B.E.G. LUXOMAT® CDS-T-AP

Instructions for use and assembly of the photoelectric switch CDS-T-AP Remote control IR-CDS-T-AP (optional)

Thank you for purchasing the photoelectric switch. You have opted for a quality product from the BEG range and for one which has been manufactured, tested, packaged and despatched with the utmost care.
Please read the information contained in these directions before commencing assembly.

Allocation of item numbers::

Model	Art.-N°
CDS-T-AP	92367
IR-CDS-T (optional)	92368
IR-CDS-T-Mini (optional)	92091

We reserve the right to make any technical adjustments which are in the interest of product improvement.

Important: All work on the 230V power system must be carried out by qualified personnel only! The mains voltage must be disconnected prior to commencement of assembly of the LUXOMAT®.

With the first plug-in type, fully remote-controlled photoelectric switch LUXOMAT® CDS-T-AP you can automatically switch on and off your lighting depending on daylight and/or time.

To have your lighting on only when needed means that you also save energy.

The unit has an integrated clock with calendar. This permits an exact pre-setting of an energy saving period by means of the day/ week timer clock, also taking into account the change to daylight saving.

With the programmable energy saving period, you can save energy and money at night, when you do not need any light.

With its infrared control LUXOMAT® IR-CDS-T, BEG is the first manufacturer worldwide to permit the settings of a photoelectric switch to be made by remote control.

With the infrared remote control, the usefulness of the CDS-T-AP can be considerably increased compared to its traditional application:

• The current light value can be read in by simply pressing a key.

• With the "Light ON/OFF" function, the lighting can be switched on or off independently of the surrounding light or the energy saving period. No difficult installation of a manual switch is required.

• Energy saving period programmable by pressing a key, using the integrated timer clock.

• Once mounted, no ladder is needed and all settings can be made easily from the ground.

Yet, the LUXOMAT® CDS-T-AP can still be set and commissioned in the traditional way by using the control knobs.

However, not all functions can be set manually that can be accessed by the IR remote control.
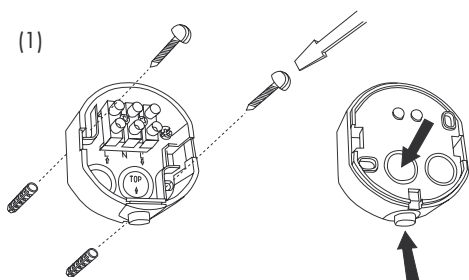
1. Assembly and commissioning

The LUXOMAT® CDS-T-AP should only be mounted on smooth, vertical surfaces (house walls) facing north.

Please also make sure that any influence on the CDS-T-AP by the connected lighting or by direct sunlight is excluded.

2. Mounting the plug-in base and making the electrical connections

Drill holes with a 6mm drill and fix the plug-in base with the fitting plugs and screws. (1)
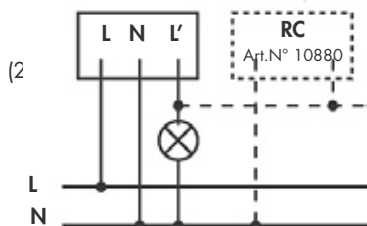
(1)

The power cable can be introduced into the base from the bottom or from behind.

Electrical connection according to wiring diagram. (2)
The CDS-T-AP is always ready for operation.

Switching inductive loads
If inductive loads such as for instance relays, transformers, contactors or fluorescent lamps are operated, there will be voltage peaks leading to a repeated switch-on.
By connecting a screening unit, Item No. 10880, side by side to the inductive load, such spikes can be prevented or reduced. (2)

(2

L   N   L'

RC
Art.N° 10880

L
N

Press the photoelectric switch CDS-T-AP onto the plug-in base to lock it there.

Important! Before assembly, the mains voltage must be turned off.

3. Settings made without the IR-CDS-T remote control

- Set the twilight control knob to maximum (sun) = RESET
  When connecting the mains voltage, this will erase all data in the EEPROM.
  (time and date are retained)
- Connect the 230V mains voltage

- **Self-check cycle**
  After having connected the mains voltage, a flashing of the function display (red LED) for 20sec indicates the self-check cycle of the LUXOMAT® CDS-T-AP.
  Slow flashing of the LED =
  no data in the EEPROM

  Rapid flashing of the LED   =
  data in the EEPROM

  Erase **EEPROM - otherwise manual settings with the twilight control knob cannot be made.**

  Disconnect LUXOMAT® CDS-T-AP from the mains.

  Set the turning knob to maximum (sun) = RESET.

  Reconnect the mains voltage.

- Displays **(LED) after completed self-check cycle:**

  no LED display =
  the surrounding light is brighter than the control knob setting of the twilight value, the connected lighting remains off.

