

Thermostat, NO contact, with centre plate, time-controlled

Order no. 2045 20 ..



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Programming switching segments

A total of 48 switching times must be set per day. A switching interval lasts 30 minutes.

The first switching time (0:00 -> 0:30) appears in the display and the first switching segment (Figure 3, 10) flashes.

- Press the **OK** - several times if necessary - until the desired temperature level (T1 - T3) is displayed for the first switching segment.

- Press the **+** button to select the next switching segment.

i Programme the other switching segments and the appropriate temperature levels as described above.

i All the switching segments must be run through.

After the last switching segment (23:30 -> 0:00) has been programmed, the text **Confirm?** appears in the display.

- Press the **OK** button.

The text message **Confirm** appears briefly (< 3 s) in the display. The switching times and temperature levels of the individual programme have been programmed. The individual programme (e.g. Free 1) is shown in the display.

Submenu A7 - Adjusting temperature levels

You can adjust the preset temperature levels T1 - T3 according to your personal requirements. The sequence T1 < T2 < T3 applies.

Factory setting

- Heating: T1 = 17 °C, T2 = 19 °C, T3 = 21 °C
- Cooling: T1 = 22 °C, T2 = 26 °C, T3 = 30 °C

Submenu A6 - Creating an individual programme

Three individually-settable programmes (Free 1 - 3) are available.

The device is in the Programme submenu (Figure 4, 17).

- Using the **-** or **+** button, select the menu item **Program modification** and confirm it by pressing **OK**.

Free 1 is displayed.

- Press the **-** or **+** button to open the desired individual programme (Free 1 - 3) and confirm it with **OK**.

The text **7 identical days?** is displayed. The device is ready for programming of the day profiles.

Two methods are available for programming the day profiles.

- Programming 7 days identically

- Press the **OK** button.

The device is ready for programming of the switching segments (see Programming switching segments).

- Programming each weekday (Monday to Sunday) individually

An individual programme (Free 1 - 3) has been selected and the text **7 identical days?** is shown on the display.

- Press the **+** button. The first weekday (MON) is shown.

- Confirm with **OK**.

The text **Copy? No** appears in the display.

Further programming of the switching segments can be carried out using an individual day profile or as a copy of an existing day profile.

- Creating a copy of an existing day profile

A weekday of an individual programme (Free 1 - 3) has been selected for adjustment and the text **Copy? No** appears in the display.

- Press the **-** or **+** button. The text **Copy? Yes** appears in the display.

- Press the **OK** button.

- Using the **-** or **+** button, select the weekday to be copied and confirm it by pressing **OK**.

The text **Executed** appears on the display for approx. 3 s. The time-temperature diagram has been copied. The next weekday (TUE) appears in the display.

i Copy the day profiles of the other weekdays as described above.

- Creating individual day profiles

A weekday of an individual programme (Free 1 - 3) has been selected for adjustment and the text **Copy? No** appears in the display.

- Press the **OK** button.

The selected programme and the time-temperature diagram of the first weekday are displayed. The device is ready for programming of the switching segments.

i Programme the day profiles of the other weekdays as described above.

Submenu A1 - Select function

Choose between the following function types:

- Manual**
Time-independent temperature control using the manually-set set temperature.
- Automatic**
The room temperature is controlled according to the time and temperature specifications of the selected programme.

Submanual A2 - Temporary Manual

The temperature control can be specified manually for a settable period of time of between 1 and 99 days. When this period has elapsed, the thermostat reverts to the previous programme mode.

Submenu A3 - Frost protection

When frost protection is active, then heating is activated when the temperature falls below the set frost protection temperature.

Submenu A4 - Switch off control

The temperature control is switched off permanently.

i The controller is switched on when any function is selected.

Submenu A5 - Select programme

The controller makes three preset time/temperature programmes (Prog 1 - 3) available, depending on the operating mode (heating/cooling). A programme contains all 7 days of the week.

In addition, you can use one of three individually-settable programmes (Free 1 - 3).

The operating mode (*Heating* or *Cooling*) is set (see Start-up) and the device is in the Programme submenu (Figure 4, 17).

- Using the **-** or **+** button, select the menu item **Program select** and confirm it by pressing **OK**.

Prog 1 is displayed.

i When delivered, Programme 1 is active.

- Press the **-** or **+** button to select the desired programme and confirm this by pressing **OK**.

