



# OpenTherm Control Box 9070432

**⚡ WARNUNG** (DE)

Lebensgefahr durch elektrischen Schlag oder Brand!

- Montage ausschließlich von Elektrofachkraft durchführen lassen!
- Vor Montage / Demontage Netzspannung freischalten!

**Bestimmungsgemäße Verwendung**

- Relaisgesteuertes System für die Raumtemperaturregelung in Wohnräumen mit einem digitalen Uhrenthermostat und einem Empfänger (OpenTherm Control Box 9070432)
- Mit der OpenTherm Control Box werden einzelne Heizkreise (z. B. über Stellantriebe, Pumpen etc.) gesteuert

**Technische Daten**

Betriebsspannung: 230 V AC, + 10 % / - 15 %, 50 Hz
Versorgungsspannung: für OpenTherm-Uhrenthermostat
Kontaktbelastbarkeit: 10 (1) A (bei 250 V AC, cos φ = 1)
Schaltausgang: potenzialfrei
Betriebstemperatur: 10 °C - 45 °C
Schutzklasse: II nach EN 60730-1
Schutzart: IP 20 nach EN 60529
Wirkungsweise: Typ 1 B nach EN 60730-1
Bemessungsstoßspannung: 4 kV
Verschmutzungsgrad: 2
Softwareklasse: A

**⚡ WARNING** (EN)

Danger of death through electric shock or fire!

- Installation should only be carried out by professional electrician!
- Disconnect the mains power supply prior to installation and/or disassembly!

**Proper use**

- Relay-controlled system for room temperature regulation in living spaces using a digital clock thermostat and a receiver (OpenTherm Control Box 9070432)
- The OpenTherm Control Box controls individual heating circuits (e.g. via actuators, pumps etc.)

**Technical data**

Operating voltage: 230 V AC, +10% / -15%, 50 Hz
Supply voltage: for OpenTherm clock thermostat
Contact rating: 10 (1) A (at 250 V AC, cos φ = 1)
Switched output: floating
Operating temperature: 10 °C - 45 °C
Protection class: II in accordance with EN 60730-1
Protection rating: IP 20 in accordance with EN 60529
Mode of operation: Type 1 B in accordance with EN 60730-1
Rated impulse voltage: 4 kV
Pollution degree: 2
Software class: A

**⚡ AVERTISSEMENT** (FR)

Danger de mort, risque d'électrocution et d'incendie!

- Le montage doit être effectué exclusivement par un électricien spécialisé!
- Désactiver la tension réseau avant le montage / le démontage !
- Respecter la notice d'utilisation détaillée disponible sur Internet !

**Usage conforme**

- Système à relais pour la régulation de la température ambiante dans les pièces d'habitation avec un thermostat numérique programmable et un récepteur (OpenTherm Control Box 9070432)
- OpenTherm Control Box permet de contrôler les circuits de chauffage individuels (par ex. via des servomoteurs, des pompes, etc.)

**Caractéristiques techniques**

Tension de service : 230 V CA, + 10 % / - 15 %, 50 Hz
Tension d'alimentation : pour thermostat programmable OpenTherm
Capacité de charge des contacts : 10 (1) A (à 250 V CA, cos φ = 1)
Sortie de commutation : libre de potentiel
Température de service : 10 °C - 45 °C
Classe de protection : II selon EN 60730-1
Indice de protection : IP 20 selon EN 60529
Fonctionnement : type 1 B selon EN 60730-1
Tension assignée de tenue aux chocs : 4 kV
Degré de pollution : 2
Logiciel classe: A

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**⚡ AVVERTIMENTO** (IT)

Pericolo di morte per scosse elettriche o incendio!

- Il montaggio deve essere eseguito esclusivamente da parte di un elettricista specializzato!
- Prima del montaggio o dello smontaggio scollegare la tensione di rete!

**Uso conforme**

- Per la regolazione della temperatura ambiente in spazi domestici viene utilizzato un sistema di controllo a relè con un cronotermostato digitale e un ricevitore (OpenTherm Control Box 9070432)
- Con OpenTherm Control Box si possono controllare i singoli circuiti di riscaldamento (ad es. tramite attuatori, pompe ecc.)

**Dati tecnici**

Tensione d'esercizio: 230 V AC, + 10 % / - 15 %, 50 Hz
Tensione di alimentazione: per cronotermostato OpenTherm
Carico ammissibile del contatto: 10 (1) A (a 250 V AC, cos φ = 1)
Uscita di commutazione: a potenziale zero
Temperatura d'esercizio: 10 °C - 45 °C
Classe di protezione: II secondo EN 60730-1
Tipo di protezione: IP 20 secondo EN 60529
Funzionamento: tipo 1 B secondo EN 60730-1
Sovratensione transitoria nominale: 4 kV
Grado di inquinamento: 2
Software classe: A

**⚡ ADVERTENCIA** (ES)

¡Peligro de muerte por descarga eléctrica o incendio!

- ¡El montaje debe ser llevado a cabo exclusivamente por un electricista profesional!
- ¡Desconecte la tensión de red, antes de proceder al montaje o desmontaje!

**Uso previsto**

- Sistema controlado por relé para la regulación de la temperatura ambiente en viviendas con un cronotermostato digital y un receptor (OpenTherm Control Box 9070432)
- Con OpenTherm Control Box se controla cada circuito de calor (p. ej., a través de actuadores, bombas, etc.)

**Datos técnicos**

Tensión de servicio: 230 V CA, + 10 % - 15 %, 50 Hz
Tensión de alimentación: para cronotermostato OpenTherm
Carga máxima de los contactos: 10 (1) A (a 250 V CA, cos φ = 1)
Salida de conmutación: sin potencial
Temperatura de funcionamiento: -10 °C - 45 °C
Clase de protección: II según EN 60730-1
Grado de protección: IP 20 según EN 60529
Modo de acción: tipo 1 B según EN 60730-1
Impulso de sobretensión admisible: 4 kV
Grado de polución: 2
Software clase: A

**⚡ ATENÇÃO** (PT)

Perigo de morte por choque elétrico ou incêndio!

- A montagem deve ser efectuada apenas por um electricista especializado!
- Antes da montagem / desmontagem activar a tensão de rede!

