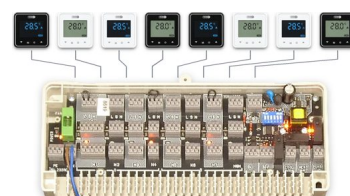


Thermostats and controllers

Thermostats, wiring centers and controllers for heating, cooling and ventilation in residential, commercial and professional installations.



Why trust ThermoB?

ThermoB offers thermostats, wiring centers and controllers for heating, cooling and ventilation in residential, commercial and professional installations. The devices control the systems locally according to stored settings and schedules and keep working regardless of the internet connection. The cloud portal adds remote access and monitoring via the app or a browser. Developed and manufactured by Proxel Engineering.

Reliable operation without interruptions

Each device operates independently and maintains the desired comfort even without an internet connection. Settings and schedules are stored locally, allowing the system to continue working reliably under all conditions. There is no single point whose failure can stop the entire solution.

Simple control for your home, room, or property

Monitor the status, temperature, and operating mode of every device from one central dashboard. Manage different spaces and provide access to multiple users – an ideal solution for households, installers, and property managers.

Our own platform and direct support

The online management system is developed and maintained entirely by our team, with data stored within the European Union. This allows us to respond quickly, perform real diagnostics, and provide direct assistance without intermediaries.

Expert service from the people who know the system

We know every part of our solutions because we create and continuously improve them. We can explain how the system works, provide professional advice, and ensure reliable support throughout its lifetime.

How the system works

1 • Local control

The device regulates on its own, using settings and schedules stored locally.

2 • Internet & cloud

Add remote access, monitoring and support. If the connection drops, local control carries on.

3 • Mobile app & web portal

Temperature, mode and weekly schedule from your phone with the Proxel Connect app, or from a computer via the web portal.

A MANUFACTURER, NOT A RESELLER

We adapt the products to your requirements

Proxel Engineering develops and manufactures the ThermoB products – hardware, software and the cloud platform. As the manufacturer, we can make changes and adapt the devices to the individual requirements of a project.

Changes to functions

Control logic, settings and functions tailored to the specific installation or equipment.

Functions on request

For example, automatic heating/cooling changeover on RF1D2.WiFi is activated on individual request.

Versions for specific tasks

For example, the AHU2 version of AHU Kit also controls the fan via a PWM signal.

Directly with the engineers

You discuss your requirements with the team that develops the products – no intermediaries.

HOW TO CHOOSE

Selection table

Code	Product	230V	24V	WiFi	RF	Boiler	Underfloor fan coil	Zones	Modbus
1 · Wired room thermostats									
FC11W / FLC11W	Wall-mounted room thermostat	•	•	•			•		
FC1016AW	Wall mount room thermostat/230V	•		•			•		
FCH13	Underfloor thermostat with humidity ...						•		
2 · Fan coils, air handling units and ventilation									
FC41/FC21T	Room thermostat for fan coils and un...	•		•			•	•	
FC22xV	Fan Coil thermostat with underfloor c...	•		•			•	•	
FCUBLDC01	BLDC motor control board for fan coil...							•	
AHU Kit	Room controller for AHU/VRF systems	•	•					•	
3 · Wireless thermostats with a WiFi receiver									
RF1D.WiFi	Wireless room thermostat with WiFi r...	•		•	•	•			
RF1D2.WiFi	Wireless room thermostat with WiFi r...	•		•	•			•	
RF2D3.WiFi	Two-zone wireless room thermostat ...	•		•	•			•	
RHF1D2.WiFi	Wireless room thermostat with humidi...	•		•	•	•			
RF2D1.WiFi	Wireless dual-module room thermost...	•		•	•	•			
R1.WiFi-DIN	WiFi boiler control / Internet heating t...	•		•		•			
4 · Wiring centers and zoning									
FHB8R3-230/24V	Wiring center for up to 8 zones	•	•				•	•	•
FHB5RW/6RW	Wireless wiring center with WiFi and ...	•		•	•	•			•
5 · HVAC Controllers & OEM Solutions									
Proxel MTC5	Controller for heating, ventilation, air-...	•		•					•
3WHC432/412V	Controller for a 3-way mixing valve	•	•				•		
Proxel WF485	Process Safe ModBus - Cloud Bridge ...			•					•
Proxel LG-FCU-10V-Modbus	0-10V to Modbus converter for LG hy...	•						•	•
TB01/TB08	Wireless dry-contact signal transmitt...	•		•	•				

Based on the product tags on the website. Full specifications and diagrams are in each product's datasheet.