The selected programme and the time-temperature diagram of the first weekday are displayed.

i Press the **-** or **+** button to display the time-temperature diagrams of the other days of the week.

- Press **OK**.

The selected programme is active.

i The selection is confirmed for approx. 3 s on the display before the thermostat reverts to the menu item **Program select**.

ged set temperature until the next switching time.

- Press the **C** button.

The display returns to the previous operating mode.

Locking/unlocking operation

The operation buttons of the thermostat can be locked, in order to prevent unintentional operation, e.g. by children.

The thermostat is in the basic display.

- Press the **-** and **+** buttons simultaneously. **2 s** is shown in the display. The operation buttons are locked.
- Press the **-** and **+** buttons simultaneously again. **2 s** is shown in the display. The operation buttons are enabled.

Setting the values

To program some functions, certain values first need to be set, such as language, time and operating mode.

The appropriate menu item is open and the value to be set shown in the display.

- Press the **OK** button. The set value is applied.
- Or
- Press the **C** button. The display switches to the previous menu item. The setting is not applied.

Adjusting the set temperature manually

The temperature can always be adjusted in the *Automatic*, *Manual* und *Temp. Manual* operating modes, irrespective of the programme.

The thermostat is in the basic display.

- Press the **-** or **+** button. Short button-press: Change the set temperature (Figure 3, 15) in steps of 0.1°.
- Long button-press: Rapid scrolling of values. Scrolling stops when the button is released. The current set temperature flashes 8 x. The setpoint has then been applied.

i The flashing **MAN** display shows that the set temperature was adjusted manually. The temperature is controlled according to the chan-

Opening the menu and navigating

The thermostat is set and programmed via the menu.

The thermostat is in the basic display.

- Press the **OK** button. The main menu (Figure 4, 16) is open and the first menu item displayed. The display is illuminated.
- Press the **-** or **+** button to navigate through the menu.
- Confirm the selected option by pressing **OK**. The submenu opens.

i Navigation through the menus can continue as described above.

- Press the **C** button. The display switches to the previous contents.

i Pressing the **C** button repeatedly causes the display to revert to the basic display.

The following diagram shows the function overview of the menus: **A1 ... A11** refers to sections with additional information.