**Utilização correta**

- Sistema controlado por relé para a regulação da temperatura da divisão com um termóstato temporizador digital e um recetor (OpenTherm Control Box 9070432)
- Com a OpenTherm Control Box são controlados circuitos de aquecimento individuais (por ex. através de atuadores, bombas, etc.)

**Dados técnicos**

Tensão de modo de operação: 230 V CA, + 10 % / - 15 %, 50 Hz
Tensão de alimentação: para termóstato temporizador OpenTherm
Carga máxima dos contactos: 10 (1) A (com 250 V CA, cos φ = 1)
Saída de comutação: sem voltagem
Temperatura operacional: 10 °C - 45 °C
Classe de proteção: II conforme a EN 60730-1
Tipo de proteção: IP 20 conforme a EN 60529
Modo de funcionamento: tipo 1 B em conformidade com a EN 60730-1
Tensão transitória de dimensionamento: 4 kV
Nível de poluição: 2
Classe do software: A

**⚡ WAARSCHUWING** (NL)

Levensgevaar door elektrische schokken of brand!

- Montage uitsluitend door een elektromonteur laten uitvoeren!
- Vóór montage / demontage netspanning vrijschakelen

**Bedoeld gebruik**

- Relaisgestuurd systeem voor de ruimtemperatuurregeling in woonruimtes met een digitale schakelklok en een ontvanger (OpenTherm Control Box 9070432)
- Met de OpenTherm Control Box worden afzonderlijke verwarmingscircuits (bijv. via thermomotoren, pompen etc.) aangestuurd

**Technische specificaties**

Bedrijfsspanning: 230 V AC, + 10 % / - 15 %, 50 Hz
Voedingsspanning: voor OpenTherm-klokthermostaat
Contactbelastbaarheid: 10 (1) A (bij 250 V AC, cos φ = 1)
Schakeluitgang: potentiaalvrij
Bedrijfstemperatuur: 10 °C - 45 °C
Beschermingsklasse: II conform EN 60730-1
Beschermingsgraad: IP 20 volgens EN 60529
Werkwijze: type 1 B volgens EN 60730-1
Ontwerpstoetspanning: 4 kV
Vervuilinggraad: 2
Software: klasse A

**⚡ ADVARSEL** (DA)

Livsfare på grund af elektrisk stød eller brand!

- Monteringen må udelukkende udføres af en el-installatør!
- Kobl spændingen fra før montering / afmontering!

**Anvendelse efter bestemmelserne**

- Relæstyret system til rumtemperaturregulering i beboelsesrum med en digital urtermostat og en modtager (OpenTherm Control Box 9070432)
- Med OpenTherm Control Box styres enkelte varmekredse (f.eks. via aktuatorer, pumper osv.)

**Tekniske data**

Driftsspænding: 230 V AC, + 10 % / - 15 %, 50 Hz
Forsyningsspænding til OpenTherm-urtermostat
Kontaktbelastningsevne: 10 (1) A (ved 250 V AC, cos φ = 1)
Koblingsudgang: potentialfri
Driftstemperatur: 10 °C - 45 °C
Beskyttelsesklasse: II iht. EN 60730-1
Kapslingsklasse: IP 20 iht. EN 60529
Virkningsform: Type 1 B efter EN 60730-1
Holdespænding for nominel impuls: 4 kV
Forureningsgrad: 2
Softwareklasse: A

**⚡ VARNING** (SV)

Livsfara p.g.a. risk för elektriska stötar eller brand!

- Montering får endast utföras av behörig elektriker!
- Koppla från strömmen innan montering / demontering!

**Avsedd användning**

- Relästyrt system för reglering av rumstemperaturen i bostäder med en digital klocktermostat och en mottagare (OpenTherm Control Box 9070432)
- Med OpenTherm Control Box styrs enskilda varmekretsar (t.ex. via manöverdon, pumphar osv.)

**Tekniska data**

Driftspänning: 230 V AC, + 10 % / - 15 %, 50 Hz
Matningsspänning för OpenTherm-klocktermostat
Kontaktkapacitet: 10 (1) A (vid 250 V AC, cos φ = 1)
Kopplingsutgång: potentialfri
Drifttemperatur: 10 °C - 45 °C
Skyddsklass: II enligt EN 60730-1
Skyddsklass: IP 20 enligt EN 60529
Verkningsätt: typ 1 B enligt EN 60730-1
Mätimpulsspänning: 4 kV
Nedsmutsningsgrad: 2
Programvaruklass: A

**⚡ VAROITUS** (FI)

Sähköiskun tai palon aiheuttama hengenvaara!

- Asennuksen saa suorittaa vain sähköalan ammattilainen!
- Ennen asennusta / purkua on verkkojännite kytkettävä pois päältä!

**Määräysten mukainen käyttö**

- Releohjattu järjestelmä huoneilöiden lämpötilansäätöön digitaaliselle kellokytkimellä ja vastaanotimella (OpenTherm Control Box 9070432)
- OpenTherm Control Box ohjauslaitteella ohjataan yksittäisiä lämmityspiirejä (esim. toimilaitteita, pumppuja jne.)

**Tekniset tiedot**

Käyttöjännite: 230 V AC, + 10 % / - 15 %, 50 Hz
Syöttöjännite: OpenTherm-kellotermostaateille
Koskettimien kuormitettavuus: 10 (1) A (250 V AC, cos φ = 1)
Kytkenälähtö: potentiaalivapaa
Käyttölämpötila: 10 °C - 45 °C
Suojausluokka: II EN 60730-1 mukaan
Kotelointiluokka: IP 20 standardin EN 60529 mukaan
Toimintatapa: Tyyppi 1 B normin EN 60730-1 mukaan
Nimellinen jännitepiikin kestävyys: 4 kV
Likaantumistaso: 2
Software klass: A

**⚡ ADVARSEL** (NO)

Livsfare på grunn av elektrisk støt eller brann!

- Montasje må kun utføres av autorisert elektroinstallatør!
- Koble fra strømmen før montering / demontering!

**Tiltenkt bruk**

- Reléstyrt system for romtemperaturregulering i boligrom med en digital klokkestermostat og en En-mottaker og en Empfänger (OpenTherm Control Box 9070432)
- Man styrer enkelt varmekrets med OpenTherm Control Box (f.eks. vha. forstillingsmekanisme, pumper etc.)

