B.E.G.

PRESENCE DEPENDENT | LIGHT LINKED | TIME CONTROLLED

FOR THE FUTURE OF OUR ENVIRONMENT

ENVIRONMENT

With B.E.G. energy saving = cost reduction + environmental protection

The pole caps are melting, sea levels are rising, freak storms are getting worse and increasing in frequency – all as a consequence of increased CO_2 emissions.

B.E.G. is aware of these changes and, with its extensive range of presence detectors, the use of energy-saving bulbs in lights and heating regulators, is helping to reduce CO_2 emissions and protect resources.

Energy is precious which is why saving it, also means protecting the climate and environment and conserving resources to save the place in which we live.

Saving energy with **B.E.G.** also means cost reduction and environmental protection.

With the aim of satisfying demands for a clean environment, **B.E.G.** has developed products that contribute to optimum light and heat management in accordance with requirements and that comply with the latest environmental protection guidelines and directives issued by the European Union.

For an environment worth living in! ■

The need for energy saving

The need for energy saving has increasingly come to the fore since the Kyoto Protocol, individuals and industry becoming ever more aware of its importance. An urgent priority is to make a contribution to reducing the greenhouse gas CO_2; a challenging task on account of increasing industrial development.

As a consequence of the Kyoto Protocol, the European Union has issued various instructions with the aim of analyzing and optimizing energy consumption between the countries involved.

Furthermore, the G8 Summit in 2009 reached an international agreement that the average temperature worldwide must not rise by more than 2 °C by 2050, in order to contain climate change.

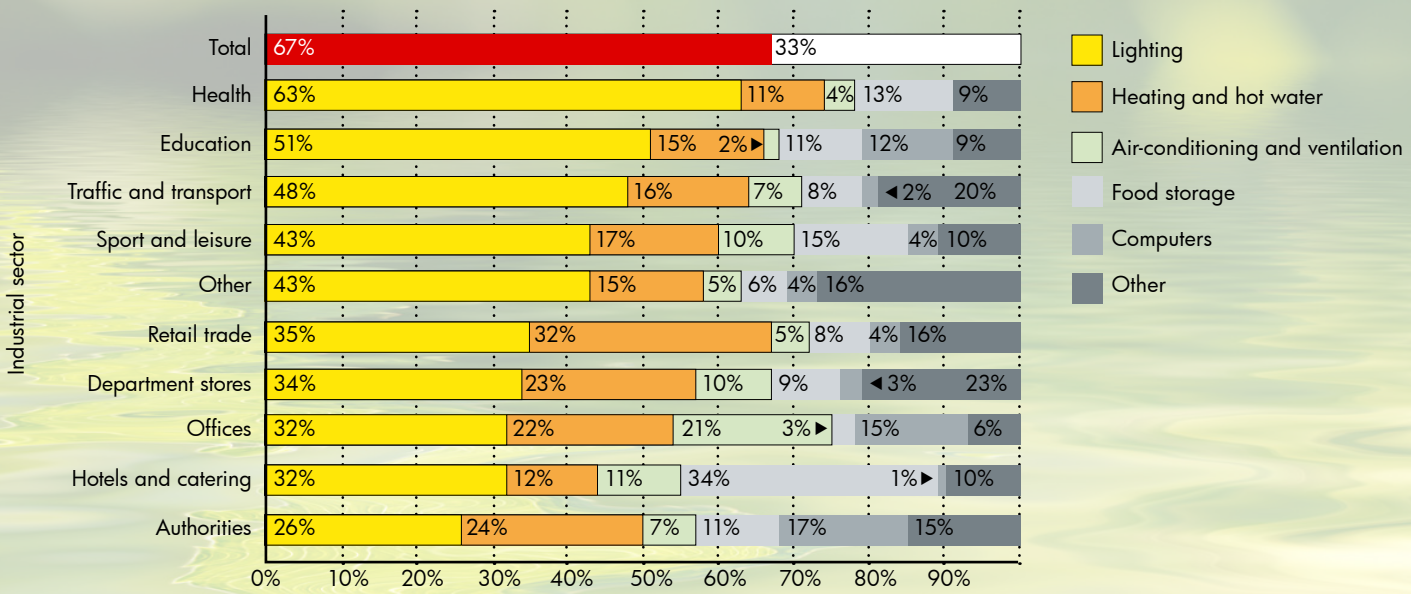
In particular for the commercial sector, our industry can provide a range of options for energy saving: Lamps with high luminous efficiency, energy-saving electronic ballasts, lights with optimized light direction, dimming electronic ballasts, timers, light sensors and presence detectors. **B.E.G.** has combined extensive energy-efficient products in its range.

Measurements verify that daylight provides up to 80 % of the light in a typical office in central Europe during the summer months, with the result that the share of energy-consuming artificial light can be reduced to 20 %.

Light is energy – energy is life! ■

B.E.G.

Typical annual consumption (approx values)



Power consumption for lighting depends on many factors if an optimal lighting requirement is to be established without unnecessary switch on times for the light. These include the switch-on time of the light, the amount of daylight the room receives as well as a suitable manual or automatic light monitoring.

Simple but effective light monitoring can include the use of day, week and season timers, dimmers and automatic devices for reducing energy and costs. And what is more, these products are easy to install or retrofit into existing applications.

A further automatic solution can involve the use of motion or presence detectors with daylight and mixed light measurement, thus ensuring integration of the daylight in the general lighting.

Both in the management of light as well as in building control tasks, presence detectors can contribute to achieving considerable energy savings: presence detectors switch on lamps, heating and ventilation only when they are actually needed. They also incorporate the available daylight into the general lighting and thus also utilize natural resources.