5 groups – from a room thermostat to a programmable controller



1

Wired room thermostats

Touch-screen WiFi room thermostats for wall mounting – for radiators, underfloor heating and bathrooms. Local control on a stored schedule and remote control through Proxel Connect.

FC11W / FLC11W • FC1016AW • FCH13



2

Fan coils, air handling units and ventilation

Thermostats and control boards for fan coils, underfloor + fan coil and AHU/VRF systems – with relay outputs, a 0-10V output and BLDC motor control.

FC41 / FC21T • FC22xV • FCUBLDC01 • AHU Kit



3

Wireless thermostats with a WiFi receiver

A battery room module and a WiFi receiver next to the boiler or heat pump – no cable between the room and the plant. Two-way 866 MHz radio link and control through the app.

RF1D.WiFi • RF1D2.WiFi • RF2D3.WiFi • RHF1D2.WiFi • RF2D1.WiFi • R1.WiFi-DIN



4

Wiring centers and zoning

Multi-zone underfloor heating, radiators and fan coils from one central point: wired wiring centers for 230V and 24V, and wireless wiring centers with WiFi and a built-in RF hub.

FHB8R3-230 / FHB8R3-24V • FHB5RW / FHB6RW



5

HVAC Controllers & OEM Solutions

A programmable controller, a mixing-valve controller, a Modbus-to-cloud gateway and a wireless relay-signal transmitter – for installers, commercial sites and equipment manufacturers.

Proxel MTC5 • 3WHC432 / 3WHC412V • Proxel WF485 • Proxel LG-FCU-10V-Modbus • TB01/TB08



THERMOB ROOM SERIES

Wired room thermostats

Touch-screen WiFi room thermostats for wall mounting – for radiators, underfloor heating and bathrooms. Local control on a stored schedule and remote control through Proxel Connect.



FC11W / FLC11W

Room

Wall-mounted room thermostat

230V 24V WiFi · app wired

For underfloor heating and bathrooms – with a "warm floor" function and weekly schedule. Programmable wall-...

- WiFi room thermostat, wall mount, wired, programmable
- LCD display with backlight and 4 buttons
- Comfort & Economy (for night time) set points, easy select

Versions: FC11W – 230V · FLC11W – 24V

Low temperature protection OFF/ ON with selectable temperature [-9 .. +12°C]

Output: 1x relay, N.O. voltage free, 230V/4max

Keypad lock - child protection Yes



FC1016AW

Room

Wall mount room thermostat/230V

230V WiFi · app wired

For underfloor heating and bathrooms – with a 16A power output, "warm floor" function and weekly schedule....

- WiFi room thermostat, wall mount, wired, programmable
- LCD display with backlight and 4 buttons
- Comfort & Economy (for night time) set points, easy select

Low temperature protection OFF/ ON with selectable temperature [-9 .. +12°C]

Output: 1x relay, "Live" connection, 230V/16Amax

Keypad lock - child protection Yes



FCH13

Room

Underfloor thermostat with humidity and ventilation control

wired

For underfloor heating with humidity control – extra ventilation on high/low humidity. Thermostat with a built-i...

- Built-in temperature and humidity sensor
- Controls an underfloor heating circuit
- "Low humidity" signal when measured humidity falls below the set point

"Low humidity" output Control signal when humidity falls below the set point

"High humidity" output Control signal when humidity exceeds the set point

Additional output Signal for forced ventilation / damper opening

Fan coils, air handling units and ventilation

Thermostats and control boards for fan coils, underfloor + fan coil and AHU/VRF systems – with relay outputs, a 0-10V output and BLDC motor control.



FC41 / FC21T

Room

Room thermostat for fan coils and underfloor

230V WiFi · app wired

For fan coil units, on their own or together with underfloor heating – comfort from a single point in heating and...

- WiFi Fan Coil thermostat, wall or flush mount, wired, programmable
- LCD display with backlight and 4 buttons
- Comfort & Economy (for night time) set points, easy select

Versions: FC41 – 4 relays · FC21T – triac + 2 relays

Low temperature protection OFF/ ON with selectable temperature [-9 .. +12°C]

Output: 4x relay, deliver supply potential, 230V/4Amax

Keypad lock - child protection Yes



FC22xV

Room

Fan Coil thermostat with underfloor control/ 0-10V and 1 or 2 relay outputs

230V WiFi · app wired

For fan coil units, on their own or together with underfloor heating – comfort from a single point in heating and...

- WiFi Fan Coil thermostat, wall or flush mount, wired, programmable
- LCD display with backlight and 4 buttons
- Comfort & Economy (for night time) set points, easy select

Low temperature protection OFF/ ON with selectable temperature [-9 .. +12°C]

Output: 0-10V and 2 relay, deliver supply potential, 230V/5Amax

Keypad lock - child protection Yes



FCUBLDC01

Room

BLDC motor control board for fan coil units

wired

For fan coil units with BLDC motors – precise, silent control with smooth ramp-up and ramp-down. Control board wit...

