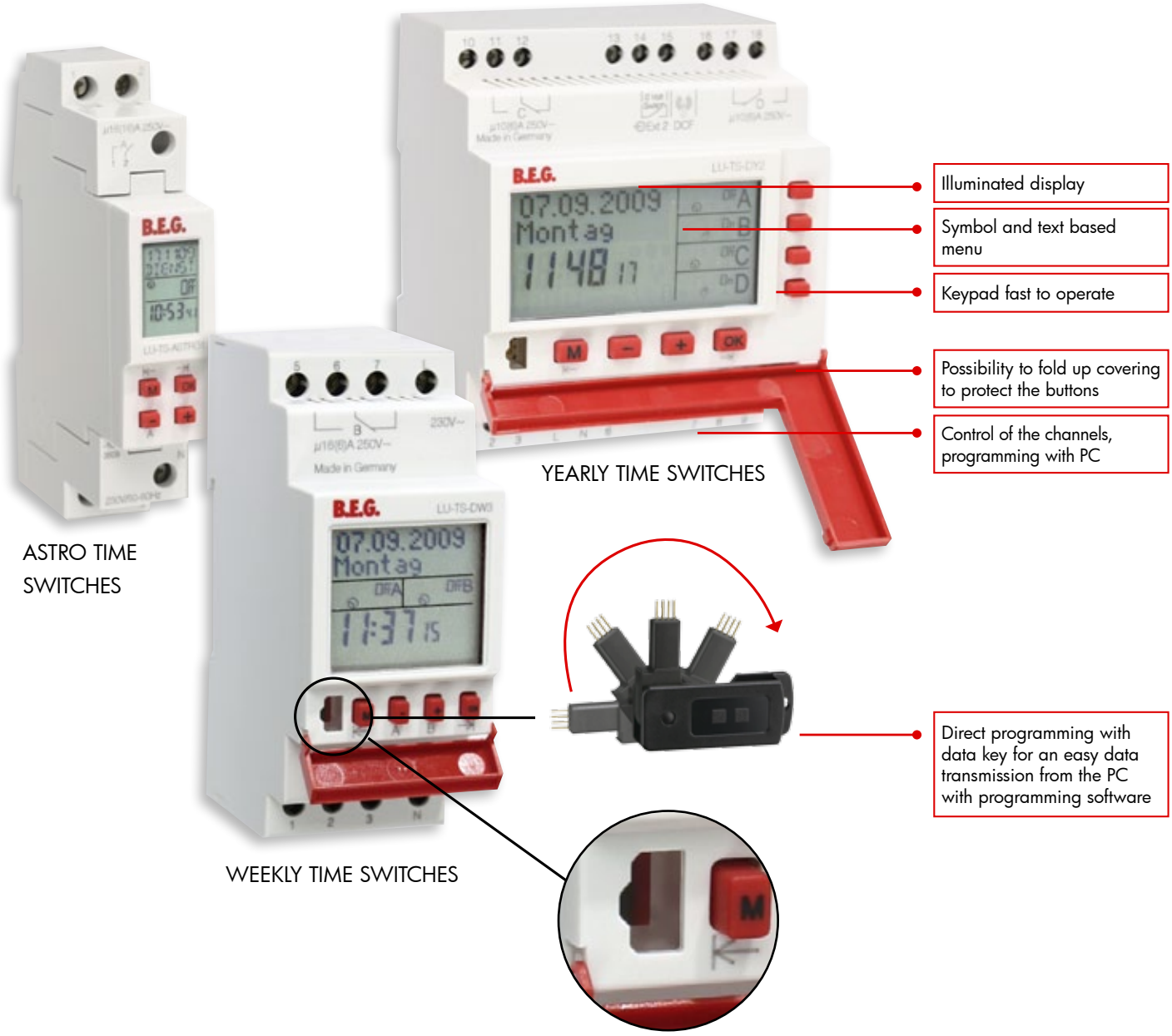
ASTRO TIME SWITCHES

Digital time switch	Part nr.	DIN-rail mounting	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Add-ons
TS-ASTRO1	92669	▪	17.5 x 45	internal intern 60	1 channel	–	–	–	–
TS-ASTRO2	92671	▪	35 x 45	internal intern 100	1 channel	data		–	~~Extern~~*
TS-ASTRO3	92673	▪	35 x 45	internal intern 100	2 channels	data		–	–

* one channel time switch

YEARLY TIME SWITCHES

Digital time switch	Part nr.	DIN-rail mounting	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Add-ons
TS-DY1	92674	▪	35 x 45	internal intern 300	1 channel	data	pulse	cycle	dcf
TS-DY2	92675	▪	71.5 x 45	internal intern 300	4 channels	data	pulse	cycle	~~Extern~~ / dcf



PROGRAMMING WITH A PC

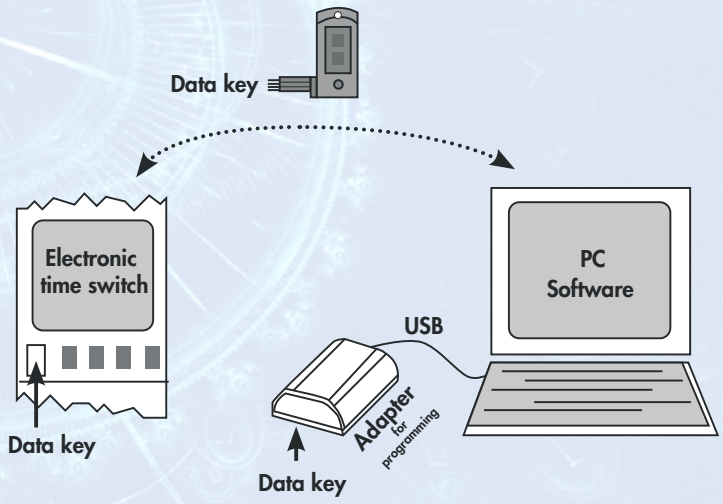
Program on CD see page 22!

It is possible to generate a print-out of the program as a recording for later reference.

Holidays/permanent program and ON/OFF periods can also be programmed.

The switching program can be back-up easily on a PC or transferred to the data key to copy a switching program from one digital time switch to another.

In connection to the data key, the programming package is a useful extension for the time switch. You are able to comfortably program a switching time from your PC and save switching times on your data key via USB-interface.