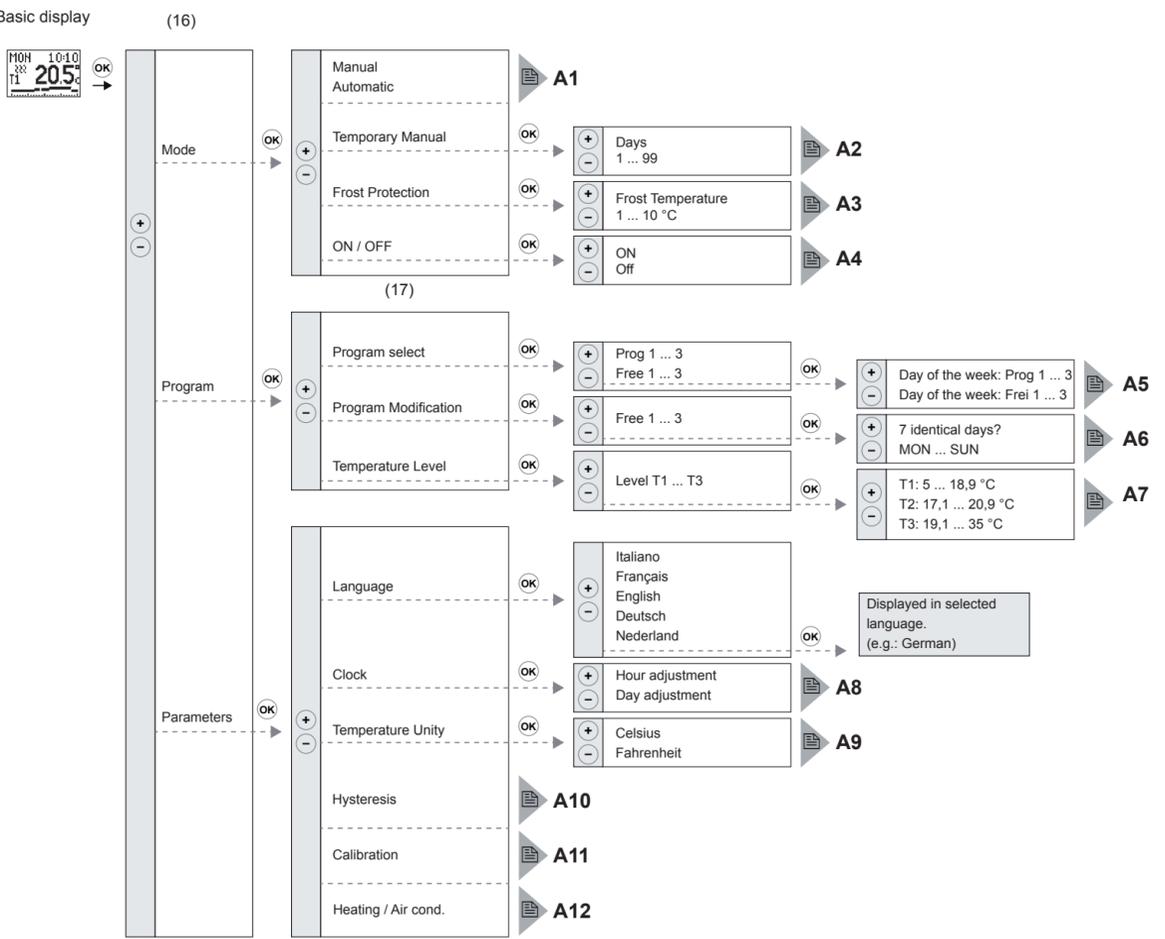


Figure 4: Menu overview

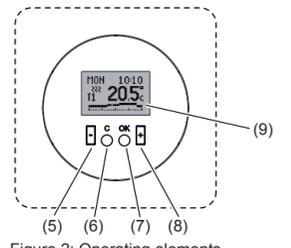
Operation

Operating concept and display elements

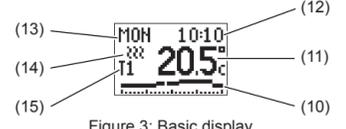
You can navigate through the menu structure using the four buttons below the display (Figure 2, 5 - 8). In the menu, functions can be set/activated and settings can be adjusted.

A brief button-press will trigger a function or navigate one step through the menus or parameters. A button-press > 2 seconds allows faster forward or backward movement.

The current thermostat status is displayed. Display illumination switches on for as soon as a button is pressed.



- (5) Button -
- (6) Button **C**
- (7) Button **OK**
- (8) Button +
- (9) Display



- (10) Time-temperature diagram, switching segments and display of help texts
- (11) Display of current room temperature
- (12) Display of the time
- (13) Display of the day of the week
- (14) Display of the operating status (heating / cooling)
- (15) Display of the temperature level, set temperature, function

Thermostat, NO contact with centre plate, time-controlled

Safety instructions

Electrical equipment must only be installed and assembled by a qualified electrician in accordance to the relevant installation standards, guidelines, regulations, directives, safety and accident prevention regulations of the country.

Failure to comply with these instructions may result in damage to the device, fire, or other hazards.

These instructions are an integral component of the product, and must be retained by the end user.

Design and layout of the device

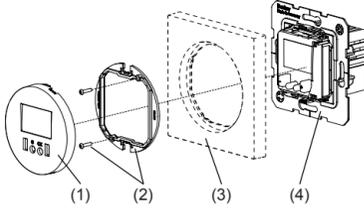


Figure 1: Design and layout of the device

- (1) Centre plate
- (2) Fixing element with screws
- (3) Frame (not in scope of delivery)
- (4) Insert

Function

Correct use

- Control of heating or air-conditioning systems
- Control of the room temperature according to the time and day (programme) in Automatic mode
- Manual adjustment of the automatically-controlled temperature
- Temperature measurement using internal measurement sensor
- Only suitable for use in indoor areas
- Installation in wall box according to DIN 49075

Product characteristics

- 3 preset programmes each for heating and cooling
- Individual adjustment of the heating requirement using 3 freely-adjustable time/temperature programmes
- Backlit display
- Button lock

Preset temperature levels

	Heating	Cooling
Reduced temperature (Periods of absence or night setback)	T1	T3
Eco (presence times, e.g. during the day)	T2	T2
Comfort (presence times, e.g. in the evening)	T3	T1
Frost protection function	Yes	No