  LED lit up =
  the surrounding light is darker than the control knob setting of the twilight value, the connected lighting is on.

- **Setting the twilight value (LUX value)**
  The individual precision adjustment of the switch-on point should be made at the time of day when lighting is intended to be switched on.
  Turn the knob (2-300 LUX / moon - sun symbols until the LED (red) lights up. This is now your switch-on value of the CDS-T-AP (your connected lighting), at this value, the LED is always on and the photoelectric switch is activated.

- **Permanent protection against tampering – green LED**
  To permanently protect the LUXOMAT® CDS-T-AP against unauthorized access by others with an IR-CDS-T remote control, the CDS- T-AP will switch the LED display from red to green if it does not receive any valid IR-CDS signals from the IR-CDS-T remote control within the first 60 minutes.

Yet, the twilight value can be manually changed at any time.
(also see „Setting the LUX value")

- **Cancelling the permanent protection against tampering**
  1. Disconnect mains voltage
  2. Connect mains voltage for about 15 secs
  3. Disconnect mains voltage again
  4. Re-connect mains voltage:
     red LED blinks.

4. Settings made with the IR-CDS-T remote control

- **LUXOMAT® IR-CDS-T** infrared remote control
  With the infrared remote control, the usefulness of the CDS-T-AP can be considerably increased compared to its traditional application.
- The current light value can be read in.
- Once mounted, no ladder is needed, as all further settings can be made easily from the ground.
- The standard range of the IR remote control is about 5-6m.
- With direct sunlight about 2-3m.
- Each valid signal received is acknowledged by a 2sec lighting-up of the function display (LED) and a flashing of the connected lighting.

EEPROM:
All of the values set on the LUXOMAT CDS-T-AP with the control knob are overwritten by the IR-CDS-T remote control and saved in the memory (EEPROM).
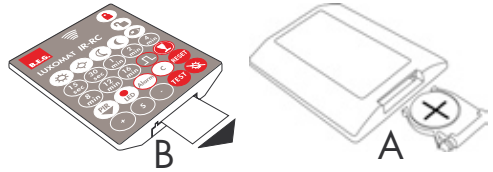
In this way, the values remain preserved even in the event of a power failure.

5. Battery:

The remote control is supplied complete with battery.

It is important that you remove / pull out the protective paper between battery and contact. (B)

If remote settings are not possible, first of all check whether the battery has been correctly polarized. Open battery compartment by pressing the plastic spring (A) together and removing the battery holder.

B   A

If this does not solve the problem, the battery may have to be replaced.

6. Commissioning / Making settings with the IR-CDS-T remote control

- Set the twilight control knob at the centre position.
  Do not set at maximum (sun) = manual reset, because otherwise in the event of a power failure and after reconnecting the power, the data saved in the EEPROM will be erased.
- Connect the 230V mains voltage

The appliance is automatically locked. 🔒

- After having connected the mains voltage, a flashing of the function display (red LED) for 20sec indicates the self-check cycle of the LUXOMAT® CDS-T-AP.

  Slow flashing of the LED =
  no data in the EEPROM.

  Rapid flashing of the LED =
  data in the EEPROM
  manual settings with the twilight control knob cannot be made.

  very rapid flashing of the LED =
  the "Lights OFF" function (party) is activated.

- **Displays (LED) after completed self-check cycle:**

  no LED display = („locked" mode)
  the surrounding light is brighter than the setting of the twilight control knob, the connected lighting remains off

  red LED lit = („locked" mode)
  the surrounding light is not as bright as the setting of the twilight control knob, the connected lighting is on.

  green LED lit = permanent protection against tampering

The surrounding light is not as bright as the setting of the twilight control knob, the connected lighting is on.

No settings can be made. The „anti-tampering" mode has to be cancelled first. (see chapter „Permanent protection against tampering").

Unlocks the LUXOMAT® CDS-T-AP

Now all settings can be made. All programs described below are permanent settings, i.e. the programs are repeated daily as soon as the appliance is connected. Excepted from this are the „Light On/Off" and the Reset functions.

Setting the twilight value

This function permits to set an exact twilight value even in daylight. Select one of the fixed values, e.g. 20 Lux. This sets an exact value (twilight value) for switching on and off the connected lighting. The value can be changed with the remote control at any time.

Reading in the current twilight value

The automatic read-in function of the IR-CDS-T remote control saves you any experimenting with the twilight value.
When the ambient brightness is so that you want the lighting on, simply press the key with the eye symbol. The corresponding light value is read and saved.

Note: When the relay/light is on, the light is first switched off for about 3sec., then the current twilight value is read and after this the light is switched on again.

Important: The max. brightness is 300 Lux, min. is 2 Lux. If the read-in value is above 300 Lux or below 2 Lux, the appliance will indicate this by a very rapid flashing of the LED display. This means that the surrounding light is brighter than 300 Lux or darker than 2 Lux.

