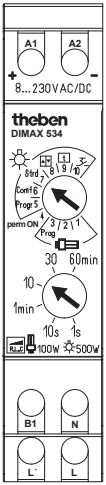
theben

DIMAX
DIMAX 534 534 0 000

Installation and operating instructions
Universal dimmer

D GB F
I E NL



DIMAX 534

Contents

Basic safety instructions

⚠ WARNING

Danger of death through electric shock or fire!

➢ Installation should only be carried out by a qualified electrician!

- The dimmer is designed for installation on DIN top hat rails (in accordance with EN 60715)

Designated use

- The universal dimmer corresponds to IEC/EN 60669-2-1; it switches and dims the brightness of various light sources such as bulbs, halogen lamps, HV and LV halogen lamps (conventional or with electronic transformer) or dimmable compact fluorescent tubes (energy-saving lamps) or dimmable LED lamps for 230 V. The brightness can be adjusted using the push button attached to the dimmer; for use in enclosed spaces
- The universal dimmer has a lamp-friendly "soft" on and off system, automatic detection of the load type (not in the case of energy-saving lamps), overheating protection against overload as well as a short-circuit protection

Disposal

Dispose of the dimmer in an environmentally sound manner (electronic waste)

Connection/installation

⚠ WARNING

Warning, danger of death through electric shock!

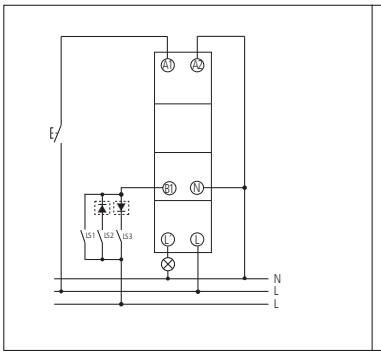
- Must be installed by qualified electrician!
- Disconnect power source!
- Cover or shield any adjacent live components.
- Ensure device cannot be switched on!
- Check power supply is disconnected!
- Earth and bypass!

- Mount the dimmer in the lower part of the distributor to avoid an excessively high temperature during use.
- In the case of a service line of >300 W keep an 8 mm distance to the right and left of the device.

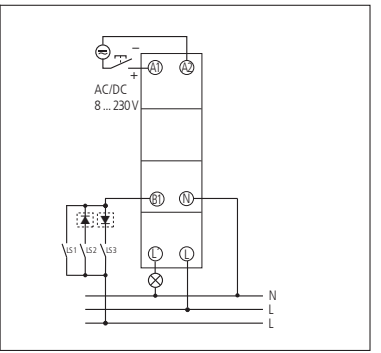
Connection/installation

- Electronic and conventional transformers must always be operated at the minimum load specified by the manufacturer.
- Only use dimmable energy-saving lamps, normal energy-saving lamps could be irreparably damaged.
- Disconnect the dimmer before changing the load.
- When replacing lamps, switch off the voltage supply (at the fuse box) to ensure that the automatic load detection can be reactivated.
- Do not connect dimmer load connections (L') in parallel.
- Do not bypass or short-circuit the dimmer.
- Do not install an isolating transformer or an adjustable transformer ahead of the dimmer.
- Dimmable lighting with electrical isolation (e.g. in the bathroom): Work with 12 V halogen lamps. Transformers for 12 V halogen lamps have sufficient electrical isolation.
- Do not mix wound and electronic transformers in the installation.
- Do not mix wound transformers and energy-saving lamps/LEDs in the installation.
- Do not connect push button with glow lamp.
- Correct, automatic load detection is only possible with a connected load.

➢Only use transformers approved by the manufacturer for dimmer operation.



230 V
connection

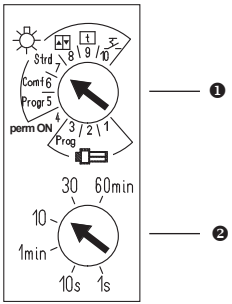


Connection with
8 ... 230 V

LS 1 = Light setting 1
LS 2 = Light setting 2
LS 3 = Light setting 3

Control elements

GB



❶ Rotary switch for setting 10 functions
(see p. 13 cont.)

❷ Potentiometer for setting the dimming time from 1 s to 60 min (for wake-up and snooze function, staircase time switch and switch function
Functional description see p. 16 cont.)