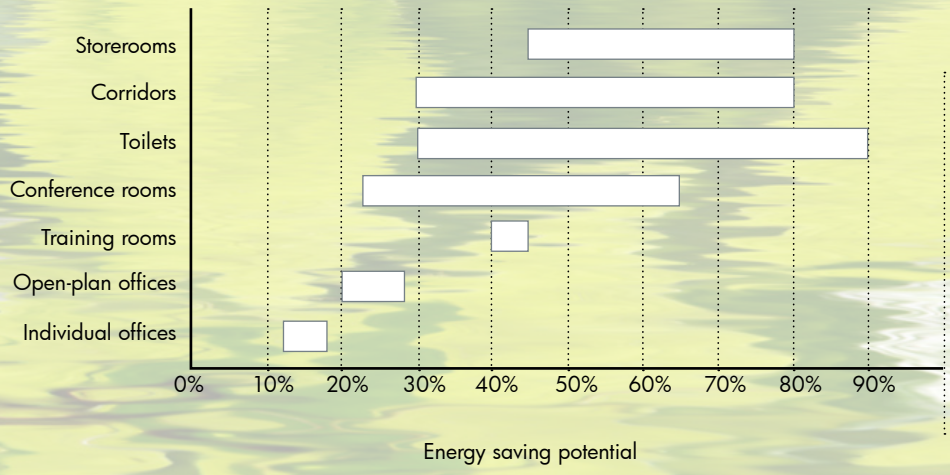
Presence detectors are motion sensors with a detection angle of 360° that have been designed for installation in ceilings and indoor use and that regulate overall brightness by measuring different sources of light (natural or artificial). **B.E.G.**'s range includes presence detectors for all applications and for all special requirements.

For more energy efficiency in buildings! ■



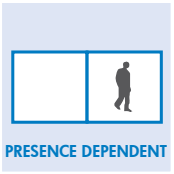


Options for energy and cost reduction with presence detectors

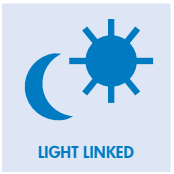


Lighting is an essential cost factor in the energy consumption.
In some buildings, this can be up to 50 % of the total electricity costs.

INDEX



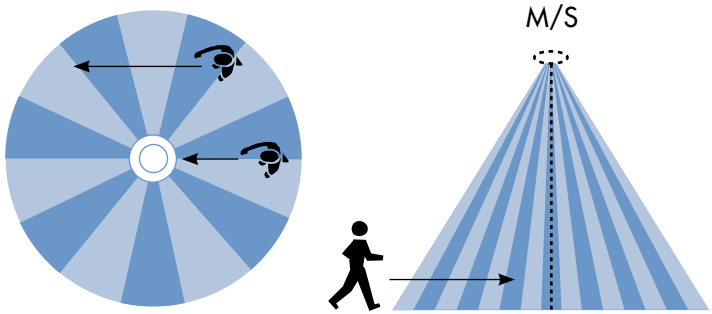
PRESENCE DEPENDENT



LIGHT LINKED

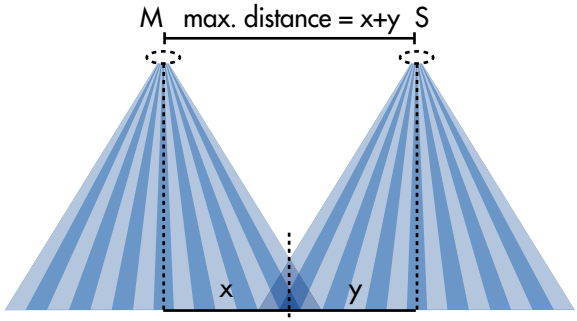
TIME CONTROLLED

Presence detector positioning



The maximum motion detection is reached when walking across the path of the detector, not when walking in a straight line up to the front of the detector. It is especially important to consider this for corridors.

Presence detector spacing



Detection ranges can overlap so as to avoid potential "dead zones".

ENERGY SAVING WITH MOTION AND OCCUPANCY DETECTORS

In a bulleting of January 15, 2009, German Government announced a directive for promoting climate protection measures in social, cultural and public institutions as part of the climate protection initiative. This addresses the renovation of indoor, hall and outdoor lighting amongst other issues. In particular, the installation of efficient lights with electronic ballasts and efficient illuminants with additional installation of a daylight-dependent power control and/or presence control, as well as a time control and/or presence control in corridors and stairwells.

Presence detectors are designed for detecting moving heat sources in their detection range such as persons entering a building. Presence detectors (motion detectors with mixed light measurement) respond to the slightest movement, e.g. working at a desk.

Presence detectors are particularly effective in smaller rooms such as bathrooms, toilets or storerooms, as they only switch on the light when a person is present in the room, so as to save energy in the building.

B.E.G. presence detectors are also ideal for light monitoring in offices, as they are not only able to detect large movements but also minor activities such as people sitting. If no further movement is detected in the area, the presence detector automatically switches off the light and hence minimizes the energy consumption enormously.

B.E.G. presence detectors contain a photoelectric cell, which detects natural daylight and controls the light during periods of time with a high level of ambient light. This prevents unnecessary energy consumption.

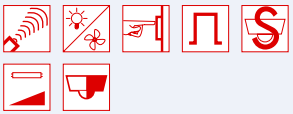
For maximum security and convenience! ■

| Switching with PD – 1 or 2 channels

| Switching with PD-Master – 1 or 2 channels

| Switching with PD-Master-DUO – 2 channels

| Dimming with PD-Master – 1 or 2 channels



INDIVIDUAL LIGHTING WITH CONSTANT LIGHT MEASUREMENT

Example: energy and environment balance sheet

Toilet lighting with PD3			
Mode / bulb	**4 Lights 4 x 14 W T5**		**Savings**
	with MD	**without MD**	
Consumption in kWh / year with an average life span of 8000 h	56 kWh	448 kWh	392 kWh
CO_2 emission reductions / year			196 kg*
Also available trees for CO_2 reduction			x 9**
Costs per year at 0.20 €/kWh	**11.20 €**	**89.60 €**	**78.40 €**

*0.5 kg CO_2 for generating 1 kWh with mean energy mix

**1 tree absorbs around 20 kg CO_2 / year

without MD (motion detector) = permanent light (mean total of the time lamps are switched on approx. 8 h in 24 h)

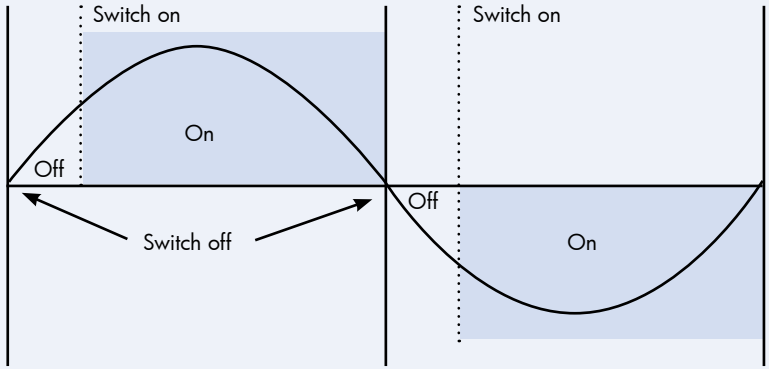
with MD = light only on with movement (mean total of the time lamps are switched on approx. 1 h in 24 h)

B.E.G. dimmable and presence detectors with daylight integration use a phase control for reducing or increasing the average voltage for the lighting load. The diagram below shows this process.