Table 1: Temperature levels

Heating programmes

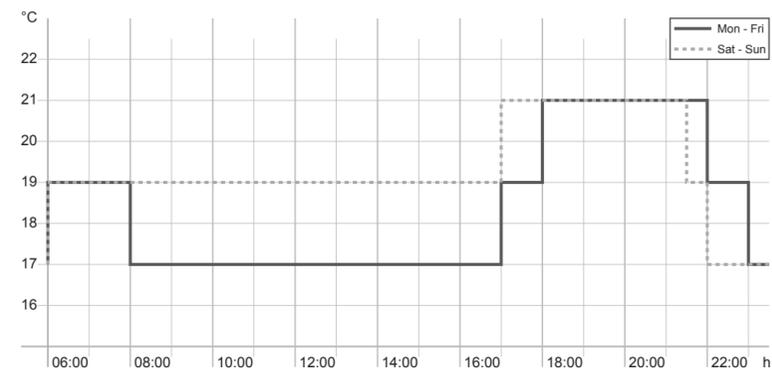


Figure 1: Time-temperature diagram (day profile) for heating programme 1

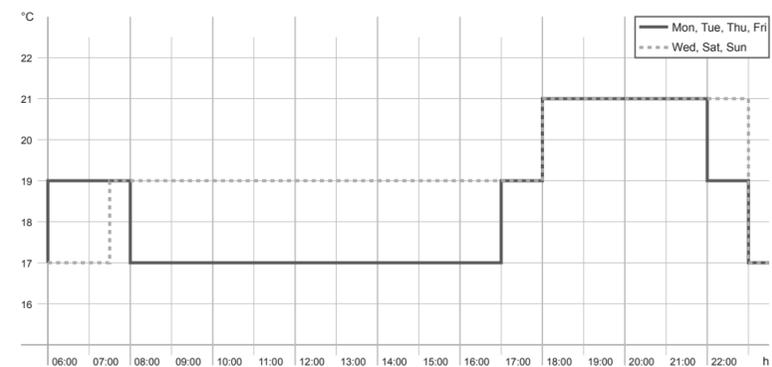


Figure 2: Time-temperature diagram (day profile) for heating programme 2

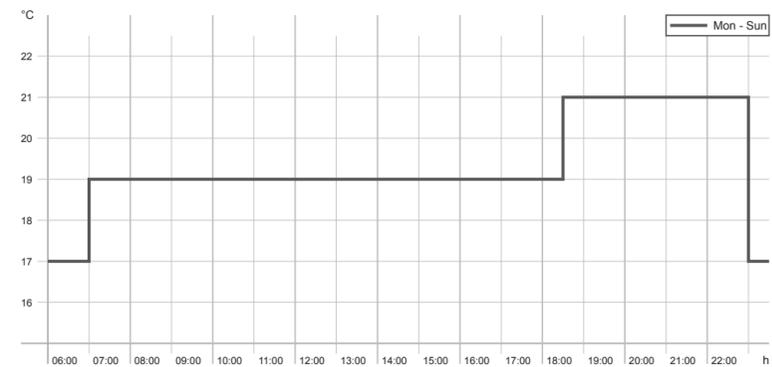


Figure 3: Time-temperature diagram (day profile) for heating programme 3

Programme with switching times events and temperature setback to 17°C during the day on weekdays (absence). Eco temperature for the whole day during the weekend, Comfort temperature in the evening and then night setback.

Switching time	Mon - Fri		Sat, Sun	
	⌚	📉 °C	⌚	📉 °C
1	6:00	19.0	6:00	19.0
2	8:00	17.0	17:00	21.0
3	17:00	19.0	21:30	19.0
4	18:00	21.0	22:00	17.0
5	22:00	19.0		
6	23:00	17.0		

Switching times on Mon, Tue, Thu and Fri as Programme 1. Switching time for Eco temperature for the whole day on Wed, Sat and Sun, Comfort temperature in the evening and then night setback.

Switching time	Mon, Tue, Thu, Fri		Wed, Sat, Sun	
	⌚	📉 °C	⌚	📉 °C
1	6:00	19.0	7:30	19.0
2	8:00	17.0	18:00	21.0
3	17:00	19.0	23:00	17.0
4	18:00	21.0		
5	22:00	19.0		
6	23:00	17.0		

Programme with three switching times and night setback to 17 °C every day. During the day, one switching time for Eco temperature and Comfort temperature in the evening.