DIGITAL WEEKLY TIME SWITCH FOR DIN-RAIL MOUNTING **TS-DW1**

PRODUCT INFORMATION

- 1 channel
- Daily and weekly program
- 46 memory locations
- Minimum interval 1 min.
- Switching capacity 16 A
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code

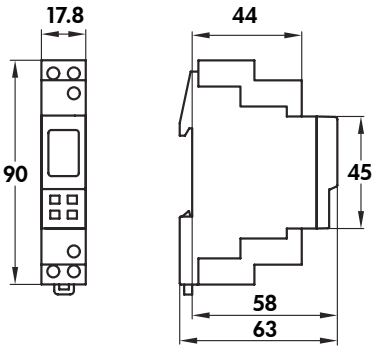
LUXOMAT® TS-DW1

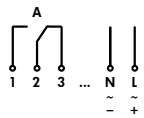
FURTHER INFORMATION

Removable programming module

HIGHLIGHTS

- Text based menu and self-explanatory symbols
- Display with two text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Removeable programming module





TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.7 W
Channel (potential-free)	Change-over, contact gap < 3 mm
Contact material	AgNi
Switching capacity	16 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	300 mW (5 V / 5 mA)
Max. starting current	30 A
Filament Lamp	1.000 W
Halogen Lamp	1.000 W
Fluorescent Lamp uncompensated	500 VA
Fluorescent Lamp series compensated	500 VA
Fluorescent Lamp parallel compensated	300 VA
Fluorescent Lamp double switch.	500 VA
Mercury Discharge Lamp uncompensated	2 x 125 W, 1 x 250 W
Mercury Discharge Lamp parallel compensated	3 x 50 W (7 µF), 2 x 125 W (10 µF), 1 x 250 W (18 µF)
Sodium Discharge Lamp uncompensated	1 x 150 W
Compact Fluorescent Lamp convent. lamp ballast	500 VA
Compact Fluorescent Lamp electron. lamp ballast	2 x electronic lamp ballast, power independent
Switching functions	ON, OFF, pulse
Pulse length pulse function (switching time)	00:01 up to 59:59 mm:ss
Memory locations	46
Minimum interval	1 min.
Time base	Quartz
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD
Permitted ambient temperature	-30°C to +50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 17.5 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse	✓	
Timer		
Cycle		
Astro		
Permanent by date	✓	
Yearly program		

Description	Channels	Time base	Part nr.
Digital weekly time switch TS-DW1	1	Quartz	92656

B.E.G. DIGITAL WEEKLY TIME SWITCH FOR DIN-RAIL MOUNTING TS-DW2 AND TS-DW3

PRODUCT INFORMATION

- 1 or 2 channels
- Daily and weekly program
- 46 memory locations
- Minimum interval 1 min.
- Switching capacity 16 A per channel
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Pulse function
- Security by PIN-Code
- Illuminated display
- Data key function

LUXOMAT® TS-DW3/2

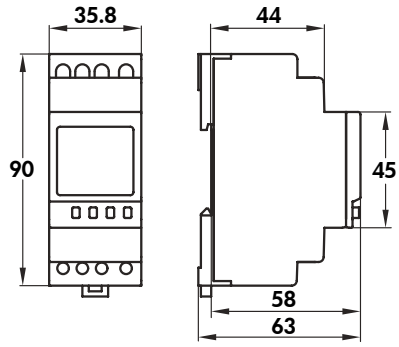
ACCESSORIES

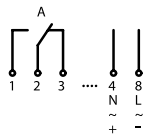
Data key TS-ACC-DS1
(not included in delivery of the time switch)

Programming package TS-ACC-DS2
(not included in delivery of the time switch)

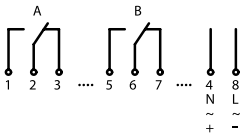
HIGHLIGHTS

- Text based menu and self-explanatory symbols
- Display with a large dot matrix area to provide two high resolution text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Data key TS-ACC-DS1 – programmable with PC-Programming package TS-ACC-DS2 (not included in delivery of the time switch)





Digital weekly time switch 92658 (1 channel)



Digital weekly time switch 92659 (2 channels)

TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.8 – 1.8 W (depending on the switching status)
Channel (potential-free)	Change-over, contact gap < 3 mm
Contact material	AgCdO
Switching capacity per channel	16 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	500 mW (10 V / 5 mA)
Max. starting current	30 A
Filament Lamp	1.000 W
Halogen Lamp	1.000 W
Fluorescent Lamp uncompensated	500 VA
Fluorescent Lamp series compensated	500 VA
Fluorescent Lamp parallel compensated	300 VA
Fluorescent Lamp double switch	500 VA
Mercury Discharge Lamp uncompensated	4 x 125 W, 2 x 250 W
Mercury Discharge Lamp parallel compensated	3 x 50 W (7 µF), 2 x 125 W (10 µF), 1 x 250 W (18 µF)
Sodium Discharge Lamp uncompensated	1 x 150 W
Compact Fluorescent Lamp convent. lamp ballast	500 VA
Compact Fluorescent Lamp electron. lamp ballast	2 x electronic lamp ballast, power independent
Switching functions	ON, OFF, pulse
Pulse length pulse function (switching time)	00:01 up to 59:59 mm:ss
Memory locations	46
Minimum interval	1 min.
Time base	Quartz crystal
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD (visible area 7.5 cm²)
Permitted ambient temperature	-30°C to +55°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 35 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse	✓	
Timer		
Cycle		
Astro		
Permanent by date	✓	
Yearly program		

Description	Channels	Time base	Part nr.
Digital weekly time switch TS-DW2	1	Quartz	92658
Digital weekly time switch TS-DW3	2	Quartz	92659

PRODUCT INFORMATION

- 1 channel
- Daily and weekly program
- Astro program
- 60 memory locations
- Minimum interval 1 min.
- Switching capacity 16 A
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Security by PIN-Code

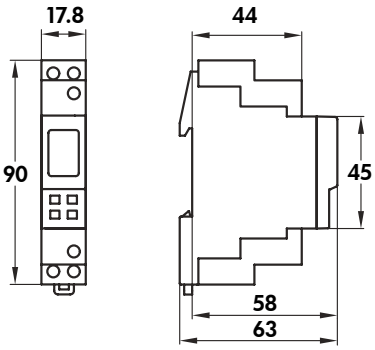
LUXOMAT® TS-ASTRO1

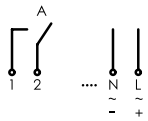
FURTHER INFORMATION

Removable programming module

HIGHLIGHTS

- Astro program
- Text based menu and self-explanatory symbols
- Display with two text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Removeable programming module





TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	1.0 W
Channel (potential-free)	Normally open, contact gap < 3 mm
Contact material	$AgSnO_2$ + W pre-make contact
Switching capacity	16 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	1000 mW (10 V / 10 mA)
Max. starting current	165 A / 20 ms (filament lamp) 800 A / 200 µs (fluorescent lamp)
Filament Lamp	2.000 W
Halogen Lamp	2.000 W
Fluorescent Lamp uncompensated	1.000 VA
Fluorescent Lamp series compensated	1.000 VA
Fluorescent Lamp parallel compensated	550 VA
Fluorescent Lamp double switch	1.000 VA
Mercury Discharge Lamp uncompensated	4 x 125 W, 2 x 250 W, 1 x 400 W, 1 x 700 W
Mercury Discharge Lamp parallel compensated	6 x 50 W (7 µF), 4 x 125 W (10 µF), 2 x 250 W (18 µF), 1 x 400 W (25 µF), 1 x 700 W (40 µF)
Sodium Discharge Lamp uncompensated	2 x 250 W, 1 x 400 W
Sodium Discharge Lamp parallel compensated	2 x 150 W (20 µF), 1 x 250 W (32 µF), 1 x 400 W (45 µF)
Compact Fluorescent Lamp convent. lamp ballast	1.000 VA
Compact Fluorescent Lamp electron. lamp ballast	4 x electronic lamp ballast, power independent
Switching functions	Astro ON/OFF; Night ON/OFF; Extra ON/OFF
Offset Astro switching time	+/– 90 min.
Memory locations	60
Minimum interval	1 min.
Time base	Quartz
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD
Permitted ambient temperature	-30°C to +50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 17.5 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse		
Timer		
Cycle		
Astro	✓	
Permanent by date	✓	
Yearly program		

Description	Channels	Time base	Part nr.
Digital astro time switch TS-ASTRO1	1	Quartz	92669

LUXOMAT® TS-ASTRO3/2

PRODUCT INFORMATION

- 1 or 2 channels
- Daily and weekly program
- Astro program
- 100 memory locations
- Minimum interval 1 min.
- Switching capacity 16 A per channel
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Timer function
- Advanced warning function
- External input function (only 1-channel-versions)
- Channel button function
- Security by PIN-Code
- Illuminated display
- Data key function

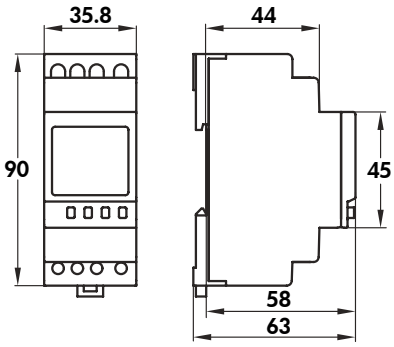
ACCESSORIES

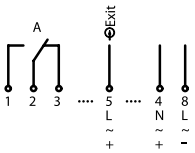
Data key TS-ACC-DS1
(not included in delivery of the time switch)

Programming package TS-ACC-DS2
(not included in delivery of the time switch)

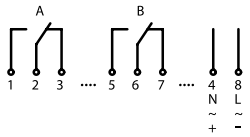
HIGHLIGHTS

- Astro program
- Text based menu and self-explanatory symbols
- Display with a large dot matrix area to provide two high resolution text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Data key TS-ACC-DS1 – programmable with PC-Programming package TS-ACC-DS2 (not included in delivery of the time switch)





Digital astro time switch 92658 (1 channel)



Digital astro time switch 92659 (2 channels)

TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.8 – 1.8 W (depending on the switching status)
Channel (potential-free)	Change-over, contact gap < 3 mm
Contact material	$AgSnO_2$
Switching capacity per channel	16 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	1000 mW (10 V / 10 mA)
Max. starting current	50 A
Filament Lamp	2.000 W
Halogen Lamp	2.000 W
Fluorescent Lamp uncompensated	1.000 VA
Fluorescent Lamp series compensated	1.000 VA
Fluorescent Lamp parallel compensated	550 VA
Fluorescent Lamp double switch	1.000 VA
Mercury Discharge Lamp uncompensated	4 x 125 W, 2 x 250 W, 1 x 400 W, 1 x 700 W
Mercury Discharge Lamp parallel compensated	6 x 50 W (7 µF), 4 x 125 W (10 µF), 2 x 250 W (18 µF), 1 x 400 W (25 µF), 1 x 700 W (40 µF)
Sodium Discharge Lamp uncompensated	2 x 250 W, 1 x 400 W
Sodium Discharge Lamp parallel compensated	2 x 150 W (20 µF), 1 x 250 W (32 µF), 1 x 400 W (45 µF)
Compact Fluorescent Lamp convent. lamp ballast	1.000 VA
Compact Fluorescent Lamp electron. lamp ballast	4 x electronic lamp ballast, power independent
Switching functions	Astro ON/OFF; Night ON/OFF; Extra ON/OFF
Offset Astro switching time	+/– 90 min.
Pulse length Timer (man. switching)	0:00:01 up to 9:59:59 mm:ss
Memory locations	100
Minimum interval	1 min.
Time base	Quartz
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD (visible area 7.5 cm^2)
Permitted ambient temperature	-30°C to +55°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 35 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse		
Timer		✓
Cycle		
Astro	✓	
Permanent by date	✓	
Yearly program		

Description	Channels	Time base	Part nr.
Digital astro time switch TS-ASTRO2	1	Quartz	92671
Digital astro time switch TS-ASTRO3	2	Quartz	92673

LUXOMAT® TS-DY1

PRODUCT INFORMATION

- 1 channel
- Daily, weekly and yearly program
- 300 memory locations
- Minimum interval 1 min.
- Switching capacity 16 A
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Pulse function
- Cycle function
- Timer function
- Channel button function
- DCF function
- Security by PIN-Code
- Illuminated display
- Compact 35 mm wide housing
- Data key function

ACCESSORIES

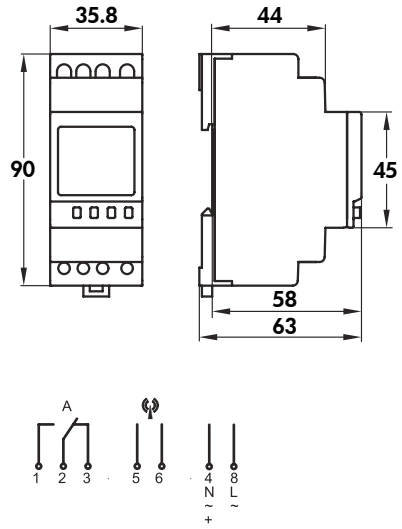
Data key TS-ACC-DS1
(not included in delivery of the time switch)

Programming package TS-ACC-DS2
(not included in delivery of the time switch)

DCF radio receiver TS-ACC-FE
(not included in delivery of the time switch)

HIGHLIGHTS

- Yearly program with Easter function, Weekday function and Extra-switching-time function
- Text based menu and self-explanatory symbols
- Display with a large dot matrix area to provide two high resolution text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Data key TS-ACC-DS1 – programmable with PC-Programming package TS-ACC-DS2 (not included in delivery of the time switch)



TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	1.4 – 1.9 W (depending on the switching status)
Channel (potential-free)	Change-over, contact gap < 3 mm
Contact material	$AgSnO_2$
Switching capacity	16 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	1000 mW (10 V / 10 mA)
Max. starting current	50 A
Filament Lamp	2.000 W
Halogen Lamp	2.000 W
Fluorescent Lamp uncompensated	1.000 VA
Fluorescent Lamp series compensated	1.000 VA
Fluorescent Lamp parallel compensated	550 VA
Fluorescent Lamp double switch	1.000 VA
Mercury Discharge Lamp uncompensated	4 x 125 W, 2 x 250 W, 1 x 400 W, 1 x 700 W
Mercury Discharge Lamp parallel compensated	6 x 50 W (7 µF), 4 x 125 W (10 µF), 2 x 250 W (18 µF), 1 x 400 W (25 µF), 1 x 700 W (40 µF)
Sodium Discharge Lamp uncompensated	2 x 250 W, 1 x 400 W
Sodium Discharge Lamp parallel compensated	2 x 150 W (20 µF), 1 x 250 W (32 µF), 1 x 400 W (45 µF)
Compact Fluorescent Lamp convent. lamp ballast	1.000 VA
Compact Fluorescent Lamp electron. lamp ballast	4 x electronic lamp ballast, power independent
Switching functions	ON, OFF, pulse, cycle, yearly program
Pulse length Pulse function (switching time)	00:01 up to 59:59 mm:ss
Pulse length Timer (man. switching)	0:00:01 up to 9:59:59 h:mm:ss
Pulse/Pause length Cycle	0:00:01 up to 9:59:59 h:mm:ss
Memory locations	300
Minimum interval	1 min.
Time base	Quartz crystal or DCF 77 (Part nr. 92683)
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD (visible area 7.5 cm^2)
Permitted ambient temperature	-30°C to +55°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 35 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse	✓	
Timer		✓
Cycle	✓	✓
Astro		
Permanent by date	✓	
Yearly program	✓	

Description	Channels	Time base	Part nr.
Digital yearly time switch TS-DY1	1	Quartz/DCF	92674

LUXOMAT® TS-DY2

PRODUCT INFORMATION

- 4 Channels
- Daily, weekly and yearly program
- 300 memory locations
- Minimum interval 1 min.
- Switching capacity 10 A per channel
- Permanent by date / holiday function
- Manual permanent mode
- Manual override
- Automatic sorting of switching times on readout
- Unrestricted block programming
- Fully automatic daylight saving time
- Elapsed time and pulse counter
- Pulse function
- Cycle function
- Timer function
- External input function
- Channel button function
- DCF function
- Security by PIN-Code
- Illuminated display
- Data key function

ACCESSORIES

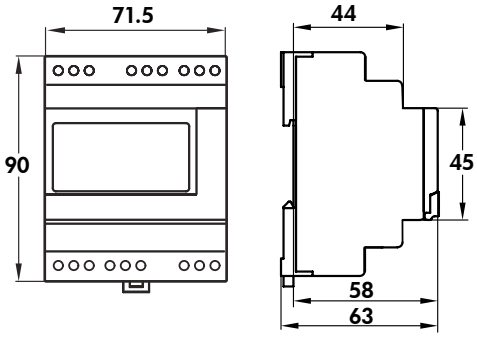
Data key TS-ACC-DS1
(not included in delivery of the time switch)

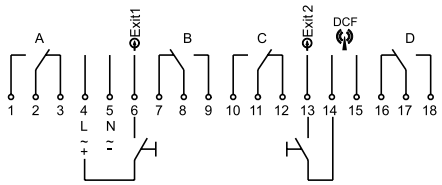
Programming package TS-ACC-DS2
(not included in delivery of the time switch)

DCF radio receiver TS-ACC-FE
(not included in delivery of the time switch)

HIGHLIGHTS

- Yearly program with Easter function, Weekday function and Extra-switching-time function
- Text based menu and self-explanatory symbols
- Display with a large dot matrix area to provide two high resolution text lines
- Easy handling. Quick and intuitive programmable time switch
- Can be programmed with supply disconnected (6 years battery-reserve)
- Unlimited program security by EEPROM
- Data key TS-ACC-DS1 – programmable with PC-Programming package TS-ACC-DS2 (not included in delivery of the time switch)





TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	1.2 – 3.2 W (depending on the switching status)
Channel (potential-free)	Change-over, contact gap < 3 mm
Contact material	$AgSnO_2$
Switching capacity per channel	10 A / 250 V~ at cos(φ) = 1 6 A with inductive load cos(φ) = 0.6
Min. switching power	1000 mW (10 V / 10 mA)
Max. starting current	50 A
Switching functions	ON, OFF, pulse, cycle, yearly program
Pulse length pulse function (switching time)	00:01 up to 59:59 mm:ss
Pulse length Timer (man. switching)	00:00:01 up to 9:59:59 h:mm:ss
Pulse/Pause length Cycle	00:00:01 up to 9:59:59 h:mm:ss
Memory locations	300
Minimum interval	1 min.
Time base	Quartz crystal or DCF 77 (Part nr. 92683)
Power back-up (at 20°C)	approx. 6 years
Program security	Unlimited by EEPROM
Quartz crystal accuracy (at 20°C)	≤ ±1 sec. / day
Display	high resolution LCD (visible area 12.8 cm^2)
Permitted ambient temperature	-30°C to +55°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 71.5 x 58 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
Class of protection	II when installed according to regulations
Certification mark	VDE

OVERVIEW TIME SWITCH FUNCTIONS

	Switching time	Channel-key
ON/OFF	✓	✓
Permanent	✓	✓
Pulse	✓	
Timer		✓
Cycle	✓	✓
Astro		
Permanent by date	✓	
Yearly program	✓	