This dimming method provides numerous energy saving options, as it reduces the total consumption for the lighting enormously in dimmed situations. The **B.E.G.** can also be controlled by external switches or buttons.

Presence and daylight-oriented light switching! ■

ENERGY SAVING WITH DIMMERS



A typical application:

A large restaurant with two walls almost entirely of glass has dimmable lighting installed for individual setting and adjustment to the desired lighting conditions in every eating area using an external switch.
When there is adequate daylight, the use of a presence detector ensures that the area near the window only becomes brighter with natural light, thus saving energy during this time.

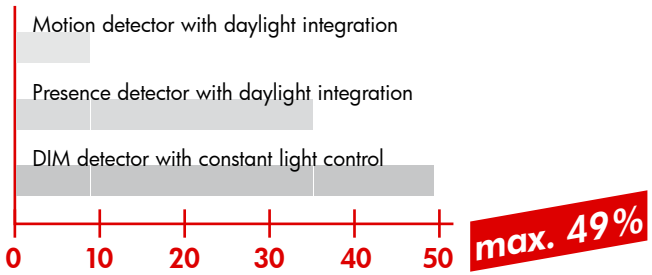
B.E.G. ENERGY SAVING WITH OCCUPANCY DETECTORS FOR ANY BUS APPLICATION

DALI, DSI, KNX/EIB, LON, RADIO and Powerline - the compact, energy-efficient and versatile light control systems from **B.E.G.**

B.E.G. can provide just the right presence detector for every application. Diverse detection zones and ranges up to approx. 20 m radius and installation heights up to approx. 10 m are possible. Numerous special solutions enable use of predominantly remote-controlled detectors, e.g. in corridors, in rooms with 2 lighting zone, in wet rooms or for applications without direct visual contact.

Cash value of an annual saving of 66.26 euros at assumed capital costs of 5 %: 1352 euros!

Annual energy cost saving
with **B.E.G.** [in %]



Additionally, **B.E.G.**'s range includes presence detectors for all BUS applications: DALI, DSI, KNX/EIB, LON and special 24 V solutions. The new digital detectors (PD2, PD4 and PD9), successors to the analogue presence detectors with dimming function, permit users to control both DSI and DALI electronic ballast systems.

Modes may be selected by remote control:

Four different modes are available with the KNX/EIB versions: normal mode (switching), semi- or fully-automatic mode with constant light control (dimming), slave mode and alarm function. LON versions have more than seven device functions. Besides the sensor, KNX/EIB and LON presence detectors also possess corresponding BUS connectors. The required software is also included while it may also be simply downloaded from **B.E.G.**'s homepage at www.beg-luxomat.com.

For individuality and quality! ■

SWITCHING WITH 1 OR 2 CHANNEL PRESENCE DETECTORS WITHOUT DAYLIGHT INTEGRATION

Occupancy detector	Surface mount	Ceiling mount	Flush mount	Presence detection	Motion detection	Remote controllable	Range	Notes
PD3-1C/2C	▪ (only 1C-device)	▪	▪	▪	▪	–	Ø 10 m	also with Micro
PD4-1C	▪	▪	▪	▪	▪	–	Ø 24 m	–
PD4-1C-C	▪	▪	▪	▪	▪	–	max. 40 m	Corridor detector
PD9-1C	–	▪	–	▪	▪	–	Ø 10 m	extremely narrow
PD9-1C-GH	–	▪	–	▪	▪	–	max. 5,40 m	greater heights
Indoor 180-R	–	–	▪	▪	▪	–	max. 10 m	Relay version with Micro
Indoor 180-T	–	–	▪	▪	▪	–	max. 10 m	Triac version with Micro
Indoor 180-SC	–	–	▪	▪	▪	–	max. 10 m	for staircase switches

SWITCHING WITH 1 OR 2 CHANNEL MASTERS WITH DAYLIGHT INTEGRATION

Occupancy detector	Surface mount	Ceiling mount	Flush mount	Presence detection	Motion detection	Remote controllable	Range	Notes
PD2-M-1C	▪	▪	▪	▪	▪	▪	Ø 10 m	–
PD4-M-GH	▪	–	–	▪	▪	▪	Ø 24 m	greater heights
PD5-M-Clip	–	–	–	▪	▪	▪	Ø 10 m	for T8 and T5 fluorescent tubes
PD9-M	–	▪	–	▪	▪	▪	Ø 10 m	extremely narrow
PD9-M-GH	–	▪	–	▪	▪	▪	max. 5,40 m	greater heights
PD9-M-SDB	–	▪	–	▪	▪	▪	Ø 10 m	extremely narrow
PD9-M-SDB-GH	–	▪	–	▪	▪	▪	max. 5,40 m	greater heights
PD1-M	▪	▪	▪	▪	▪	▪	7,50 x 7,50 m	quadratic range
PD2-M	▪	▪	▪	▪	▪	▪	Ø 10 m	–
PD4-M	▪	▪	▪	▪	▪	▪	Ø 24 m	–
PD4-M-C	▪	▪	▪	▪	▪	▪	max. 40 m	Corridor detector
Indoor 180-M	–	–	▪	▪	▪	▪	max. 10 m	–
PD4-M-DUO	▪	▪	▪	▪	▪	▪	Ø 24 m	DUO detector