General functional description

Dimmer is OFF (Input A1/A2)

– 1 x short keystroke (< 1 s) ->	switch on with saved switch-on brightness
– 1 x long keystroke (> 1 s) ->	switch on minimum brightness and dim up until the push button is released or the max. brightness is obtained (dimming switch-on function)
– 2 x short keystroke ->	**Wake-up function**: Dimmer switches on with minimum brightness, then is dimmed up to the set dimming time (Potentiometer ❷) dimmed up to taught in switch-on brightness

Dimmer is ON (Input A1/A2)

– 1 x short keystroke (< 1 s) ->	switch off
– 1 x long keystroke (> 1 s) ->	– Dimmer dims up/down – Dimming stops at the minimum/maximum value – When pushing the push button again the dimming direction is changed

– 1 x long keystroke (> 10 s) -> **Saving switch-on brightness**: Dimmer dims to the minimum or maximum value respectively. If the push button is pressed for > 10 s, the previous dimming value (start value) is saved as the switch-on brightness (confirmed by the difference in brightness). Following this, adjustments are made according to the saved switch-on brightness (see P. 10).

– 2 x short keystroke -> **Snooze function**: Dimmer dims within the set dimming time (Potentiometer ❷) to the minimum brightness and switches off.

Description of functions

Wake-up function

– Dimmer dims from the minimum brightness to the taught in switch-on brightness within the set dimming time.

Snooze function

– Dimmer dims from the current dimming value to the minimum brightness within the set dimming time and switches off.

Dimming switch-on function

– The dimmer switches on with minimum brightness and dims until the push button is released or the max. brightness is obtained.

Minimum brightness

– The preset minimum brightness is set in such a way that the lamps still light up.

– **Adapting minimum brightness**
  - ➢ Set rotary switch to **5** (to **3** for energy-saving lamps). The current minimum brightness is approached.
  - ➢ Press push button at A1/A2 and dim up or down until the brightness value is obtained.
  - ➢ Release push button; the brightness value is accepted.
  - ➢ Set rotary switch to desired function again.

Reason: If there is a drop below a specific brightness value, the energy-saving lamps go out and cease to light up.

Tip: Switch on energy-saving lamp for 5 min and then set minimum brightness.

Switch-on brightness

– The dimmer starts with the taught in switch-on brightness (factory set 100 %).

– **Learning switch-on brightness**
  - ➢ Adjusting the desired switch-on brightness.
  - ➢ Press push button A1/A2 until the minimum/maximum value is obtained.
  - ➢ Press the push button for another 10 s; the value is taught in. The previous dimming value is saved as switch-on brightness (confirmed by the difference in brightness). Following this, adjustments are made according to the saved switch-on brightness.

Light setting

– Up to 3 light settings can be selected using the push button at input B1. In the case of 2 or 3 light settings the diode module (907 0 367) is required.

– **Activating the light setting**:
  - ➢ Briefly press push button at B1.

Learn the light setting using functions 1, 2, 6, 7

- ➢ Set brightness value using push button at A1/A2.
- ➢ Press push button B1 (for light setting LS1, LS2, LS3) for longer than 10 s; the value is saved as light setting (confirmed by the difference in brightness). Following this, adjustments are made according to the saved brightness.

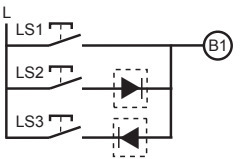
Learn light setting with switch B1 at function 10

- ➢ Set rotary switch to **5**. The current minimum brightness is approached.
- ➢ Switch on switch at B1 (close); the light setting is approached.
- ➢ Press push button at A1/A2 to dim up or down.
- ➢ Release push button A1/A2 at desired value; the value is changed and accepted for the activated light setting.
- ➢ Switch off switch B1 (open).
- ➢ Set rotary switch to function 10 again.

Several light setting with diode module

Connection with diode module to a dimmer

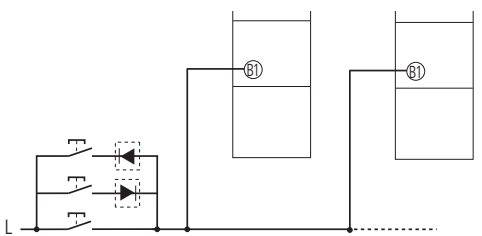
Light setting 1
preset 50 %
Light setting 2
preset 25 %
Light setting 3
preset 75 %



Diode module

Light scene 1 can also be activated if buttons LS2 and LS3 are pressed simultaneously.
This makes it possible to save using button LS1.

Connection with diode module to several dimmers

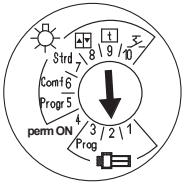


Examples:

Central OFF: Learn all dimmers 0 %.
Central ON: Learn all dimmers 100 %.

Setting A: Learn dimmer 1 20 %,
Learn dimmer 2 70 %, ...
Setting B: Learn dimmer 1 50 %,
Learn dimmer 2 40 %, ...

Functions for dimmable energy-saving lamps (ESL)



– with adjustable switch-on brightness (preset 100 %)
– with dimming switch-on function
– with wake-up and snooze function
– with light settings

1 with automatic load detection
(ideal for manufacturers Megaman, Philips)*

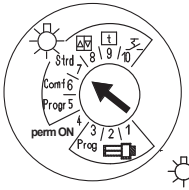
* Start always with 100 %, to ensure that the ESL come on.