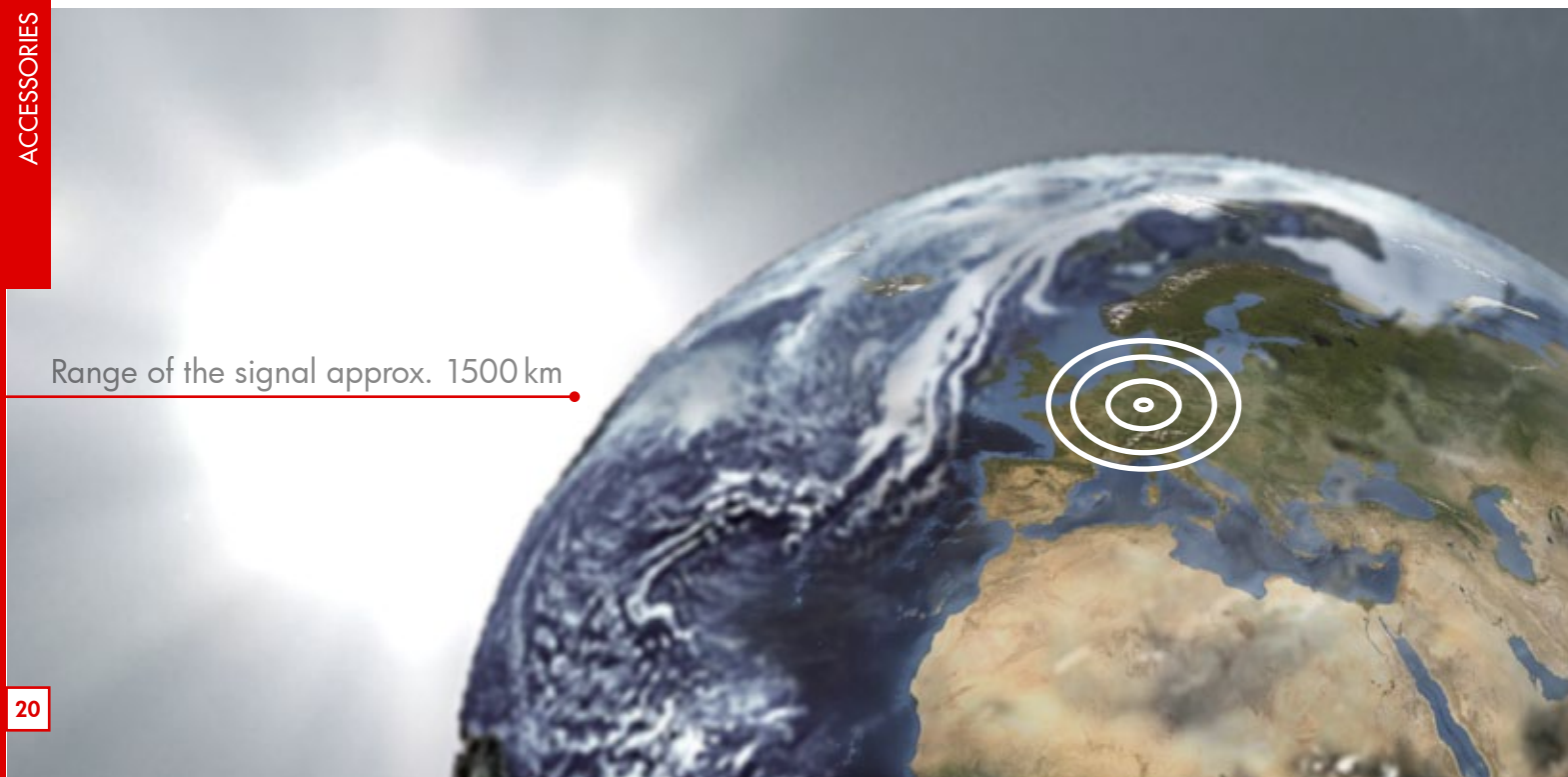
Description	Channels	Time base	Part nr.
Digital yearly time switch TS-DY2	4	Quartz/DCF	92675

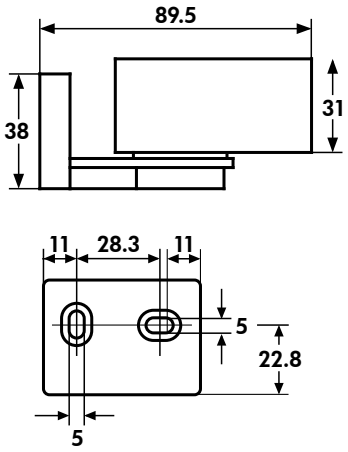
DCF RADIO RECEIVER FOR WALL MOUNTING **TS-ACC-FE**

PRODUCT INFORMATION

- DCF 77 radio link with TS-ACC-FE
- One receiver can connect to 10 time switches
- Time and date are automatically transfered to the clock
- Fully automatic summertime (European standard)
- Operation indicator: flashing LED on receiving
- Compact housing
- Simple mounting with fastening angle, receiver is rotatable
- Max. length of wire between receiver TS-ACC-FE and time switch 200 m

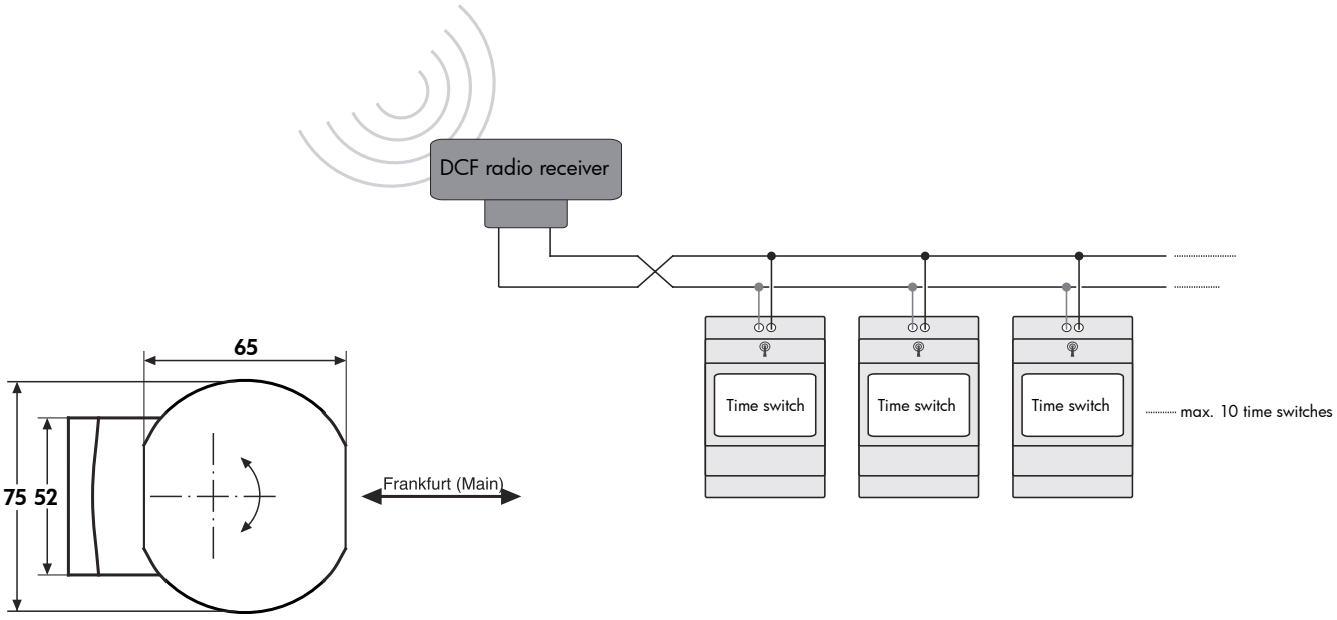
LUXOMAT® TS-ACC-FE





TECHNICAL DATA

Power Supply	via time switch (without battery); no separate power supply necessary
Output	DCF-protocol
Receiver	narrowband-heterodyne receiver
Operation indicator	flashing LED on receiving
Consequence of an interference with reception	time switches use their quartz as time base
Antenna	built-in ferrite rod
Permitted ambient temperature	-20°C to +50°C
Enclosure	self-extinguishing thermoplastic
Mounting	fastening angle for wall mounting (receiver is rotatable)
Type of protection	IP54 to DIN EN 60529