DIMMING WITH 1 OR 2 CHANNEL MASTERS WITH DAYLIGHT INTEGRATION

Occupancy detector	Surface mount	Ceiling mount	Flush mount	Presence detection	Motion detection	Remote controllable	Range	Notes
PD1-M-DIM	▪	▪	▪	▪	▪	▪	7,50 x 7,50 m	quadratic range
PD2-M-DIM	▪	▪	▪	▪	▪	▪	Ø 10 m	–
PD4-M-DIM	▪	▪	▪	▪	▪	▪	Ø 24 m	–
PD4-M-C-DIM	▪	▪	▪	▪	▪	▪	max. 40 m	Corridor detector
PD5-M-DIM-Clip	–	–	–	▪	▪	▪	Ø 10 m	for T8 and T5 fluorescent tubes
PD9-M-DIM	–	▪	–	▪	▪	▪	Ø 10 m	extremely narrow
PD9-M-DIM-GH	–	▪	–	▪	▪	▪	max. 5,40 m	greater heights
PD4-M-DUO-DIM	▪	▪	▪	▪	▪	▪	Ø 24 m	DUO detector
PD4-M-TRIO-DIM	▪	▪	▪	▪	▪	▪	Ø 24 m	with HVAC channel

THE STAIR LIGHT TIMER WITH SWITCH-OFF ADVANCE WARNING

Stair light switch for optimum light control

The previous pages have shown typical applications for individual products in order to save energy and costs. Further reductions can be achieved with combinations of these products.

For example, you can make an effective contribution to reducing energy costs with a motion detector as a wall switch in conjunction with the stair light switch.

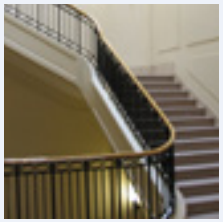
The **B.E.G.** stair light switch SCT1 is easy to install, based on a small housing and can quickly be mounted on a profile rail.

While the stair light wall switch only switches the light if a movement is detected, the stair light switch ensures that the lighting only remains switched on for as long as it is actually needed.

In combination with a timer, entire time periods can also be controlled, for example at weekends or during vacation.

See the full spectrum! ■

- Electronic
- 3- or 4-wire circuit
- Can be connected downstream
- Low-noise
- max. incandescent light load 2300 W
- max. 100 mA rest current for illuminated switches with glow lamps
- Rated voltage 230 V/50-60 Hz
- With switch-off advance warning



SAVING ENERGY BY SWITCHING LIGHTS IN RESPONSE TO TWILIGHT

Wherever lights need to be switched based solely on the brightness value at daybreak or at the end of the day, photoelectric switches are just the right choice.

Light sensors measure the ambient light and switch the lighting on or off depending on the preset twilight value. Lighting is not usually necessary at certain times of the day. With **B.E.G.** products, the light can therefore be controlled in relation to the twilight, thereby saving energy.

To this end, **B.E.G.** provides twilight switches for various applications: for profile rails, installation in devices, wall or mast mounting as well as a remote-controlled product.

▶ The **LUXOMAT®** TS-DD has an electronics unit for installation in distributors for convenient setting in the control cabinet as well as a separate light sensor for surface mounting or interior installation.

▶ The **LUXOMAT®** CDS-R is designed for retrofitting in outdoor lights and for use in junction boxes.

▶ The integrated timer in the remote-controlled **LUXOMAT®** CdS-T-SM allows you to accurately program energy-saving periods, for example at certain times during the night, at the weekend or during public holidays. Considerable amounts of energy and money can be saved. Remote controllable.

▶ The **LUXOMAT®** CdS-SM comes with the option of precisely setting the light value and switch-on or switch-off delay via a potentiometer from outside as well as via an integrated automatic function (10 Lux / 40 sec. switch-on / 120 sec. switch-off delay).

▶ As a twilight switch with special spring terminals, the **LUXOMAT®** CdS-FC is also easy to mount on the ceiling thanks to its small dimensions (visible height after installation 6 mm). Remote controllable.

Light-oriented energy saving! ■

OVERVIEW PHOTO ELECTRIC SWITCHES

Photo electric switch	Surface mount	Ceiling mount	Post mounting	Device installation	DIN-rail	Switching power	Remote controllable	Time delay
TS-DD	–	–	–	–	▪	3000 W	–	▪
CdS-R	–	–	–	▪	–	1000 W	–	▪
CdS-T-SM	▪	–	–	–	–	2300 W	▪	–
CdS-SM	▪	–	▪	–	–	2300 W	–	▪
CdS-FC	–	▪	–	–	–	2000 W	▪	▪

OVERVIEW DIGITAL TIME SWITCHES

WEEKLY TIME SWITCHES

Digital time switch	Mechanical design	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Notes
TS-DW1	DIN-rail mounting	17,5 x 45	internal intern 30	Channel 1	data pp 20	pulse	–	–
TS-DW2	DIN-rail mounting	35 x 45	internal intern 46	Channel 1	data pro	pulse	–	–
TS-DW3	DIN-rail mounting	35 x 45	internal intern 46	Channel 1-2	data pro	pulse	–	–

ASTRO TIME SWITCHES

Digital time switch	Mechanical design	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Notes
TS-ASTRO1	DIN-rail mounting	17,5 x 45	internal intern 30	Channel 1	–	–	–	–
TS-ASTRO2	DIN-rail mounting	35 x 45	internal intern 100	Channel 1	data pro		–	extern*
TS-ASTRO3	DIN-rail mounting	35 x 45	internal intern 100	Channel 1-2	data pro		–	extern*

* one channel switch

YEARLY TIME SWITCHES

Digital time switch	Mechanical design	Front dimensions in mm	Memory location	Relay / Channel	Data key	Pulse / Timer	Cycle	Notes
TS-DY1	DIN-rail mounting	35 x 45	internal intern 300	Channel 1	data pro	pulse	zyklus	dcf
TS-DY2	DIN-rail mounting	71,5 x 45	internal intern 300	Channel 1-4	data pro	pulse	zyklus	extern / dcf

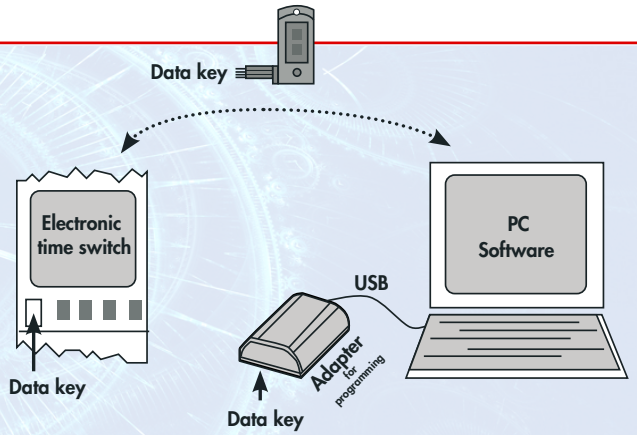
PROGRAMMING WITH A PC

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.

