



1. Basic safety information

NOTE

- Connection and installation should only be carried out by a qualified electrician!
- Before installation/dismounting, disconnect the power supply!

2. Proper use

- Relay-controlled system and 0–10 V output for room temperature regulation in living spaces using a digital clock thermostat and a receiver (OpenTherm Control Box 2 9070445)
- The OpenTherm Control Box 2 controls individual heating circuits (e.g. via actuators, pumps etc.), or entire heating systems
- The relay output can be configured for 2 different functions (via TSP parameter with RAMSES BLE OT and corresponding app)
- Use in dry rooms with normal levels of domestic cleanliness

Disposal

- Dispose of device in environmentally sound manner

3. Installation

Mounting the Control Box

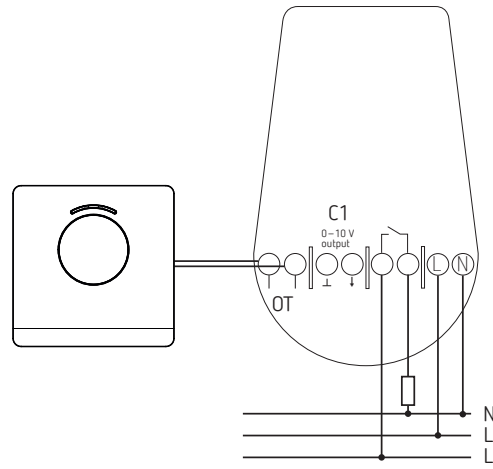
- ⚠ If 2 cables are led through one cable port of the housing, it might be necessary to enlarge the device opening, so the cable sheath will not be squeezed.

- Suited for wall mounting.
- Control box OT is installed near the heater.

4. Connection

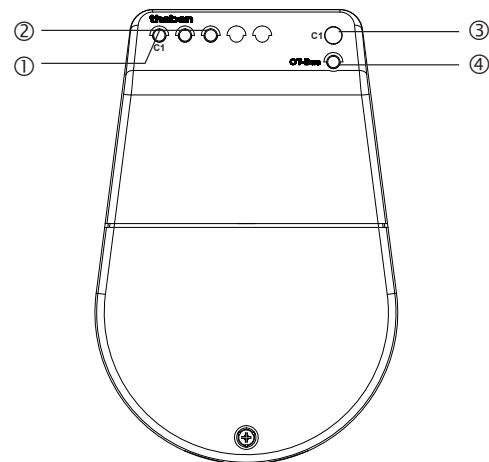
- Disconnect power source
- Note wiring diagram

- ⚠ Secure device with an upstream type B or type C circuit breaker (EN 60898-1) with a maximum of 10 A.



- OT terminal → connection of the OpenTherm room thermostat
- Right terminal → mains voltage for OpenTherm Control Box 2
- floating output → control of a heating circuit pump; the relay can also be configured as a pulse relay (see chapter Configuration)

5. Description



- ① LED: Heating state ON
- ② LED: Bus error (LED flashes red), bus interruption
- ③ Button (no function)
- ④ LED flashes at one second intervals OpenTherm bus ok

Relay function configurable

6. Configuration via TSP parameters

The TSP parameters are configured using the RAMSES BLE OT room thermostat and the associated app (→ Settings). 2 TSP parameters are used; via these, various functions are assigned to the relay of OpenTherm Control Box 2.

The 0-10 V output always controls a connected heater with corresponding input.

Einstellungen TSP	
Parameter Anzahl	2
TSP Parameter	
TSP 0	0
TSP 1	0

- 2 TSP parameters are available
- Relay for heating control
- Pulse duration (1-5 s) for relay, if configured as a pulse relay

7. Functions

Function: Relay for heating control

When heating is required, a control signal is output via the 0-10 V output. In addition, the relay is switched on to control other components, such as a heating circuit pump or a thermal actuator.

The parameter "TSP 0" is set to value "0" (default). In this case "TSP 1" is insignificant.

Function: Relay as a pulse relay

The relay can also be used as a pulse relay for heating control. For this purpose, "TSP 0" must be set to value "1". With "TSP 1", the duration for the single pulse (1 to 5 s) of the relay can be set. After executing the pulse, "0" is displayed again for "TSP-1". A new pulse can be triggered by entering a value between 1 and 5 (the red LED lights up for the duration of the pulse).

Output 0-10 V

The output 0-10 V is connected directly with the corresponding input at the heater, actuator, etc. The RAMSES BLE OT clock thermostat calculates the heat demand (flow setpoint) from the room setpoint and room actual temperature (room controller), or from the room setpoint and the outdoor temperature (OT controller). The OpenTherm Control Box 2 converts this into a corresponding 0-10 V signal.

Relay output

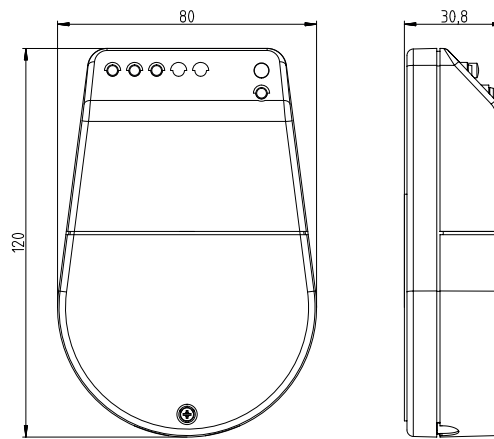
The relay output can have various functions. These can be set with TSP parameters via the connected RAMSES BLE OT (Settings – TSP parameters).

Value	Relay function
0 default	Heating circuit pump control
1	Pulse relay (reset relay, etc.)

If TSP 0 is set to "1", TSP 1 can be used to set the pulse duration of the relay (1–5 s).

8. Technical data

Operating voltage:	230 V AC, + 10% / – 15%, 50 Hz
Supply voltage:	OT bus (approx. 50 mW)
Contact rating:	5 (1) A (at 250 V AC, cos φ = 1)
Switch output:	floating
0–10 V output (SELV)	
Operating temperature:	10 °C – 45 °C
Protection rating:	IP 20 in accordance with EN 60529
Protection class:	II in accordance with EN 60730-1 subject to designated installation
Mode of operation:	Type 1 B in accordance with EN 60730-1
Rated impulse voltage:	4 kV
Pollution degree:	2
Software class:	A



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