**Tekniske data**

Driftsspenning: 230 V AC, + 10 % / - 15 %, 50 Hz
Nettspenning: for OpenTherm-klokketermostat
Kontaktbelastningsevne: 10 (1) A (ved 250 V AC, cos φ = 1)
Omloblingsutgang: potensialfiri
Driftstemperatur: 10 °C - 45 °C
Beskyttelsesklasse: II iht. EN 60730-1
Kapslingsgrad: IP 20 iht. EN 60529
Virkemåte: Type 1 B iht. EN 60730-1
Nominell impulsholdespenning: 4 kV
Forureningsgrad: 2
Programvare klasse: A

**⚡ UPOZORNĚNÍ** (CS)

Ohrožení života v důsledku úrazu elektrickým proudem nebo požáru!

- Montáž si nechejte provést výhradně odborným pracovníkem pro elektrická zařízení!
- Před montáží / demontáží odpojte síťové napětí!

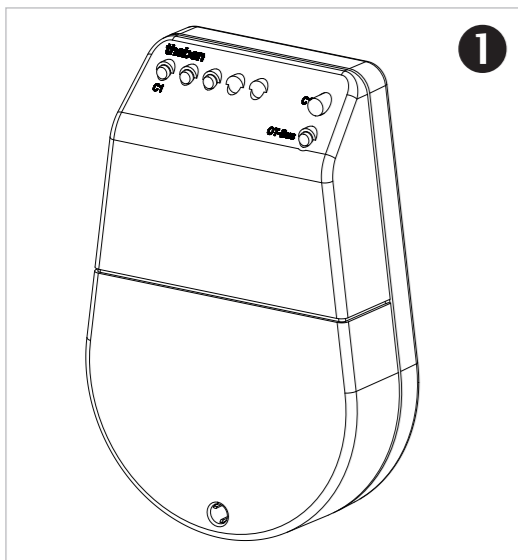
**Použití v souladu s určením**

- Systém řízený pomocí relé pro regulaci teploty v obytných místnostech s digitálním hodinovým termostatem a přijímačem (OpenTherm Control Box 9070432)
- Pomocí zařízení OpenTherm Control Box se ovládají jednotlivé topné okruhy (např. prostřednictvím servopohonů, čerpadel atd.)

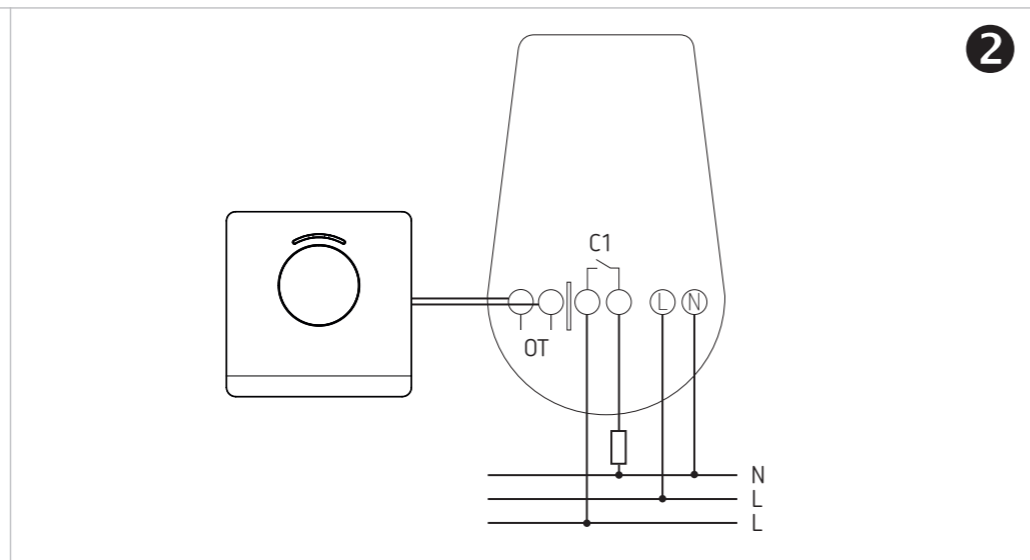
**Technické údaje**

Provozní napětí: 230 V AC, + 10 % / - 15 %, 50 Hz
Napájecí napětí: pro hodinový termostat OpenTherm
Zařizovatelnost kontaktu: 10 (1) A (při 250 V AC, cos φ = 1)
Spínací výstup: bez napětí
Provozní teplota: 10 °C - 45 °C
Trída ochrany: II podle EN 60730-1
Druh krytí: IP 20 podle EN 60529
Princip činnosti: typ 1 B podle EN 60730-1
Jmenovité rázové napětí: 4 kV
Stupeň znečištění: 2
Trída softwaru: A

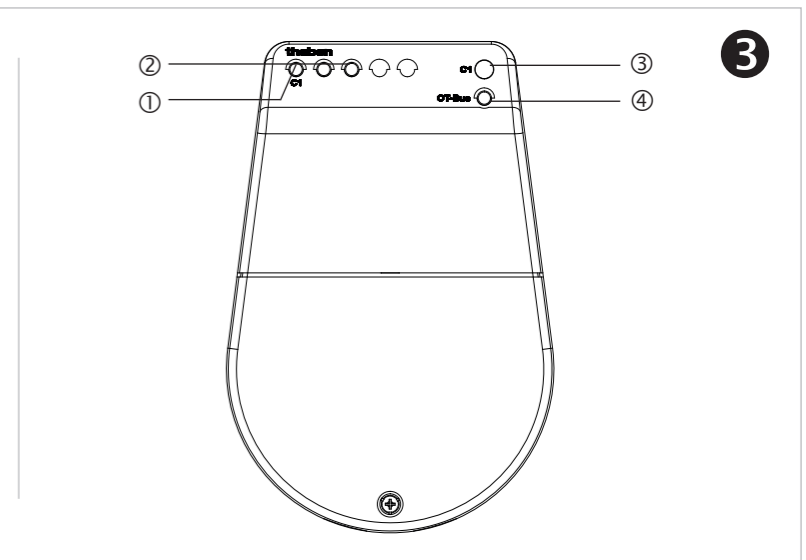
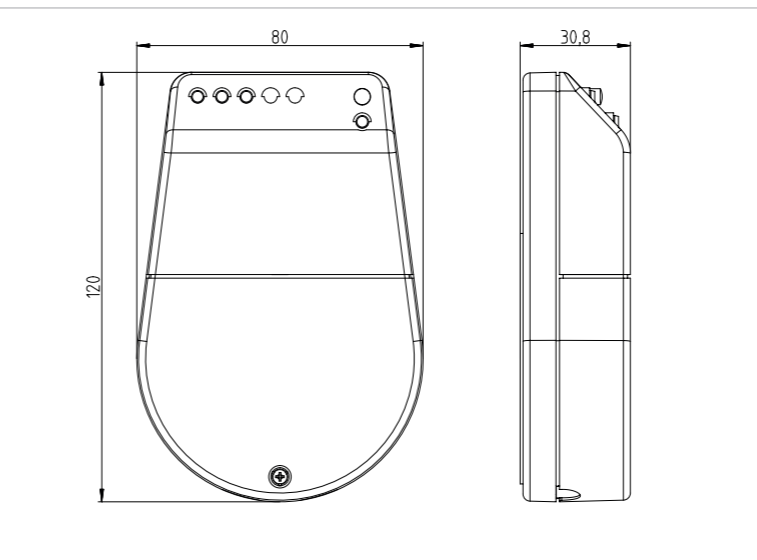