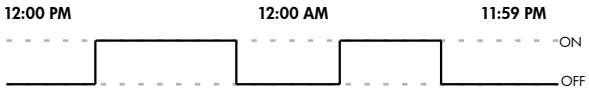
The switching program can be back-up easily on a PC or transferred to the data key to copy a switching program from one digital time switch to another.

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.



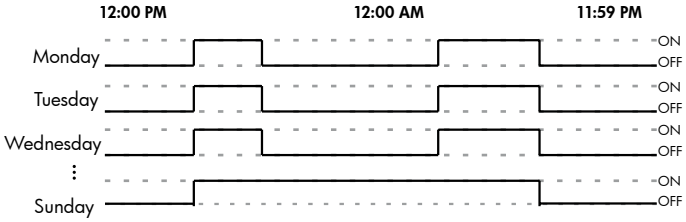
Daily program 24 h^{prog}

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.



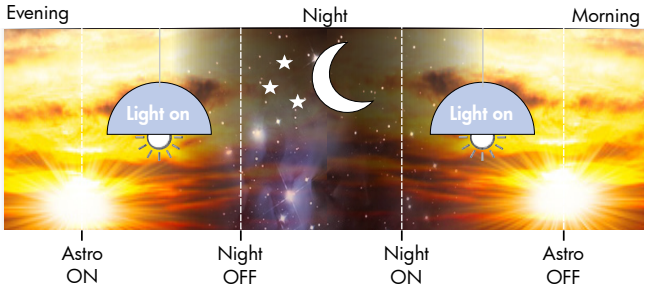
Weekly program week^{prog}

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 yearprog

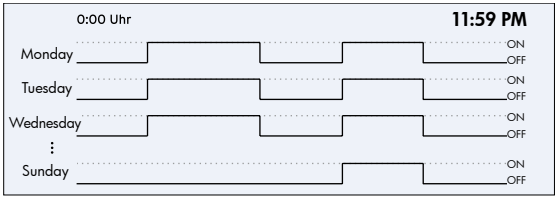
Yearly time switches are suitable to achieve more sophisticated time controls compared to standard weekly programs. By means of special (weekly) programs different weekly programs can be carried out within different periods during the year (from start date to end date).

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.

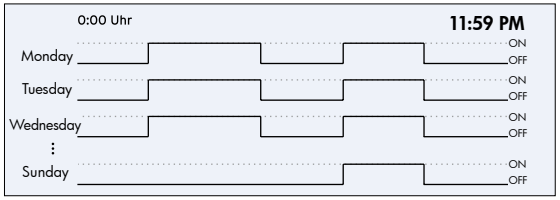
Extra switching time: A further feature is the extra switching times. Single switching times can be programmed for a specific date (e.g. Anniversary). The residual switching program remains unaffected. A helpful add-on is the option "weekday function". If you assign this to your extra switching time 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.

In order to save energy and costs, one can use a yearly time switch with four channels in a little office or on a commercial property.
One channel could control the lighting during the evening in order to avoid unnecessary energy costs. Another channel could ensure that the local heating is switched off during the weekend and in holiday time, when the building is not occupied. A third channel could control the shop window or external signboards during the time between 10 p.m. and 7 a.m.. The last channel could regulate the hot water function to ensure that water inside the building is not heated during the weekend and holiday time.

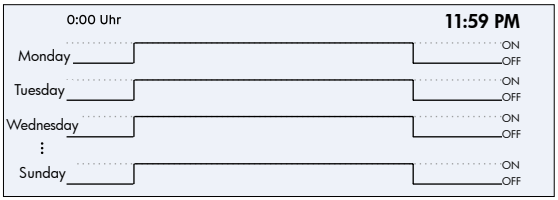
Special program 1 ▶ 01. August - 21. August



Special program 1 ▶ Start date - End date



Special program 1 ▶ Start date - End date



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-DS1/2:

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

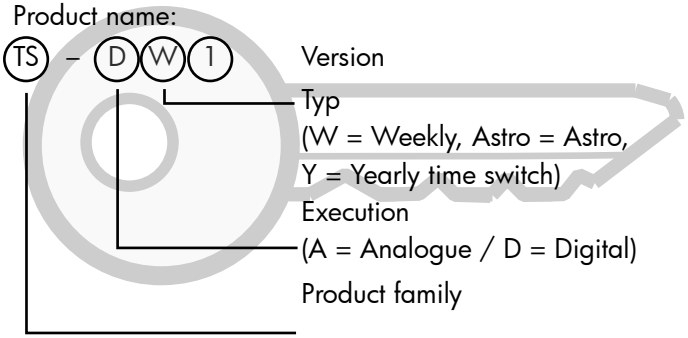
By pushing the channel button the corresponding channel will change its status.