- Control board for BLDC motors in fan coil units, 0-10V input for speed setpoint
- Precise smooth ramp-up/ramp-down for silent operation, stepless speed control
- Speed feedback with alarm signaling if the target speed isn't reached

Power supply 200-230V AC

Input 0-10V speed setpoint

Output Terminal for BLDC fan motor connection



AHU Kit

Room

Room controller for AHU/VRF systems

230V 24V wired

For air handling units and VRF systems with a DX kit – convenient room control with internet access. Compatibl...

- Room controller for AHU/VRF systems, air handling and ventilation units
- Compatible with Fuji Electric / Fujitsu / General DX kits (UTY-XDZX, single split)
- Control by supply air temperature, room temperature, or a blend of both (installer-selectable ratio)

AHU2 version – also controls the fan via a PWM signal.

Power supply 230V AC

Output signal 0-10V (power demand signal)

Mounting Wall-mount, in a mounting box

Wireless thermostats with a WiFi receiver

A battery room module and a WiFi receiver next to the boiler or heat pump – no cable between the room and the plant. Two-way 866 MHz radio link and control through the app.



RF1D.WiFi

Home

Wireless room thermostat with WiFi receiver

230V · WiFi · app · wireless RF

For boilers and fireplaces with a room-thermostat input – no cable between the room and the boiler. Wireless room...

- Battery-powered wireless room module (ThermoB.R1D) paired with a 230V WiFi receiver ThermoB.B1R1.WiFi
- Two-way RF radio link (866 MHz) between the room module and the receiver
- Control via mobile app, web browser. MQTT/Home Assistant will be available soon

Receiver - Power supply 230V / AC / 50Hz (SELV)

Receiver - Power consumption <2VA

Receiver - Output, voltage-free relay 1× 4A NO-NC / 230V AC



RF1D2.WiFi

Home

Wireless room thermostat with WiFi receiver for heating and cooling

230V · WiFi · app · wireless RF

One thermostat for heating and cooling: it gives a separate "start heating" and "start cooling" signal. It controls a he...

- Two separate signals from one room thermostat – "start heating" and "start cooling"
- Works with a heat pump (heating demand / cooling demand), with a 4-pipe system as a standalone...
- No cable between the room and the plant – a battery room module and a WiFi receiver next to the heat pum...

Receiver - Power supply 230V / AC / 50Hz (SELV)

Receiver - Power consumption <2VA

Receiver - Output, voltage-free relays 2× 4A NO / 230V AC, separate heating and cooling outputs



RF2D3.WiFi

Home

Two-zone wireless room thermostat with WiFi receiver

230V · WiFi · app · wireless RF

For two independent zones with a shared energy source – for example two floors with one boiler. Two wireless roo...

- Two separate battery-powered wireless room modules (ThermoB.R1D) paired with a shared 230V WiFi receiv...
- Two-way RF radio link (866 MHz) between each room module and the receiver
- Control via mobile app, web browser. MQTT/Home Assistant will be available soon

Receiver - Power supply 230V / AC / 50Hz (SELV)

Receiver - Power consumption <2VA

Receiver - Output, voltage-free relays 3×5A NO / 230V AC — zone 1, zone 2, shared signal



RHF1D2.WiFi

Home

Wireless room thermostat with humidity sensor and WiFi receiver

230V · WiFi · app · wireless RF

For rooms where you watch humidity as well as temperature. Wireless room thermostat with built-in...

- Battery-powered wireless room module ThermoB.RH1D (temperature + humidity sensor) paired with a 230V...
- Two-way RF radio link (866 MHz) between the room module and the receiver
- Control via mobile app, web browser. MQTT/Home Assistant will be available soon

Receiver - Power supply 230V / AC / 50Hz (SELV)

Receiver - Power consumption <2VA

Receiver - Output, voltage-free relays BU2: 2× 4A NO | BU3: 3× 4A NO / 230V AC

3 · WIRELESS THERMOSTATS WITH A WIFI RECEIVER – CONTINUED



RF2D1.WiFi

For properties

Property

Wireless dual-module room thermostat with WiFi receiver

230V

WiFi · app

wireless RF

For rentals and managed properties. Wireless thermostat with two room modules and a WiFi receiver; hardware an...

- Pairs one WiFi receiver with two battery-powered wireless room modules for better visibility across a...
- Available now: dual-module pairing, independent temperature readings from both modules, full local...
- Coming via a future firmware update: automatic sensor validation and anomaly detection between the two...