1



2



3

**1 Montage**  
 • Geeignet für die Montage an der Wand.  
 • Die Steuerbox OT wird in der Nähe der Heizung installiert.

⚠ Werden 2 Kabel durch eine Kabeldurchführung des Gehäuses geführt, muss die Geräteöffnung ggf. mit einem geeigneten Werkzeug so vergrößert werden, dass der Kabelmantel nicht gequetscht wird.

**2 Anschluss**  
 ⚠ Gerät mit einem vorgeschalteten Leitungsschutzschalter Typ B oder C (EN 60898-1) von max. 10 A absichern.  
 ➤ Spannung freischalten  
 ➤ Anschlussbild beachten

**3 Beschreibung**  
 ① LED: Zustand Relais für Kanal 1  
 ② LED: Bus-Fehler (LED blinkt rot), Busunterbrechung → Notbetrieb (das Relais schaltet abwechselnd für 15 min ein/aus)  
 ③ Taste Schaltungsvorwahl C1 ein/aus (kurzzeitig für Test)  
 ④ LED blinkt im Sekundentakt OpenTherm-Bus ok

DE

**1 Installation**  
 • Suited for wall mounting.  
 • Control box OT is installed near the heater.

⚠ 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.

**2 Connection**  
 ⚠ Secure device with an upstream type B or type C circuit breaker (EN 60898-1) with a maximum of 10 A.  
 ➤ Disconnect power source  
 ➤ Note wiring diagram

**3 Description**  
 ① LED: relay state for channel 1  
 ② LED: bus error (LED flashes red), Bus interruption → emergency mode (the relay switches alternating on/off for 15 min)  
 ③ Button switching pre-selection C1 on/off (short-term for test)  
 ④ LED flashes at one second interval OpenTherm bus ok

EN

**1 Montage**  
 • Convient au montage mural.  
 • Le boîtier de commande OT est installé à proximité du chauffage.

⚠ Si 2 câbles passent à travers un passage de câble du boîtier, l'ouverture de l'appareil doit être agrandi à l'aide d'un outil approprié si nécessaire de manière à ce que la gaine de câble ne soit pas écrasée.

**2 Raccordement**  
 ⚠ Sécuriser l'appareil avec un disjoncteur différentiel de type B ou C (EN 60898-1) de 10 A max., installé en amont.  
 ➤ Coupure de la tension  
 ➤ Respecter le schéma de raccordement

**3 Description**  
 ① LED : état du relais pour le canal 1  
 ② LED : erreur du bus (la LED clignote en rouge), interruption du bus → mode de secours (le relais s'allume/s'éteint par alternance pendant 15 min)  
 ③ Touche de préselection de commutation C1 marche/arrêt (pendant un court laps de temps pour l'essai)  
 ④ La LED clignote à la fréquence d'une seconde Bus OpenTherm ok

FR

**1 Montaggio**  
 • Adatto per il montaggio a parete.  
 • La centralina di comando OT deve essere installata adiacente all'impianto di riscaldamento.

⚠ Se vengono fatti passare 2 cavi attraverso un passacavi dell'alloggiamento, l'apertura del dispositivo potrebbe dover essere allargata con un utensile adatto in modo che la guaina del cavo non venga schiacciata.

**2 Collegamento**  
 ⚠ Assicurare il dispositivo con un interruttore automatico installato a monte tipo B o C (EN 60898-1) di max. 10 A.  
 ➤ Disattivare la tensione  
 ➤ Rispettare lo schema di collegamento

**3 Descrizione**  
 ① LED: stato relè per canale 1  
 ② LED: errore bus (LED lampeggia in rosso), Funzionamento d'emergenza interruzione del bus → (il relè si accende e si spegne a intermittenza per 15 min on/off)  
 ③ Tasto preselezione della commutazione C1 on/off (premere brevemente per test)  
 ④ LED lampeggia ogni secondo OpenTherm-Bus ok

IT

**1 Montaje**  
 • Adecuado para el montaje en la pared.  
 • La caja de control OT se instala cerca de la calefacción.

⚠ Si se pasan 2 cables por un pasacables de la carcasa, deberá ampliarse la abertura del aparato con una herramienta adecuada, para que el recubrimiento del cable no resulte aplastado.

**2 Conexión**  
 ⚠ Proteger el aparato con un interruptor de potencia preconectado tipo B o C (EN 60898-1) de máx. 10 A.  
 ➤ Desconectar la tensión  
 ➤ Tener en cuenta el esquema de conexiones

**3 Descripción**  
 ① LED: estado de relé para canal 1  
 ② LED: error de bus (LED parpadea en rojo), interrupción de bus → modo emergencia (el relé se conecta/desconecta durante 15 min de forma alternativa)  
 ③ Tecla preselección de conexión C1 conectada/desconectada (brevemente para prueba)  
 ④ LED parpadea en intervalos de un segundo Bus OpenTherm ok

ES

**1 Montagem**  
 • Apropriado para montagem na parede  
 • A caixa de comando OT é instalada nas proximidades do aquecimento.