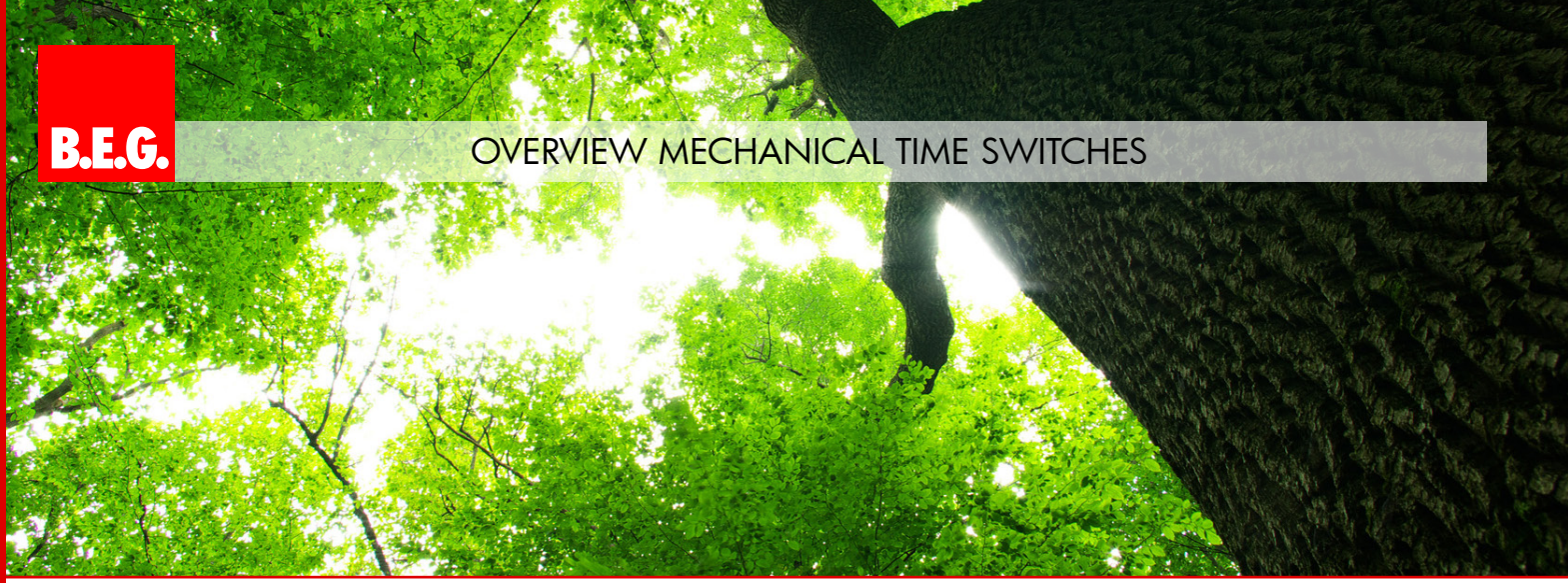
Time counter 2345 h

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:





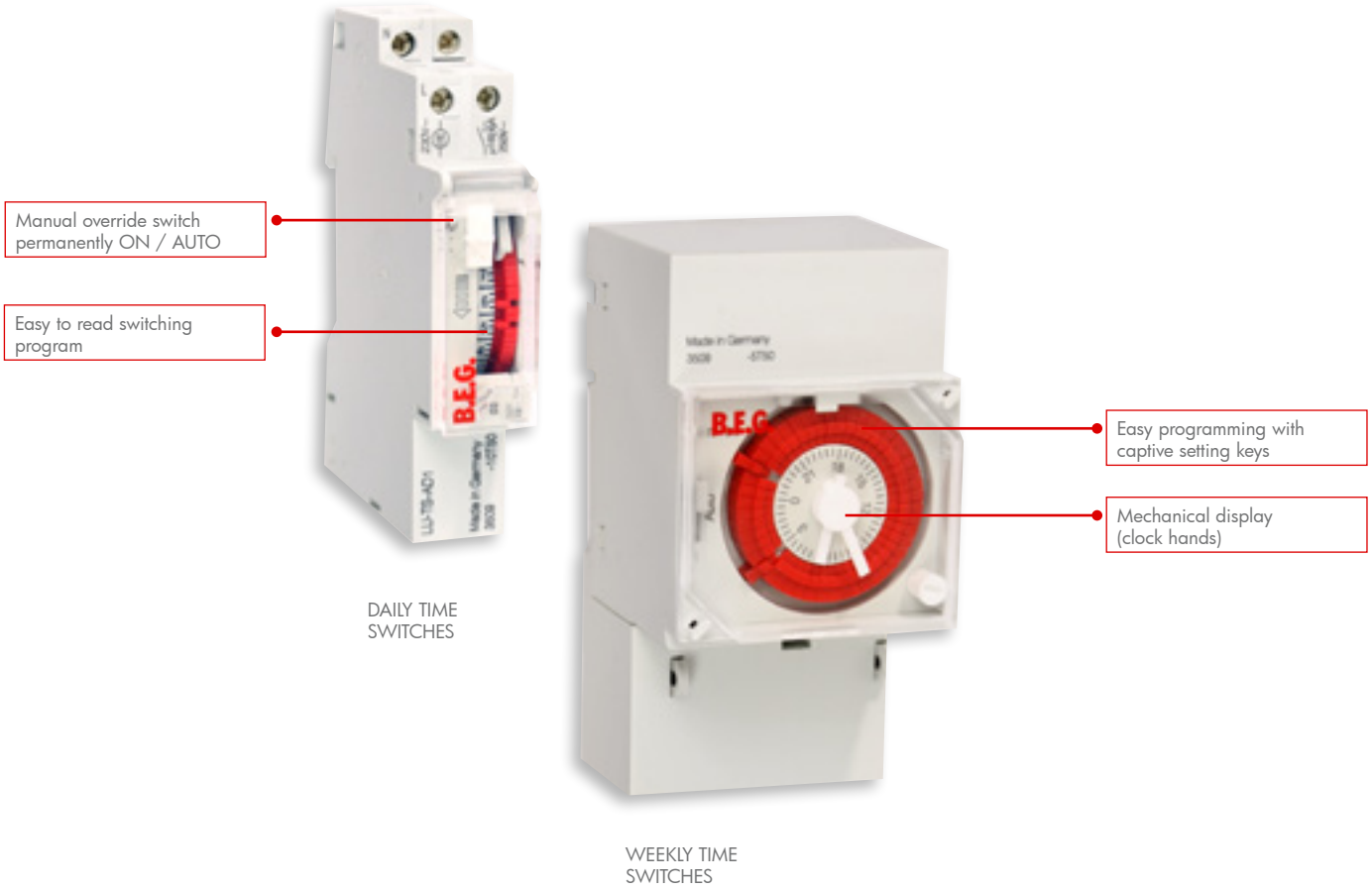
OVERVIEW MECHANICAL TIME SWITCHES

DAILY TIME SWITCHES

Mechnical time switch	Mechanical design	Front dimensions in mm	Power back-up	Minimum interval	Power supply 230 V	Time base	Accuracy	Notes
TS-AD1	DIN-rail mounting	17,5 x 45	–	15 min.	▪	Quartz crystal	±1,5 sec./day	–
TS-AD2	DIN-rail mounting	17,5 x 45	▪	15 min.	▪	Quartz crystal	±1,5 sec./day	–
TS-AD3	DIN-rail mounting	52,5 x 45	–	30 min.	▪	Quartz crystal	±1,5 sec./day	Minute hands
TS-AD4	DIN-rail mounting	52,5 x 45	▪	30 min.	▪	Quartz crystal	±1,5 sec./day	Minute hands

WEEKLY TIME SWITCHES

Mechnical time switch	Mechanical design	Front dimensions in mm	Power back-up	Minimum interval	Power supply 230 V	Time base	Accuracy	Notes
TS-AW1	DIN-rail mounting	52,5 x 45	–	2 hrs	▪	Quartz crystal	±1,5 sec./day	Minute hands
TS-AW2	DIN-rail mounting	52,5 x 45	▪	2 hrs	▪	Quartz crystal	±1,5 sec./day	Minute hands



DAILY TIME SWITCHES

WEEKLY TIME SWITCHES

The analog or mechanical timers are a simple alternative for keeping a quick and convenient eye on times. An operating switch allows you to choose between the permanently ON and automatic functions. The time can be programmed and read with ease using the captive switch buttons.