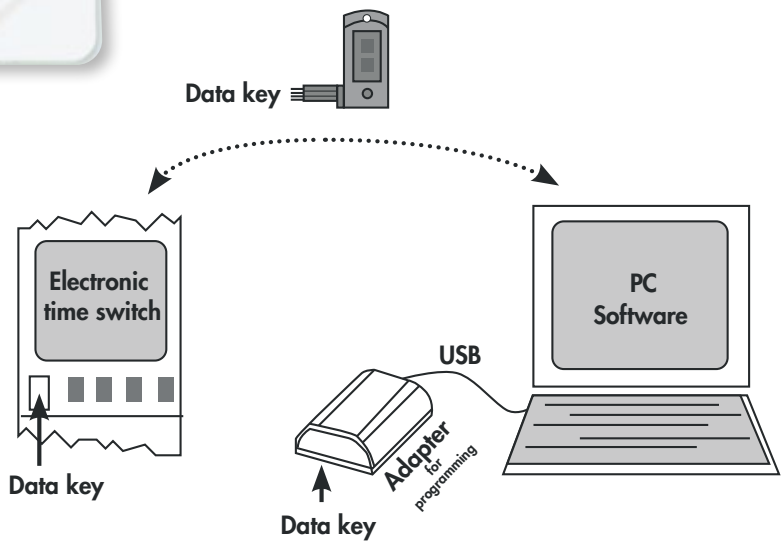


Description	Version	Part nr.
DCF radio receiver TS-ACC-FE	for wall mounting (receiver is rotatable)	92683

PRODUCT INFORMATION

- Programming package for easily programming of switching times at your PC
- Simple and logical
- The PC-software allows data download from key to PC, modification of data and upload to data key
- Switching programs can be saved to your PC

LUXOMAT® TS-ACC-DS2



ACCESSORIES

Data key TS-ACC-DS1
(not included in delivery of the time switch)

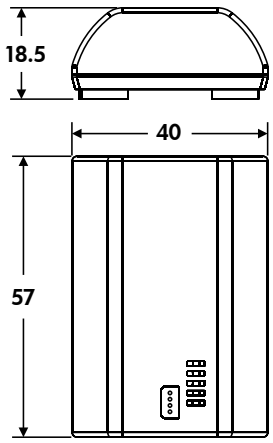
FURTHER INFORMATION

How can you save a switching program? How can you copy a switching program from one time switch to the other?

Questions with an easy answer: TS-ACC-DS2! The new data key provides even more comfort.

PROGRAMMING PACKAGE TS-ACC-DS2

The save and carry programming package (TS-ACC-DS2), together with the data key (TS-ACC-DS1) make programming much easier. Program your time switches easily at your PC and save the switching program via USB-device on the datakey.

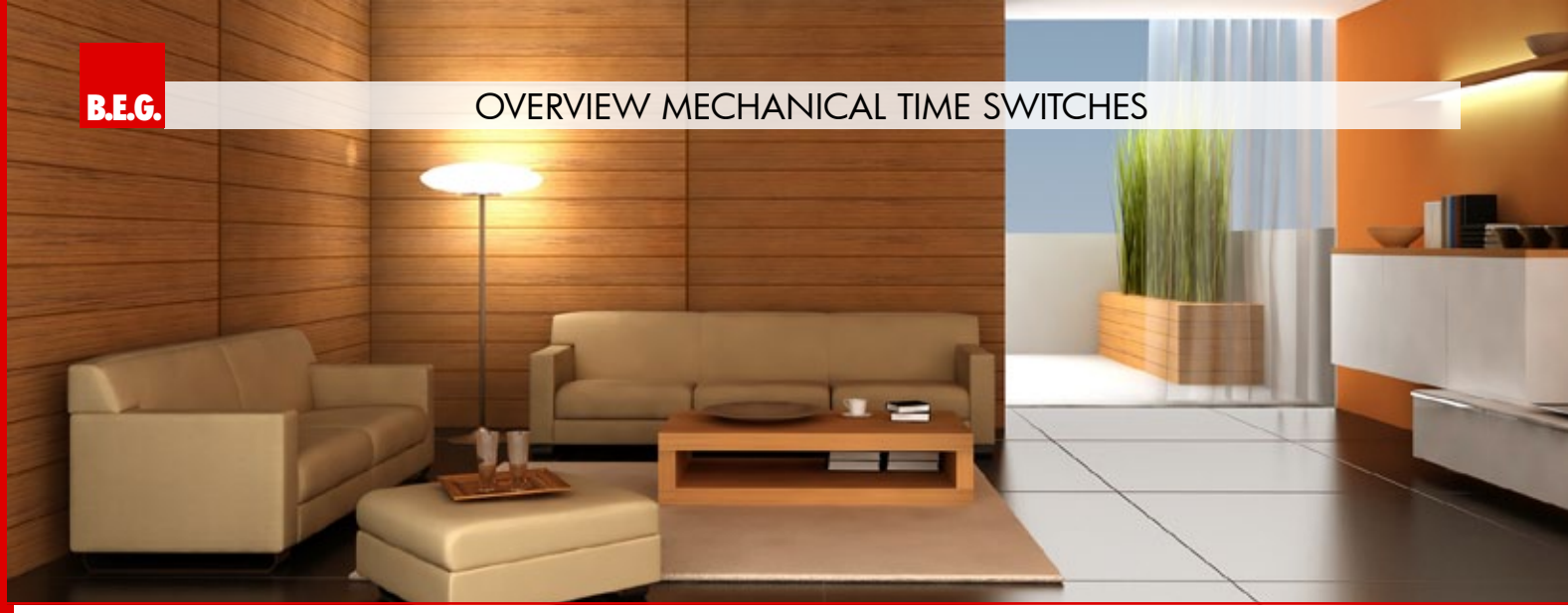


TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption	10 mA
Output	1 socket for data key
Permitted ambient temperature	+5°C to +35°C
Storage temperature	-5°C to +45°C
Enclosure	POM; PC
Contents	Adapter, USB cable, software on CD