Light ON / OFF function

With this function, the light can be switched on or off independently of the ambient brightness or of the energy saving period. No difficult installation of a manual switch is required.

Note: As a protection against tampering, the „Light OFF" function is deactivated as a default. It must be activated if required. The „Light ON" function is always active.

1. Activating / Deactivating the function „Light OFF":
   Connect the mains voltage - a self-check cycle of 20sec will start. LED flashes.

2. Activating the „Light OFF" function:
   Must be made during the self-check cycle.
   Press the key on the IR-CDS-T remote control. LED flashes very rapidly.
   The „Light OFF" function is now activated

3. Deactivating the „Light OFF" function:
   Must be made during the self-check cycle.
   During the self-check cycle press the „RESET" button on the remote control.
   LED flashes less rapidly.
   „Light OFF" function is now deactivated.

You can now continue with programming as required.

Using the „Light ON / OFF" function

„Light OFF" function deactivated:

Pressing the key will only switch on the continuous light (LED flashes slowly)

„Light OFF" function activated:

Initial pressing of the key switches the continuous light ON.

Repeated pressing of the key will switch the lighting OFF ... press ON ... press OFF, etc. (LED flashes slowly at ON or OFF)

RESET: Reset or keys will terminate the function.

Note: The „Light ON" or „Light OFF" function is automatically reset as soon as the pre-set twilight value switches the connected lighting on or off again.

The CDS-T-AP switches automatically again.

The „Light ON / OFF" function is also accessible in the locked or the permanent tampering protection mode.

IMPORTANT: „Light ON / OFF" is accepted <u>only</u> if at least once <u>dark</u> has been registered and the lighting has been on for at least 30sec

Programming the energy saving period
To turn on the light only when needed means that you save energy. With the programmable energy saving period, you can save energy at night, when no light is needed.

The appliance has an integrated clock with calendar. This permits an exact setting of the energy saving period by means of the day/week timer clock, taking into account the daylight saving changes.

For example, the connected lighting can be switched on depending on the twilight value. At 23:00 hrs, when no more light is needed, it is switched off automatically. In the morning at 05:00 hrs you need light again, it is therefore switched on and then off again when it gets light. In this way, the light is switched individually and as required.

Energy saving periods
The appliance has two programmable energy saving periods:
a) for day 1 (Monday) – day 5 (Friday)
b) for day 6 (Saturday) – day 7 (Sunday)

Setting the time for „Light OFF"

First press the „Unlock" key, then press the „Light OFF 1-5" or "Light OFF 6-7" key. Now the LED flashes rapidly.

Enter the data in the format of 10/1 hours and 10/1 minutes. Only a time between 12:00 - 23:59 can be entered.

After each character received, the relay/light will switch. After the 4th character the relay/light will switch and the LED will flash less rapidly.

Setting the time for „Light ON"

First press the „Unlock" key , then press the „Light ON 1–5" or the „Light ON 6–7" key. Now the LED flashes rapidly. Enter data in the hours:minutes format e.g. 04:15. Only times between 00:00 - 11:59 can be entered.
After each character received, the relay/light will switch. After the 4th character the relay/light will switch and the LED will flash less rapidly.

Note: If the energy saving period is not required, the „OFF" time 1–5 or 6–7 must be at 23:59 and the „ON" time 1–5 or 6–7 must be 00:00.

Alternatively, a "RESET" will erase all saved data, and after that all of the factory settings are active again (see chapter „RESET").

Timer clock with calendar
The correct time and day are already set in the factory. A back-up memory ensures that even in the event of a power failure, time and date will remain saved.

Set time and day

Of course the current time and day can also be set by the IR-CDS-T remote control at any time.

Set the time

First press the „Unlock" key, then press the „Clock" key. Now the LED flashes rapidly.

Enter data in the hours:minutes format:
e.g. 04:15 .
After each character received, the relay/light will switch. After the 4th character the relay/light will switch and the LED will flash less rapidly.

Set day / calendar

First press the „Unlock" key, then press the „Calendar" key. Now the LED flashes quickly. Enter data in the following format:

10/1 days	(D)	(01 – 31)
10/1 months	(M)	(01 – 12)
10/1 years	(Y)	(00 – 99)
Weekdays	(Wd)	(1 – 7)

e.g..: 08. March 2002   Friday
　　　　DD MM　　YY　　　Wd
　　　　08　03　　02　　　　5

After each character received, the relay/light will switch. After the 7th character the relay/light will switch and the LED will flash less rapidly.

Correction for daylight saving time

The change to daylight saving time is already activated in the factory.
Deactivate daylight saving time by pressing the „S/W" key, then the „0" key.
The function is activated by pressing the „S/W" key, then the „1" key.