B.E.G.

ENERGY MEASURING AND SAVING WITH **LUXOMAT®** SMARTHOME PRODUCTS

SINGLE PHASE – DIRECT ENERGY MEASUREMENT

Technical data	MyControl
Measuring accuracy acc IEC1036	Class 2 (2 %)
Current strength max.	16 A ~ direct
Power supply	Single phase 230 V ~ 50 Hz
Switch	complete and partial with reset

The power consumption of electrical devices is measured in kilowatt. With the help of eMetering the energy consumption of individual devices can be calculated in kilowatt hours.

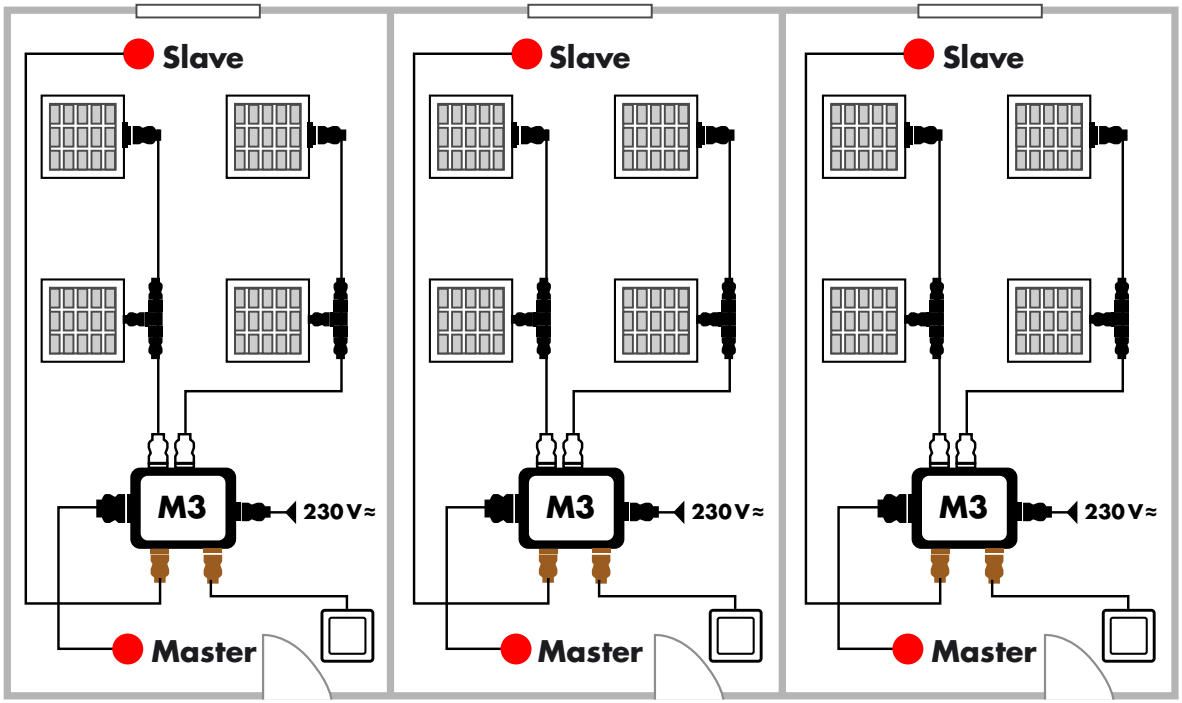
The monitor shows a diagram with the current consumption. On an additional page, the total consumption is shown after a re-set. In order to analyse a long-term testing more precisely, data can be saved on a SD-card and is transferred to a PC.

Keep track of your energy the easy way with B.E.G.! ■

- Easy reading of the measured values
- Direct light measurement
- User-friendly menu guidance
- View of the tendencies in table form
- Quick checking of the power consumption

For an efficient cost reduction

Several adjoining offices in Master-/Slave-Operation



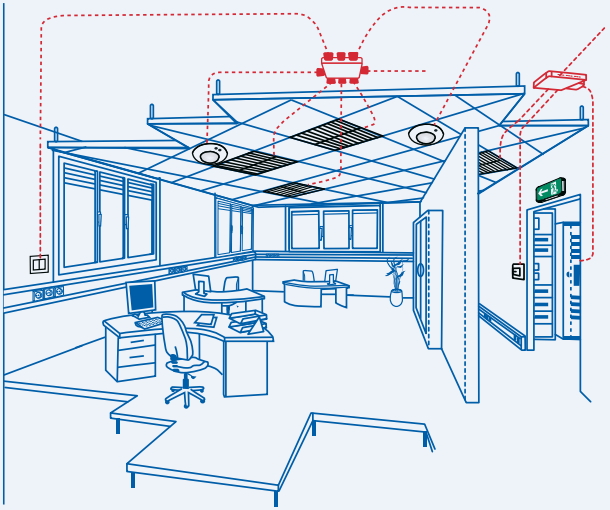
The simple installation of occupancy and motion detectors.

The **B.E.G. LUXOMAT® VBox and VLBox** modules constitute innovative solutions for the installation market when **B.E.G. presence detectors** are used in cost-saving suspended ceiling installations.