⚠ Caso 2 cabos sejam passados por uma passagem de cabo da caixa, se necessário, aumentar a abertura do aparelho com uma ferramenta adequada, de forma que o revestimento do cabo não seja esmagado.

**2 Ligação**  
 ⚠ Proteger o aparelho com um disjuntor pré-conectado tipo B ou C (EN 60898-1) de no máx. 10 A.  
 ➤ Desligar a tensão  
 ➤ Ter em atenção o diagrama de ligação

**3 Descrição**  
 ① LED: Estado do relé para canal 1  
 ② LED: erro de bus (LED pisca a vermelho), Interrupção de bus → Funcionamento de emergência (o relé comuta alternadamente por 15 min lig./desl.)  
 ③ Tecla pré-seleção de comutação C1 lig./desl. (brevemente para teste)  
 ④ LED pisca em intervalos de um segundo OpenTherm-Bus ok

PT

**1 Montage**  
 • Geschikt voor wandmontage.  
 • De Control Box OT wordt in de buurt van de verwarming geïnstalleerd.

⚠ Als 2 kabels door één kabelgoot van de behuizing worden gevoerd, dan moet de opening van het apparaat indien nodig met daarvoor geschikt gereedschap dusdanig worden vergroot dat de kabelmantel niet wordt samengedrukt.

**2 Aansluiting**  
 ⚠ Apparaat met een voorgeschakelde beschermingsleidingschakelaar type B of C (EN 60898-1) van max. 10 A beveiligen.  
 ➤ Spanning vrijschakelen  
 ➤ Aansluitschema in acht nemen

**3 Beschrijving**  
 ① LED: Toestand relais voor kanaal 1  
 ② LED: Busfout (LED knippert rood), busonderbreking → noodbedrijf (het relais schakelt afwisselend 15 min aan/uit)  
 ③ Toets schakelvoorkeuze C1 aan/uit (kortdurend voor test)  
 ④ LED knippert elke seconde OpenTherm-bus ok

NL

**1 Montering**  
 • Eget til montering på væggen.  
 • Styreboksen OT installeres i nærheden af opvarmningen.

⚠ Hvis 2 kabler trækkes gennem en kabelgennemføring i huset, skal apparatets åbning forstørres med et egnet værktøj, så kabelkappen ikke mases.

**2 Tilslutning**  
 ⚠ Apparatet skal sikres med et forkoblet ledningsrelæ af typen B eller C (EN 60898-1) på maks. 10 A.  
 ➤ Afbryd spændingen  
 ➤ Overhold tilslutningsbilledet

**3 Beskrivelse**  
 ① LED: Tilstand relæ til kanal 1  
 ② LED: Bus-fejl (LED blinker rødt), Bussafbrydelse → nøddrift (relæet kobles skiftevis til/fra i 15 min.)  
 ③ Taste koblingsforvalg C1 til/fra (kortvarig for test)  
 ④ LED blinker i sekundtakt OpenTherm-Bus ok

DA

**1 Montering**  
 • Ämnad för montering på väggen.  
 • Kontrollådan OT installeras i närheten av värmesystemet.

⚠ Om 2 kablar förs genom en av husets kabelgenomföringar, måste apparatens öppning eventuellt förstöras med ett lämpligt verktyg så att kabelmanteln inte kläms.

**2 Anslutning**  
 ⚠ Säkra apparaten med en förkopplad ledningsskydds brytare typ B eller C (EN 60898-1) på max. 10 A.  
 ➤ Koppla från spänningen  
 ➤ Observera anslutningsbild

**3 Beskrivning**  
 ① LED: status relä för kanal 1  
 ② LED: bussfel (LED blinkar rött), Bussavbrott → nöddrift (reläet växlar mellan på/av i 15 min)  
 ③ Knapp kopplingsförval C1 på/av (kortvarig för test)  
 ④ LED blinkar i sekund-intervall OpenTherm-buss ok

SV

**1 Asennus**  
 • Soveltuu seinäasennukseen.  
 • Ohjauskotelo OT asennetaan lämmittimen läheisyyteen.

⚠ Hvis du skal føre 2 kabler gennem husets kabelgennemføring, må du ev. forstørre apparatåbningen vha. egnet værktøj slik at kabelmantelen ikke blir klemt.

**2 Liitäntä**  
 ⚠ Suojaa laite eteen kytketyllä johdonsuojakatkaisijalla tyyppi B tai C (EN 60898-1) maks. 10 A.  
 ➤ Kytke jännite pois päältä  
 ➤ Noudata kytkentäkaaviota

**3 Kuvaus**  
 ① LED: tila, rele kanavalle 1  
 ② LED: väylävirhe (LED vilkkuu punaisena), väylävirhe → apukäyttö (rele kytketty vuorotellen 15 minuutin ajaksi päälle/pois)  
 ③ Painike, kytkennän esivalinta C1 päällä/pois (lyhytkestoisesti testiä varten)  
 ④ LED vilkkuu sekuntinopeudella OpenTherm-väylä ok

FI

**1 Montering**  
 • Eget for veggmontering.  
 • Control Box OT monteres i nærheten av varmekilden.

⚠ Hvis du skal føre 2 kabler gjennom husets kabelgennemføring, må du ev. forstørre apparatåbningen vha. egnet verktoy slik at kabelmantelen ikke blir klemt.

**2 Tilkobling**  
 ⚠ Sikre apparatet med en forkoblet automatsikring type B eller C (EN 60898-1) på maks. 10 A.  
 ➤ Kople fra spenningen  
 ➤ Følg tilkoblingskjemaet

**3 Beskrivelse**  
 ① LED: Tilstand relé for kanal 1  
 ② LED: Bussfeil (LED blinker rødt), Bussbrudd → Nøddrift (Reléet kobler vekselvis i 15 min på/av)  
 ③ Tasten koblingsforvalg C1 på/av (et kort øyeblikk for testing)  
 ④ LED blinker i sekundtakt OpenTherm-Bus ok

NO

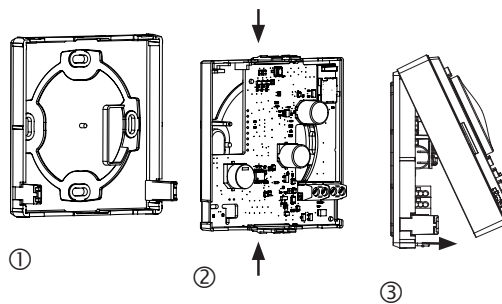
**1 Montáž**  
 • Vhodné pro montáž na stěnu.  
 • Řídicí box OpenTherm se instaluje v blízkosti topení.