RESET in „Unlocked " mode

Means that all settings made with the IR-CDS-T remote control are erased. The twilight value is reset to the value set with the control knob.
Light = OFF

Return to standard settings:
By a manual RESET (control knob), automatically the following standard settings are loaded to the memory:

Change to daylight saving time:	active
ON time 1–5:	00:00
OFF time 1–5:	23:59
ON time 6–7:	00:00
OFF time 6–7:	23:59

RESET in „Locked" mode

Means: Light=off

Lock

When all settings have been made, lock the LUXOMAT® CDS-T-AP again.
In the locked mode, only the following keys can be actuated: RESET and „Light ON / OFF".

Permanent protection against tampering - green LED

With this function, the LUXOMAT® CDS-T-AP can be permanently protected against unauthorized operation by others with an IR-CDS-T remote control, the LED changes from red to green.

This mode can only be actived within 5sec after locking the detector.

In this mode, only the „Light ON / OFF" function can be used.
After activation of the tampering protection, the green LED will stay on for about 8sec as an indication, and will then go out.
To enable you to recognize the mode of the CDS-T-AP when it is too bright and the LED is off, simply press the „Lock" key. If the CDS-T-AP is in the anti-tampering mode, the green LED will light up for about 8sec.

- **Cancelling the permanent protection against tampering**
  1. Disconnect mains voltage
  2. Connect mains voltage for about 15sec
  3. Disconnect mains voltage again
  4. Re-connect mains voltage:
     red LED flashes.

7. Technical specification

LUXOMAT® photoelectric switch CDS-T-AP

Mains voltage	230V AC ± 10%
Breaking capacity	16A switching relay, 2200 W (max. continuous load 10A,250V,cos(φ) =1) 1150VA (5A, 250V, cos(φ)=0,5)
Photoelectric switch	approx. 2-300 Lux
Delayed switch-on and switch-off	approx. 15sec
Electronic setting on the appliance	with potentiometer for brightness value
with IR remote control	for brightness and time settings
Enclosure / Test mark	IP54, CE
Dimensions approx.	H69xW65xD52 mm
Material	UV-stabilized PC
Mounting types	suited for all types of mounting, single-hand plug-in base assembly, will also fit on the plug-in base of the LUXOMAT® AL5 RC-plus Automatic spotlight
Item no.	**92367**

Remote control LUXOMAT® IR-CDS-T (optional)

Dimensions approx.	L78 x H 8 x D 58 mm
Range	cloudy / dark approx. 5-6m, direct sunlight approx. 2-3m
Battery	Lithium Cr 2032-3V, included
Item no.	**92368**

The first mobile light switch for private use

Functions of „Continuous light ON and OFF"/ „Party" independently of the surrounding brightness and the time. No extra costs for installing an additional manual switch.

Remote control LUXOMAT® IR-CDS-T *mini* (optional)

Dimensions approx.	L57 x H 7 x W 35 mm
Range	cloudy / dark approx. 5-6m, direct sunlight approx. 2-3m
Battery	Lithium Cr 2032-3V, included
Item no.	**92091**

Warranty for BEG LUXOMAT® products

BEG products are produced using state-of-the-art technology and are quality tested. Should a fault arise in spite of this, BEG GmbH provides the following warranty:

a) Term

The term of the warranty is 36 months following purchase of the unit by th customer.

b) Scope

The unit shall be repaired of manufactured once again free of charge by BEG in its factory at its discretion if it is proved that a manufacturing of material fault has rendered it unsuitable for use or hase considerably limited its usefulnes within the warranty period.

c) Exclusion

The warranty for defects shall not apply to natural wear and tear or transport damages. Neither shall it apply to damages resulting from failure to observe the installation instructions or unprofessional installation. BEG is to be allowed the necessary time and opportunity to remedy the defect.

BEG shall not assume liability for the consequence of improper modifications or repair work. This shall also apply to the supply of individual and replacement parts. BEG shall not assume liability for indirect, consequential and pecuniary loss.

d) Period of limitation

Should BEG nor recognize notification of defects made on time, the right to assert claims arising from the defects of the party entitled to the warranty shall become statutebarred in all cases 6 months following the date on which the notification of the defect was made on time.

e) Return of the defect unit

In the event of the warranty being availed of, the unit must be submitted to us through the specialist retailer together with the warranty card filled in and the sales receipt, as well as a short description of the defect.

BEG (UK) Ltd. - Abbey House, 450 Bath Road - Heathrow UB7 0EB

Unit model: **LUXOMAT® CDS-T-AP**   Date of sale to the customer:

Note: No follow up of the warranty claim without the warranty card and the purchase receipt.

Stamp and signature of the dealer or the electrician who installed the system:

Adress of the sender:

Name: _____

Street: _____

Postal code/city: _____

Defects discouvered:

B.E.G.