Switching time	Mon - Sun	
	⌚	📉 °C
1	7:00	19.0
2	18:30	21.0
3	23:00	17.0

Cooling programmes

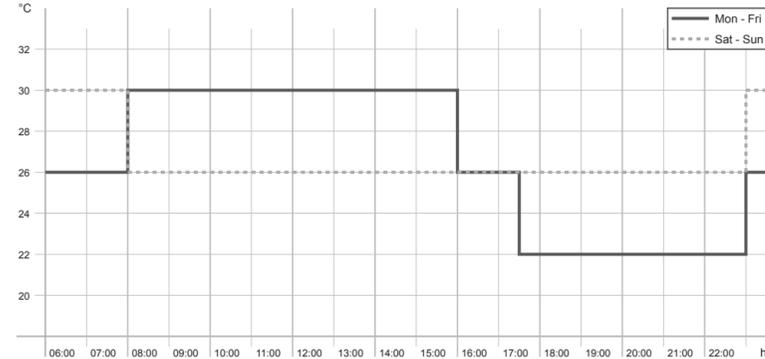


Figure 4: Time-temperature diagram (day profile) for cooling programme 1

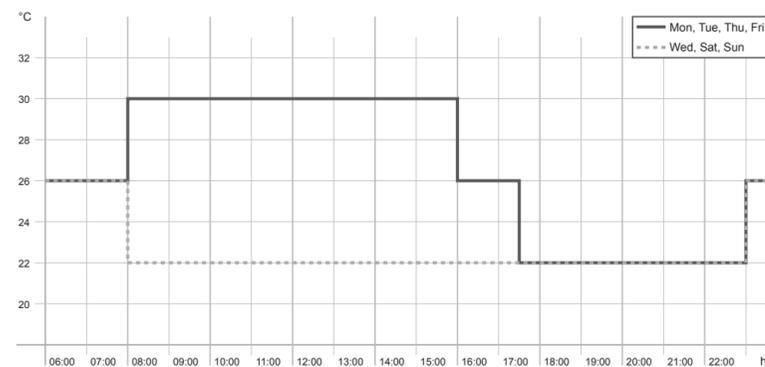


Figure 5: Time-temperature diagram (day profile) for cooling programme 2

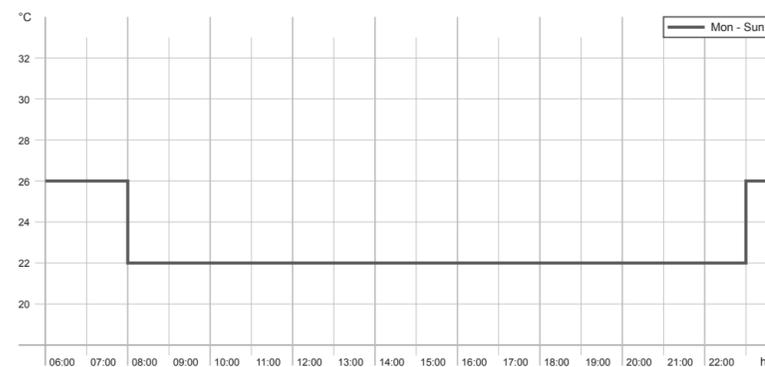


Figure 6: Time-temperature diagram (day profile) for cooling programme 3

Program with four switching times and reduced temperature during the whole day on weekdays (absence) and night-time Eco temperature. Comfort temperature in the evening, Eco temperature for the whole day during the weekend, reduced temperature in the evening.

Switching time	Mon - Fri		Sat, Sun	
	⌚	📉 °C	⌚	📉 °C
1	8:00	30.0	8:00	26.0
2	16:00	26.0	23:00	30.0
3	17:30	22.0		
4	23:00	26.0		

Switching times on Mon, Tue, Thu and Fri as Programme 1. Switching time for Comfort temperature for the whole day on Wed, Sat and Sun (presence), Eco temperature at night.

Switching time	Mon, Tue, Thu, Fri		Wed, Sat, Sun	
	⌚	📉 °C	⌚	📉 °C
1	8:00	30.0	8:00	22.0
2	16:00	26.0	23:00	26.0
3	17:30	22.0		
4	23:00	26.0		

Programme with two switching times every day. During the day, one switching time for Comfort temperature and Eco temperature at night.