⚠ Když jsou kabelovou průchodkou pouzdra vedeny 2 kabely, musí se otvor přístroje příp. pomocí vhodného nářadí zvětšit tak, aby nedošlo ke zmáčknutí pláště kabelu.

**2 Připojení**  
 ⚠ Zajistěte přístroj předřazeným jističem vedení typu B nebo C (EN 60898-1) s hodnotou max. 10 A.  
 ➤ Uvolněte napětí  
 ➤ Respektujte schéma připojení

**3 Popis**  
 ① LED: stav relé pro kanál 1  
 ② LED: chyba sběrnice (LED bliká červeně), přerušeni sběrnice A – nouzový provoz (relé se v intervalu 15 min střídavě zapíná/vypíná)  
 ③ Tlačítko předvolby spínání C1 zap/vyp (krátkodobě pro testování)  
 ④ LED bliká v sekundovém intervalu – sběrnice OpenTherm OK

CS



## 1. Basic safety information

### NOTE

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

- The clock thermostat conforms with EN 60730-2-9 if correctly installed
- Corresponds to type 1 STU in accordance with IEC/EN 60730-2-7
- Operation and programming only via **RAMSES BLE** app
- With external input (SELV, programmable)

## 2. Proper use

- Heating control for time-dependent monitoring and control of room temperature in single-family houses, offices etc.
- Use in dry rooms with normal levels of domestic cleanliness

### Disposal

- Dispose of device in environmentally sound manner

## 3. Installation

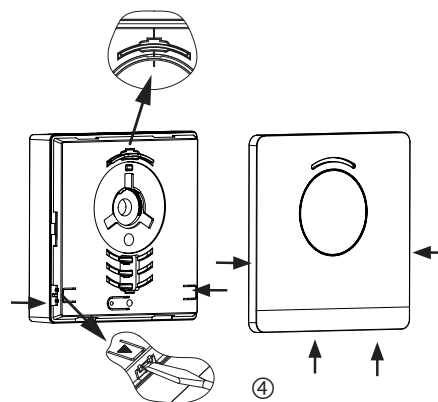
### Mounting the clock thermostat

- ⚠ Electrostatic discharge!  
Caution, sensitive electronic components!  
When fitting, observe ESD safety measures (electrostatic discharge).

- ⚠ Position the clock thermostat on an internal wall, at about eye level.

- ⚠ Avoid drafts or heat emission.

① For wall mounting



- Attach the mounting plate above the wall outlet of the OpenTherm line ①.
- Engage and wire the circuit board carrier ②.
- First, hook in the upper part of the clock thermostat on top, then engage ③.
- Put on the cover ④.

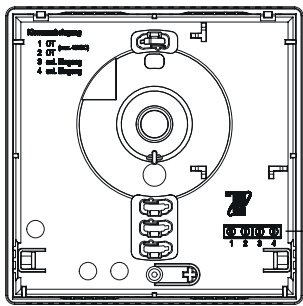
### Dismounting the clock thermostat

- Using a screwdriver, loosen the front panel at the two side and bottom openings ④.
- Then release the catches on the left and right and remove the upper part of the housing ③.
- Loosen the plug-in connectors and press the circuit board carrier together at the top and bottom ②.
- Remove the circuit board carrier through the front.

## 4. Connection

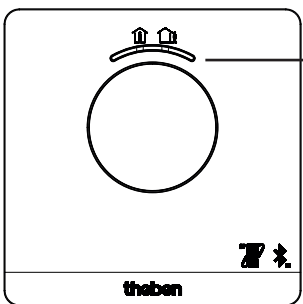
- The power supply from the thermostat to the boiler is provided via OpenTherm.
- The two-wire connection (OpenTherm) is not polarised, i.e. the wires can be connected to the boiler as required.
- ⚠ Disconnect the boiler from mains supply before connecting the thermostat.
- ⚠ Faulty connections will damage the device.
- ⚠ Without interference, the bus line can be extended up to 50 m.
- ⚠ In order to eliminate the possibility of EMC interference, always lay the feed of the supply voltage separate from the mains cables.

## Terminal layout



- 1 OT
- 2 OT
- 3 ext. input
- 4 ext. input

## 5. Manual setting at the clock thermostat



- Button with LED display for setting
  - Comfort mode (green LED on)
  - ECO mode (green LED off)

By using the button, the following functions can be set:

### 1. Quick selection of comfort or eco mode

- Press the button
  - Comfort mode or eco mode will be set.

At the next switching time, the quick selection will be reset.

### 2. Pairing

- Press the button for 3 s
  - RAMSES BLE OT can be connected with a smartphone/ tablet (paired) for 5 min. (green LED flashes). If pairing is successful, the LED goes out.

#### Delete pairing

- Press the button for 6 s
  - All connections saved in the RAMSES BLE OT (pairing) will be deleted (red LED flashes)
- Delete the connection/pairing also on the smartphone/ tablet (Settings → Bluetooth pairing → delete respective device (RAMSES BLE OT)). The PIN will be reset to 0.

### 3. Reset

- Press the button for 12 s
  - Hardware reset (the red LED goes out)

## 6. Settings and functions – operation via Theben app

### Is my smartphone BLE capable?



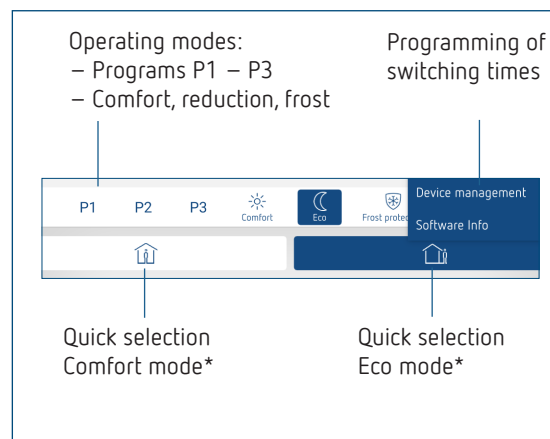
- Download Bluescan app for Android and iOS

The app can be used to check whether a device is BLE capable or not.