Application sample:

Description	Delivery contents	Part nr.
Data key TS-ACC-DS1	–	92684
Programming package TS-ACC-DS2	Adapter, USB cable, software on CD	92685



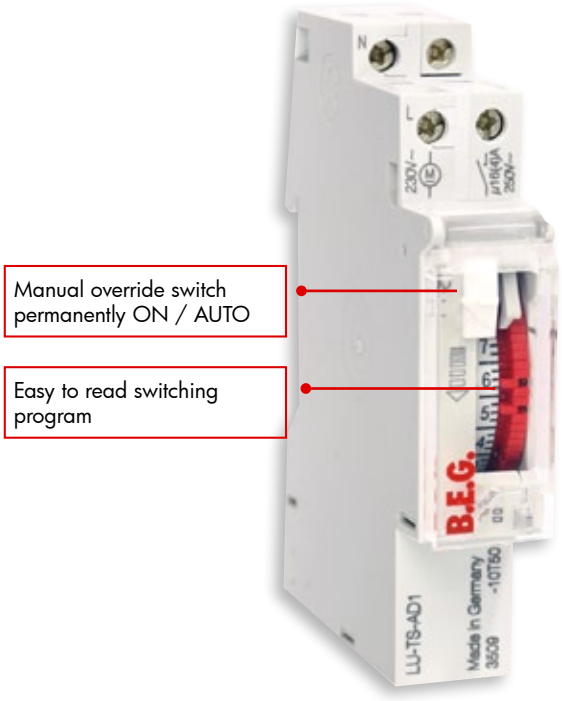
OVERVIEW MECHANICAL TIME SWITCHES

DAILY TIME SWITCHES

Digital time switch	Part nr.	DIN-rail mounting	Front dimensions in mm	Power back-up	Minimum interval	Power supply 230 V	Time base Quartz crystal	Accuracy	Add-ons
TS-AD1	92676	▪	17.5 x 45	–	15 min.	▪	▪	±1.5 sec./day	–
TS-AD2	92677	▪	17.5 x 45	▪	15 min.	▪	▪	±1.5 sec./day	–
TS-AD3	92678	▪	52.5 x 45	–	30 min.	▪	▪	±1.5 sec./day	Minute hands
TS-AD4	92680	▪	52.5 x 45	▪	30 min.	▪	▪	±1.5 sec./day	Minute hands

WEEKLY TIME SWITCHES

Digital time switch	Part nr.	DIN-rail mounting	Front dimensions in mm	Power back-up	Minimum interval	Power supply 230 V	Time base Quartz crystal	Accuracy	Add-ons
TS-AW1	92679	▪	52.5 x 45	–	2 h	▪	▪	±1.5 sec./day	Minute hands
TS-AW2	92657	▪	52.5 x 45	▪	2 h	▪	▪	±1.5 sec./day	Minute hands



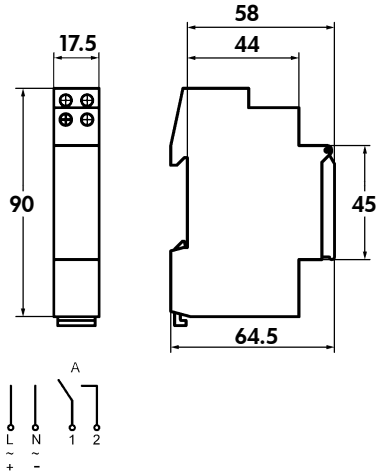
DAILY TIME SWITCHES

WEEKLY TIME SWITCHES

TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.4 W
Switch (potential-free)	Normally open, contact gap < 3 mm
Contact material	AgCdO
Switching capacity	16 A / 250 V~ at cos(φ) = 1 2.5 A with inductive load cos(φ) = 0.6 max. filament lamp load 2000 W
Min. switching power	120 mW (12 V / 100 mA)
Minimum switching interval	15 min.
Time base	Quartz
Power back-up (at 20°C)	≥ 100 h
Accuracy (at 20°C)	≤ ±1.5 sec. / day
Permitted ambient temperature	-5°C to +50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 17.5 x 58 mm
Distribution board mounting	35 mm DIN-rail (DIN EN 50022)
Type of connection	Screw terminals
Type of protection	IP20 to DIN EN 60529
Class of protection	II when installed according to regulations

LUXOMAT® TS-AD1/2



PRODUCT INFORMATION

- Daily program
- Slim format 17.5 mm
- Captive setting keys
- Manual override switch permanently ON / AUTO

HIGHLIGHTS

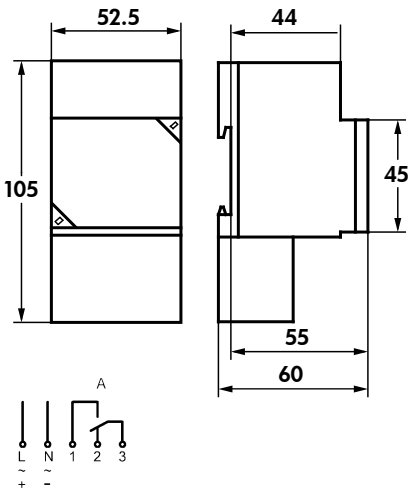
- Easy programming with captive setting keys
- Easy to read switching program

Description	Version	Part nr.
Analogue time switch TS-AD1	Day without reserve	92676
Analogue time switch TS-AD2	Day with reserve	92677

TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.4 W
Switch (potential-free)	Change-over, contact gap < 3 mm
Contact material	AgCdO
Switching capacity	16 A / 250 V~ at cos(φ) = 1 2.5 A with inductive load cos(φ) = 0.6 max. filament lamp load 2000 W
Minimum switching interval	30 min.
Time base	Quartz
Power back-up (at 20°C)	≥ 100 h
Accuracy (at 20°C)	≤ ±1.5 sec. / day
Permitted ambient temperature	-5°C to +50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 52.5 x 55 mm
Distribution board mounting	35 mm DIN-rail (DIN EN 50022)
Surface mounting	Wall mounting with terminal cover, may be lead-sealed
Type of connection	Screw terminals
Type of protection	IP20 to DIN EN 60529
Class of protection	II when installed according to regulations

LUXOMAT® TS-AD3/4



PRODUCT INFORMATION

- Daily program
- Slim format 52.5 mm
- Captive setting keys
- Manual override switch permanently ON / AUTO