Switching time	Mon - Sun	
	⌚	📉 °C
1	8:00	22.0
2	23:00	26.0

Information for electricians

Installation and electrical connection

- ⚠ DANGER!**
Touching live parts can result in an electric shock.
An electric shock can be lethal.
Disconnect the connecting cables before working on the device and cover all live parts in the area!

Installation location

ⓘ Extraneous heat affects the control accuracy.

To enable optimum room temperature control using the internal sensor, the installation location selected should

- allow free air circulation
- not be behind curtains, cupboards, shelves, etc.
- not be subject to direct sunlight
- not be subject to draughts
- not be on outer walls
- be approx. 1.5 m above the floor

Connecting and installing the device

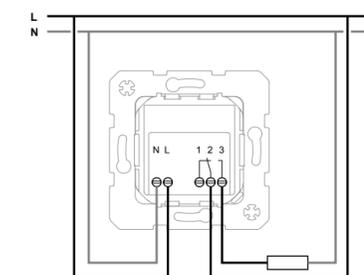


Figure 5: Connection diagram

Install a miniature circuit breaker of max. 10 A as device protection.

- Connection the thermostat according to the connection diagram (Figure 5).
- Install the thermostat in a wall box (recommended: deep box). The connecting terminals must be at the bottom.
- Place the design frame (Figure 1, 3) on the insert (Figure 1, 4).
- Screw the frame with the insert via the fixing element (Figure 1, 2).
- Place the centre plate (Figure 1, 1) over the design frame in the correct position.

Start-up

- ⚠ CAUTION!**
Malfunction of the heating system with incorrect controller settings.
The heating system could get damaged.
Only allow settings of the heating system to be carried out by a skilled specialist.

Selecting the basic settings

In the case of start-up after a long period of inactivity (30 days) or a reset, the parameters to be set are shown in the display in the following order: Language -> Hour -> Minute -> Day -> Operating mode (Heating / cooling).

The thermostat has been connected and is energised.

- Set the parameters (see Setting values).

Submenu A11 - Setting the operating mode

The thermostat can be set to heating or cooling mode.

- Heating mode

The thermostat switches the relay contact as soon as the temperature falls below the set temperature. The $\lambda\lambda$ symbol appears in the display.

- Cooling mode

The thermostat switches the relay contact as soon as the temperature exceeds the set temperature. The \ast symbol appears in the display.

Submenu A8 - Selecting the unit of temperature

The temperature is displayed in either degrees Celsius or Fahrenheit.

Submenu A9 - Setting the hysteresis

Adjusting the hysteresis prevents continuous switching on and off of the thermostat. The setting is made in steps of 0.2 °C.

ⓘ Recommendation:

- Small hysteresis value for systems with high inertia torque (e.g. underfloor heating)
- Large hysteresis value for systems with low inertia torque (e.g. fan convectors)

Submenu A10 - Calibration

Use the Calibration menu to adjust the temperature determined by the internal measurement sensor.

ⓘ The thermostat requires approx. 2 days to adjust to the room temperature. During this period, there may be variations at the switching points.

ⓘ Recommendation: 2 days after installation, measure the room temperature with a reference thermometer and then calibrate the thermostat.

Carrying out a reset

A reset causes the thermostat to revert to the factory settings.

- Press all 4 device buttons (-, C, OK and +) simultaneously.
- **Reset?** is displayed.
- Confirm with **OK** within 3 s.

ⓘ If there is no confirmation within 3 s, then the display will revert to the basic display.

Appendix

Technical data

Rated voltage	AC 230 V~, ±10 %
Frequency	50 Hz
Switching current (cos φ 1)	8 A
Output	Change-over, potential-bound
Room temperature setting range	10 - 30 °C
Hysteresis, settable	0 - 1.8 K
Number of switching times/day	48
Operating temperature	0 - +50 °C
Storage/transport temperature	0 - +60 °C
Temperature accuracy	±1 °C
Temperature adjustment range	in 0.5 °C increments
Protection type	IP 21
Protection class	II
Connecting terminals	1 x 2.5 mm ²
Mounting orientation	Connecting terminals downwards

Warranty

We reserve the right to make technical and formal changes to the product in the interest of technical progress.

Our products are under guarantee within the scope of the statutory provisions.

If you have a warranty claim, please contact the point of sale or ship the device postage free with a description of the fault to the appropriate regional representative.

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