### RAMSES BLE app



- Settings, device management  
Software info
- Selection of Open-Therm device
- Set temperature, adjustable in increments of 0.2 °C (2 °C – 30 °C)
- Info: External input, flame, PIN etc.



\*until the next switching time

### Connecting clock thermostat and smartphone (via app) – pairing

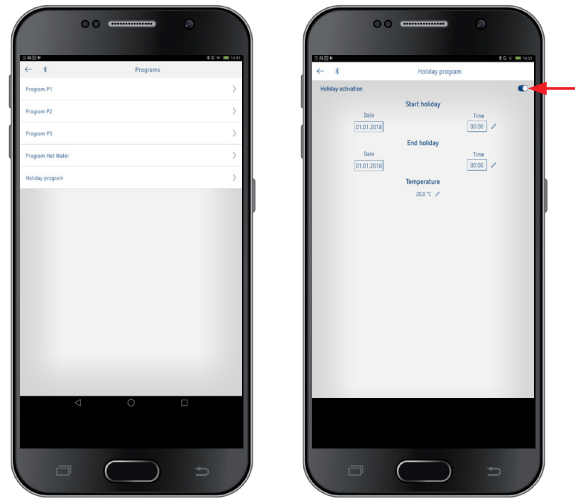
The clock thermostats can be programmed using an app (from Android 4.3, iOS 5) on a mobile end device. Communication takes place via Bluetooth BLE.

- Download the RAMSES BLE app from the App Store or Google Play Store

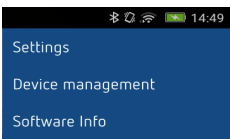




- Open the app
  - Window with offline mode/assign appears
- Press the button on RAMSES BLE OT for 3 s (green LED at RAMSES BLE OT flashes)
- Press **Assign**
  - Device list appears
- Select device and press ok
- Enter the name for RAMSES BLE OT (e.g. living room ...)
- Confirm with ok
  - RAMSES BLE OT is now paired. Each time when restarting the app, a connection will be established. This takes several seconds (the Bluetooth icon on the top left of the app flashes)



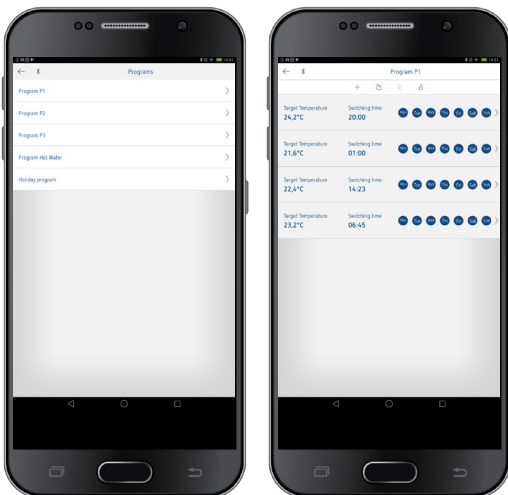
### Loading additional devices ...



- Press device management
  - A window will open
- Press +
  - Further devices will be searched ...

### Program



- In the program menu,
- programs P1 – P3 can be changed
  - a new program, or
  - a holiday program can be created, or
  - a domestic water program, in case of a heating system using domestic water



ⓘ The information in this submenu vary depending on the connected boiler.

With **Info**, temperature, flame, set flow etc. can be queried. The functions change, depending on the connected heating system.

- Programs P1 – P3 can be set, edited, or deleted.
- A maximum of 24 switching times can be set per program, up to a total of 42.

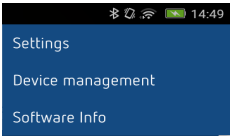
ⓘ During programming, selected days are shown like , and unselected days like .

The created programs are automatically sent to the clock thermostat.

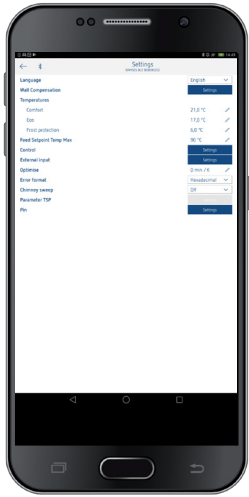
### Creating a holiday program

- In order to create a holiday program and activate it,
- slide the controller to "Activation"

# Settings



► Press Settings  
→ A window will open



① The functions in this submenu have to be set by the qualified electrician.

In the settings, language, temperature (comfort, eco, frost), wall compensation, optimisation, chimney sweep function, etc. can be set.

## 1. Setting the wall compensation

If the installation location is unfavourable, temperature deviations between detected and actual room temperature might occur. This difference can be corrected by using the wall compensation.



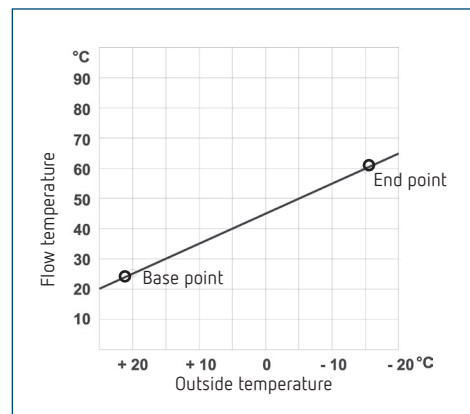
## 2. Setting the controller

The clock thermostat can be used – depending on the set heating – as room-dependent (room temperature dependent) or weather-dependent (outdoor temperature dependent) version, or as a relay version.

# When connected to a modulating heating



- In the room-dependent version, the room set temperature is used for direct control.  
 P band (0.5 K–2.5 K) control range  
 I share (1–20) integral share in minutes:  
 – Integral share small → quick adjustment of the control deviation  
 – Integral share large → slow adjustment of the control deviation
- In the weather-dependent controller, the flow temperature is determined by a defined heating curve. The setting of base point and end point always refers to a room set temperature of 21 °C.



## Setting the heating curve

With weather-dependent control, the base point and end point of the curve can be set.