- Thus **B.E.G.** is following the trend now widespread in building engineering of offering pre-fabricated fast, cost-reducing and safely functioning components.
- The **B.E.G.** range of presence-sensors are available **pre-wired**.
- The functioning of the modules is tested at the factory to ensure functional safety.
- The modular concept means that changes may be easily implemented both **during the installation** as well as later **when requirements change**.
- The pre-wired system is also a response to the lack of qualified personnel because it uses plug connectors that are colour-coded and protected against being incorrectly connected (inverse polarity), which means that they can also be installed by non-skilled workers.

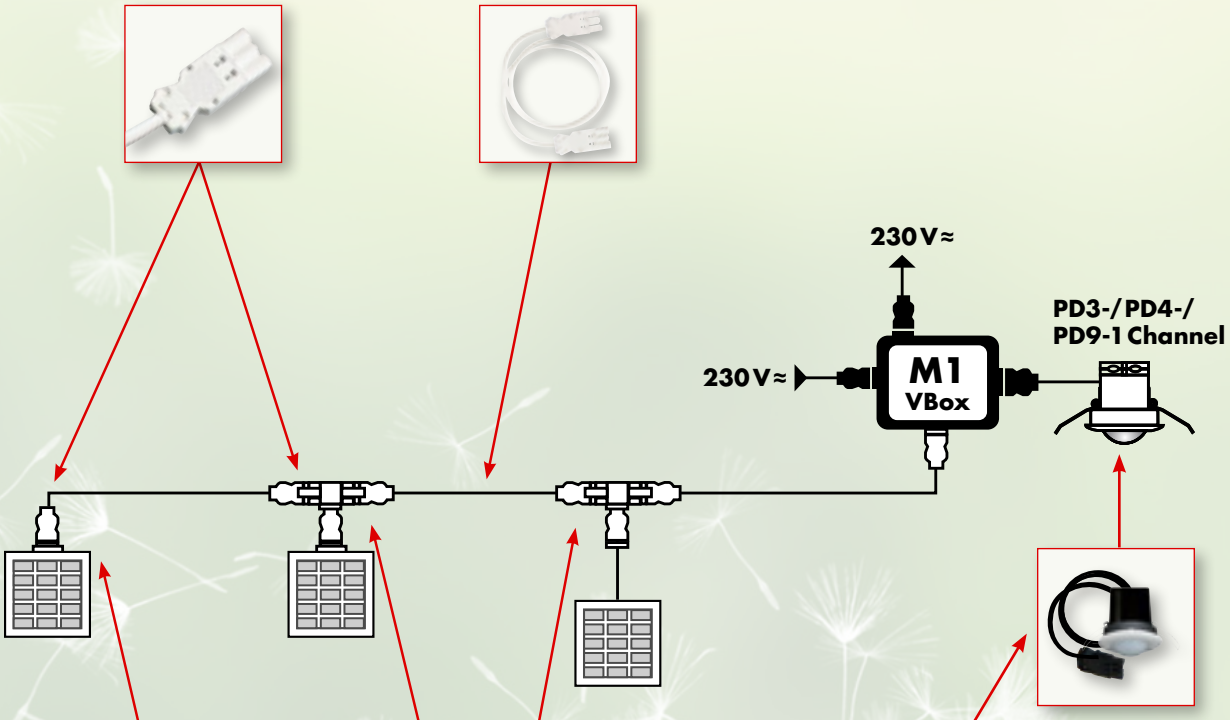
  Qualified electricians only need to carry out checks and commissioning after installation.
- Laborious wiring of individual terminals is no longer required, which results **time and cost savings**.

- Fast, safe, error-free
- Simple plugging
- Just re-plug somewhere else when requirements change – flexibility today and tomorrow
- Cost-efficient
  - » Wage costs up to **70 %** savings
  - » Wage + material up to **30 %** savings
- All presence sensors also alternatively available as pre-wired versions
- Eight boxes for various presence sensor types with different colour codes
- Also for DUO and DIM devices

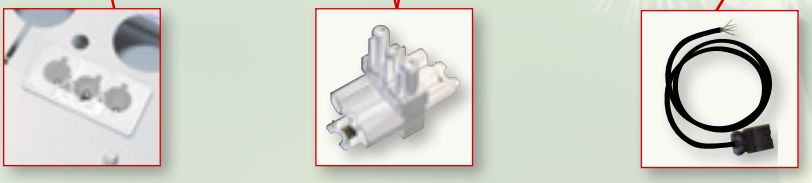


Plug and socket for the power supply

Extension cable for flexible wiring



Pre-wired **B.E.G.** - presence detector

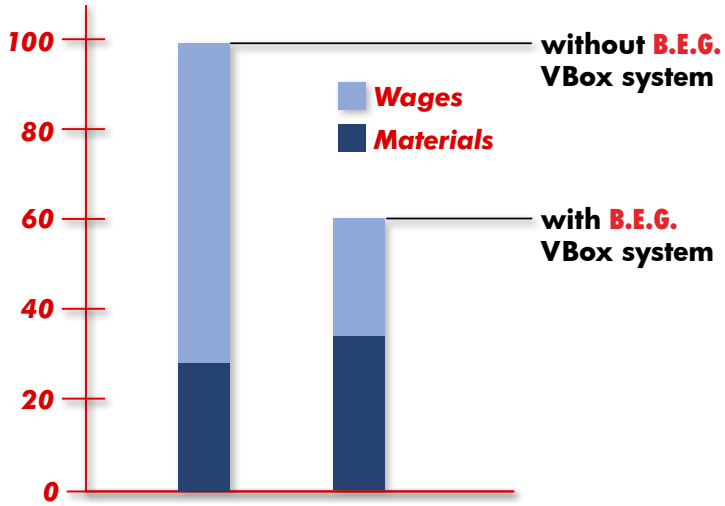


Integrated plug connector in the lamp

T-piece for connecting lamps to each other

Connection cable for pre-wired lamps

COST COMPARISON [in %]



- **Time and cost savings during installation:** less staff, less administration, fewer tools, installation in record times
- **Quality and economy during commissioning:** no cabling errors, guaranteed safety, fewer errors during cabling, fewer accidents
- **Service continuity and flexibility during ongoing operations:** less maintenance work, faster and simpler intervention when requirements change
- **Energy savings in buildings through the use of B.E.G. presence sensors:** presence- and daylight-dependent lamp switching and dimming

Typical applications: conference rooms, classrooms, nursery schools, corridors, toilets and offices

ISO 14001

Environmental management

ISO 9001

Quality management

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