2 no automatic load detection (always with phase control)
(ideal for manufacturers Osram, Philips)**

**Start always with min. 50 %, to ensure that the ESL come on.

3 Prog Learn light settings and minimum brightness (only for ESL) (see p. 10)

With some energy-saving lamps there may be radio interference voltages when dimming with phase control. In this case use position 1 (phase control).



Function for all lamps

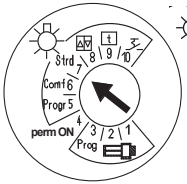
4 perm ON Function **perm ON**: Dimmer is always on

Functions for standard lamps

5 Prog Learn light settings and minimum brightness (see p. 10 cont.)

6 Comf Comfort function
- with adjustable switch-on brightness (preset 100 %)
- with dimming switch-on function
- with wake-up and snooze function
- with light setting function

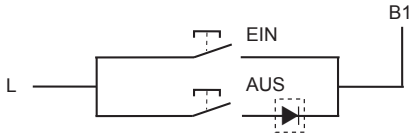
7 Strd Standard function
- with switch-on brightness (preset 100 %)
- with dimming switch-on function
- with light setting function



8 ▲▼ 2-push button function using diode module with double switch or rocker button

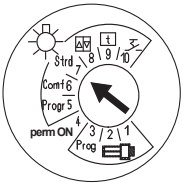
GB

– Input B1 = push button input
– with switch-on brightness
– with dimming switch-on function



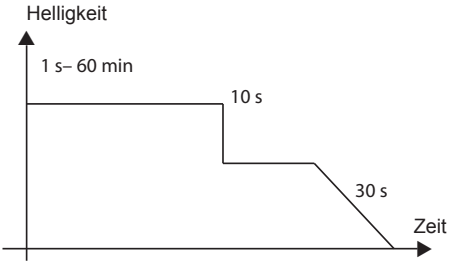
Diode module

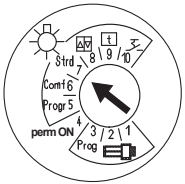
Push button ON: Switch on / dim up
Push button OFF: Switch off / dim down



9 t Staircase time switch function

– Time adjustable with potentiometer ❷ (1 s – 60 min)
– Switch-off warning: After set time has elapsed rapid dimming reduction to 50 % of the switch-on value. After 10 s slow dimming down to minimum brightness within 30 s.
– Long term function 60 min:
  Activated using a long keystroke
  (confirmed by difference in brightness)
– A further keystroke during the expiry time restarts the expiry time (resettable, cannot be prematurely switched off).



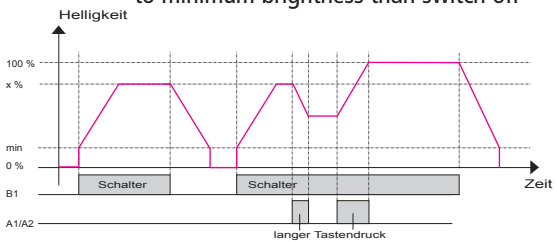


10 Switch function (e.g. for presence and motion detector)

– at input B1: not defined as push button but as **switch**
Use of the diode module possible, up to 3 light settings can be selected (see P. 12)

Switch ON: slow dimming up; time adjustable at potentiometer 2; set point value set with function 5

Switch OFF: slow dimming down; time adjustable at potentiometer 2; to minimum brightness than switch off



– at push button A1/A2
  – with switch-on brightness (preset 100 %)
  – with dimming switch-on function
  – with wake-up and snooze function

Technical data

- Operating voltage: 230 V~, +10 % / -15 %
- Frequency: 50 Hz
- Power consumption: typically 0.3 W
- Standby: typically 0.2 W
- Incandescent lamp load: 500 W*
- Halogen lamp load: 500 W*
- Inductive transformer (L): 500 W*
- Electronic transformer (C): 500 W*
- Dimmable energy-saving lamps (ESL): 100 W
- Cable length: max. 100 m
- Minimum load: none
- Permissible ambient temperature: –30 °C ... +50 °C
- Protection class: II subject to correct installation
- Protection rating: IP 20 in accordance with EN 60529

* In the case of a load of >300 W keep an 8 mm ventilation distance to the right and left.

Service address/Hotline

Service address

Theben AG
Hohenbergstr. 32
72401 Haigerloch
GERMANY
Telephone +49 (0) 74 74 6 92 0
Fax +49 (0) 74 74/6 92-150

Hotline

Telephone +49 (0) 74 74 6 92 -369
Fax +49 (0) 74 74/6 92-207
hotline@theben.de
Addresses, telephone numbers etc.
www.theben.de