	Setting range	Factory settings
Base point	10–40 °C	+25 °C
End point	25–90 °C	+60 °C

## Setting parameters for the heating system

Heating type		Flow / return temperature
Radiator heating	High temperature	90 / 70
Radiator heating	Medium temperature	70 / 50
Underfloor heating	Lowest temperature	40 / 30

Heating type	HVAC base point	HVAC end point	P -adjustment/reduction	Frost line
90 / 70 system	30 °C	85 °C	15 °C	3 °C
70 / 50 system	25 °C	75 °C	15 °C	3 °C
40 / 30 system	25 °C	45 °C	15 °C	3 °C

### Changing the heating curve temporarily

In case of an offset of the desired room set temperature, a corresponding offset for the flow set temperature will be calculated. The set offset determines by which value the flow set temperature will be offset per degree from the room set temperature of 21 °C.

#### Example

At an outside temperature of – 5 °C, a flow set temperature of e.g. 50 °C will be calculated for the settings of base point and end point, in order to reach the room set temperature (reference temperature) of 21 °C. However, if the desired room set temperature is at 19 °C, at a set offset of 10 K/°C, a flow set temperature of

**flow set temperature = 50 °C – (21 °C – 19 °C) x 10 K/°C = 50 °C – 20 K = 30 °C** will be calculated.

#### Switching off the heating (heating off at)

With weather-dependent control, you can program the controller so that the heating switches off at a set outdoor temperature.

#### Setting the room influence

With weather-dependent control, the flow temperature can be adjusted if there is a large divergence between the room temperature and the set temperature.

Offset feed temperature	= $\Delta T_v$
Set room influence	= PI
Setpoint value of room temperature	= $T_{R\ set}$
Actual value of room temperature	= $T_{R\ act}$
$\Delta T_v$	= $PI (T_{R\ set} - T_{R\ act})$
Example: $T_{R\ set} = 20\ ^\circ C$	$T_{R\ act} = 18\ ^\circ C$
$\Delta T_v$	= $3 \times (20\ ^\circ C - 18\ ^\circ C) = 6\ K$

→ The flow temperature is increased by 6 K.

The higher the selected room influence, the greater the influence of the room temperature on the flow temperature.

#### Connection of an OpenTherm Control Box with relay output

#### Behaviour of a PD controller (pulse duration controller)

With adapted heating systems, a PD controller is characterised by its short transient time, minimal overshoot and high control accuracy.

#### Behaviour of a hysteresis (on/off) controller

In over or undersized heating systems, a hysteresis controller is characterised by a minimum switching frequency and low temperature deviations.

### 3. External input

The external input can be configured for various external sensors.

**⚠** Input is active, therefore do not use external voltage. The connected contact must be floating and electrically isolated.

#### The following options are available with the individual sensors/contacts

Floor	Temperature limit	Floor temperature restriction, floor temperature selection adjustable between 20 °C and 50 °C; floor sensor (9070321) <b>ⓘ</b> no safety temperature limiter, but device type 1 in accordance with EN 60730-1
Room temperature	no options	The internal temperature sensor will be switched off; external temperature sensor (IP 65) (9070459)
Presence detector	Temperature selection	This temperature is used for control if the HVAC output of the presence detector is switched. If no presence is detected, the set program is used for control
Window contact	no options	As long as the window contact is switched, the thermostat controls to frost protection temperature
Telephone contact	Temperature selection	Select temperature for the controller if the telephone contact is switched

#### Error display at RAMSES BLE OT

**ⓘ** If the external input is set to "floor" or "room temperature", an appropriate temperature sensor has to be connected. If this sensor is missing, the red LED flashes at one second intervals.



### 4. Setting the optimisation

The optimisation function allows you to achieve a certain room temperature at a desired switching point. The display shows how many minutes earlier the heating starts. This time applies per K of temperature difference between actual temperature and desired set temperature.

#### Example

At 06.00 a.m. in the morning, a change in the bathroom is programmed from reduction (17 °C) to comfort temperature (23 °C).

Without optimisation function, the room thermostat enables the heating request for the bathroom at 06.00 a.m.

Depending on the size of the room and the installed heating system, the bathroom reaches the desired 23 °C at 6.30 a.m., for example.

With a set optimisation of 5 min/K, the thermostat sends the heating request earlier, as follows:

Set temperature at 06.00 a.m. → 23 °C  
 Actual temperature → 17 °C  
 i.e. Delta T = 6 K  
 $6 \text{ K} * 5 \text{ min/K} = 30 \text{ min}$

The controller sends the heating start 30 min. earlier and reaches the setpoint temperature at 06.00 a.m.

- ① The optimisation value depends on the spatial and heating conditions.

## 5. Setting the error format

Error notifications from OpenTherm heaters can be received, depending on the manufacturer, in a hexadecimal or decimal format (see instructions for the OpenTherm heater).

## 6. Setting the chimney sweep function

This function is used to carry out the legally required emission measurements (off, partial load, full load). It is automatically switched off after 30 min.

## 7. Setting TSP parameters (Transparent Slave Parameters)

Depending on the connected OpenTherm heater, various TSP parameters can be set (see instructions for OpenTherm heater).



## 8. PIN

This function can be used to assign a new PIN.

- The factory setting for the PIN is 0.
- New PIN can be entered (1–6 digits).
- In case of **Delete pairing** (2nd pairing), the PIN is set to 0.
- If the PIN is 0, the PIN will not be requested during pairing.

## 7. Technical data

Supply voltage:	OT bus (approx. 50 mW)
Controller type:	modulating controller, works with OpenTherm protocol (OpenTherm V4.0 with SmartPower)
Temperature setting range:	+ 2 °C ... + 30 °C in increments of 0.2 °C
Memory locations:	42
Protection rating:	IP 20 in accordance with EN 60529
Protection class:	III in accordance with EN 60730-1
Operating temperature:	+ 0 °C ... + 50 °C
Power reserve:	4 hours
Mode of operation:	Type 1 STU in accordance with EN 60730-1
Rated impulse voltage:	0.33 kV
Pollution degree:	2
Software	Class A

## 8. Contact

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 GERMANY  
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 Fax +49 7474 692-150

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[www.theben.de](http://www.theben.de)