HIGHLIGHTS

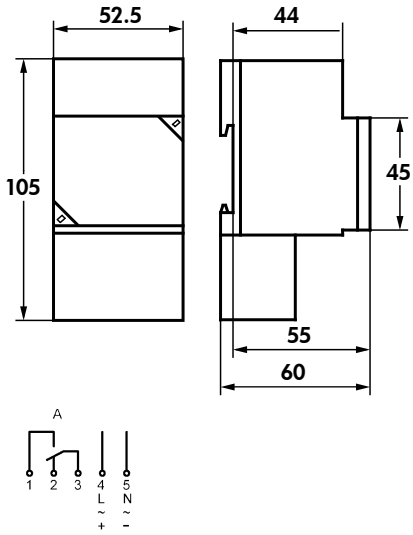
- Easy programming with captive setting keys
- Easy to read switching program
- Analogue display (clock hands)

Description	Version	Part nr.
Analogue time switch TS-AD3	Day without reserve	92678
Analogue time switch TS-AD4	Day with reserve	92680

TECHNICAL DATA

Supply voltage	230 V, 50 – 60 Hz
Power consumption (real power)	0.4 W
Switch (potential-free)	Change-over, contact gap < 3 mm
Contact material	AgCdO
Switching capacity	16 A / 250 V at cos(φ) = 1 2.5 A with inductive load cos(φ) = 0.6 max. filament lamp load 2000 W
Minimum switching interval	day dial 30 min. week dial 2 h
Time base	Quartz
Power back-up (at 20°C)	≥ 100 h
Accuracy (at 20°C)	≤ ±1.5 sec. / day
Permitted ambient temperature	-5°C to +50°C
Enclosure	self-extinguishing thermoplastic
Dimensions	45 x 52.5 x 55 mm
Distribution board mounting	35 mm DIN-rail (DIN EN 50022)
Surface mounting	Wall mounting with terminal cover, may be lead-sealed
Type of connection	Screw terminals
Type of protection	IP20 to DIN EN 60529
Class of protection	II when installed according to regulations

LUXOMAT® TS-AW1/2



PRODUCT INFORMATION

- Daily and weekly program
- Slim format 52.5 mm
- Captive setting keys
- Manual override switch Permanent-ON / Permanent-OFF / Automatic

HIGHLIGHTS

- Easy programming with captive setting keys
- Easy to read switching program
- Analogue display (clock hands)

Description	Version	Part nr.
Analogue time switch TS-AW1	Week without reserve	92679
Analogue time switch TS-AW2	Week with reserve	92657

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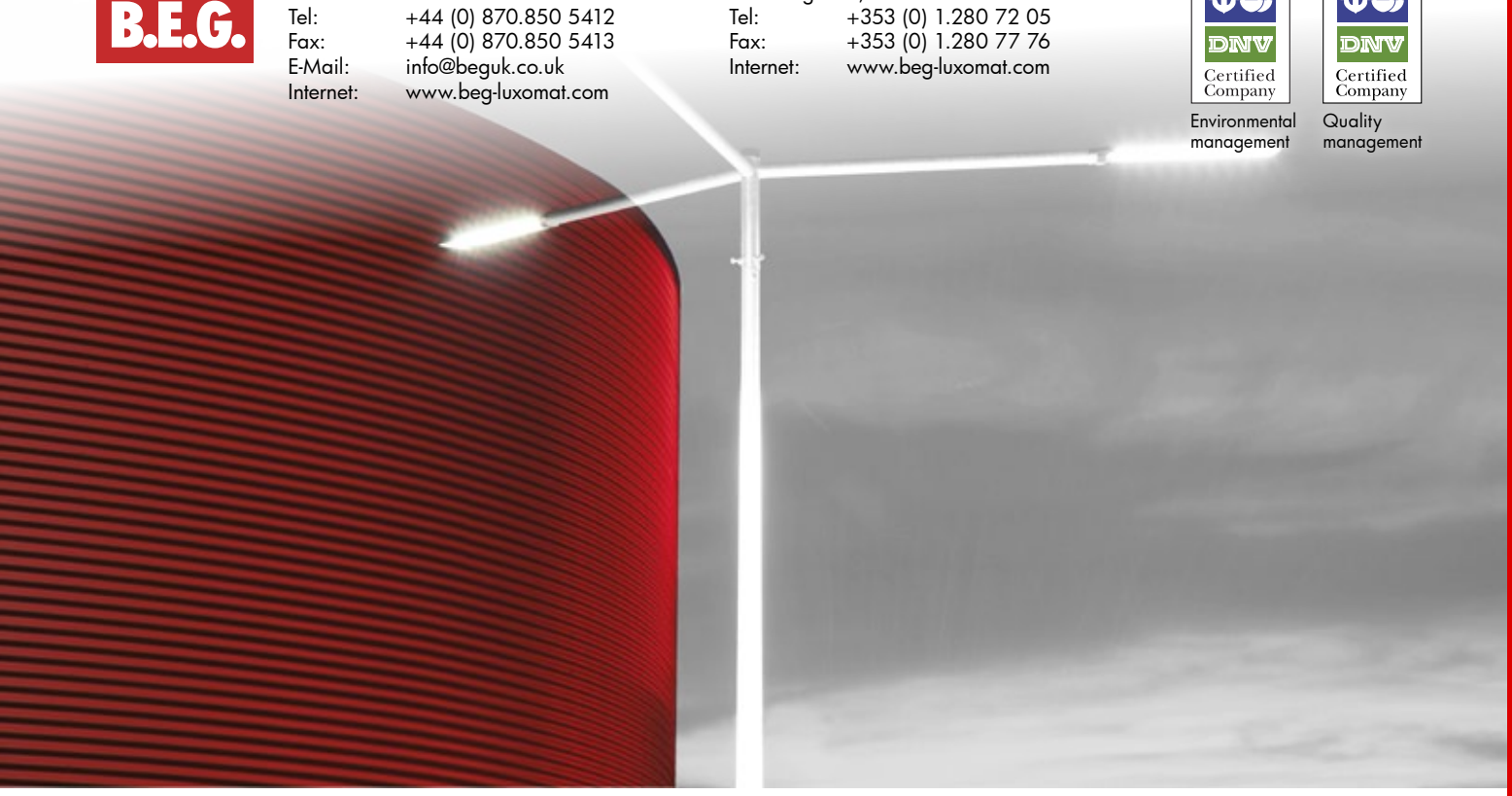
Internet: www.beg-luxomat.com

ISO 14001 Environmental management

ISO 9001 Quality management



B.E.G. ALSO OFFERS:



Motion and occupancy detectors

KNX/DALI

Lights

Floodlights

VBoxes


Time switches

Photo electric cells


SMARTHOME

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