Receiver - Power supply 230V / AC / 50Hz (SELV)

Receiver - Output, voltage-free relay 1x16A NO-NC / 230V AC (shared call-for-heat)

Room module - Power supply 2 x AAA batteries



R1.WiFi-DIN

Home

WiFi boiler control / Internet heating thermostat

230V

WiFi · app

wired

For a water heater or heating/cooling with remote access via Proxel Connect. WiFi thermostat with a wired sensor...

- Single all-in-one DIN module with a wired temperature sensor and WiFi internet connection
- Powerful voltage-free relay, 40A SPDT, max terminal current 16A
- Temperature sensor cable 33cm long, extendable up to 10m

Relay output Voltage-free relay, 40A SPDT, max terminal current 16A

Power supply 230V/AC

Mounting DIN rail, for apartment distribution board

4

THERMOB ZONE SERIES

Wiring centers and zoning

Multi-zone underfloor heating, radiators and fan coils from one central point: wired wiring centers for 230V and 24V, and wireless wiring centers with WiFi and a built-in RF hub.

Underfloor heating and fan coils – from one wiring center

FHB8R3 is designed for houses where underfloor heating and fan coils work together: one panel, one logic, heating and cooling.

FC41 / FC22xV thermostat in every room → cable → FHB8R3 wiring center: zones 1-4 floor · 5-8 fan coils → cable →

Heat pump or boiler + chiller

8 zones in two groups

Group A (zones 1-4) is the underfloor heating, group B (zones 5-8) the fan coils, each with its own pump.

Two temperatures to the heat pump

A separate "low t°" demand for the floor (~30-35°C) and "high t°" demand for the fan coils (~45°C, 7°C in cooling).

Boiler + chiller

The Heating/Cooling input selects the season – the boiler and the chiller never run together.

One thermostat per room

FC41 or FC22xV controls both the floor and the fan coil: the floor holds the set point and the fan coil starts only if the room falls 2°C behind.

Heating and cooling

External Heating/Cooling command; in cooling the underfloor heating is switched off automatically.

Several floors, one heat pump

Each floor has its own wiring center; the main one starts the heat pump and the common pumps. 4 selectable schemes via DIP switch and pump anti-seize protection.

4 · WIRING CENTERS AND ZONING – CONTINUED



FHB8R3-230 / FHB8R3-24V

Zone

Wiring center for up to 8 zones

230V 24V wired

For underfloor heating and fan coils with up to 8 zones (4+4) – a separate temperature in every room, heating an...

- Wiring center for up to 8 wired zone / rooms / thermostats
- Logically divided into 2 × 4 zones "A" and "B" or 8 general zones
- Combines commands for underfloor heating and fan coil units

Versions: FHB8R3-230 – 230V · FHB8R3-24V – 24V AC/DC

Zones/rooms	8 common or 4 underfloor + 4 fan coil
Relay outputs	3pcs, voltage free, 5A/230V rated
Power Supply	230V / self consumption 1.5W + 0.25W per active thermostat



FHB5RW / FHB6RW

Zone

Wireless wiring center with WiFi and a built-in RF hub

230V WiFi · app wireless RF

For heating with up to 5 zones and no cables to the rooms – wireless RF1 room modules. Wireless wiring center with...

- Wiring center with built-in WiFi and RF hub for up to 5 wireless RF1 room modules, each controlling a separat...
- 5 zone relay outputs, 230V, one per zone
- AUX output (voltage-free, N.O.) for boiler/heat pump control

Versions: FHB5RW – 5 zones · FHB6RW – 6 zones · FHB5RW-FCU – underfloor + fan coils

Zone relay outputs	5, separate output per zone, 230V
AUX output	Voltage-free, N.O. — boiler/heat pump control
Pump output	Voltage-free, N.O. + N.C.

5

THERMOB SYSTEM AND LINK SERIES, PROXEL

HVAC Controllers & OEM Solutions

A programmable controller, a mixing-valve controller, a Modbus-to-cloud gateway and a wireless relay-signal transmitter – for installers, commercial sites and equipment manufacturers.



Proxel MTC5

System

Controller for heating, ventilation, air-conditioning and refrigeration installations — WiFi

230V WiFi · app Modbus

For OEM manufacturers and installers of HVAC/R systems – control is independent of internet connectivity. Compac...

- Monitoring of 4 temperature points (TS1...TS4) with selectable sensor type — NTC10K, NTC20K, Pt1000 o...
- Control of 4 independent actuators (relay outputs RA...RD) by selectable conditions — compressors, pumps,...
- 2 analog outputs 0-10V / PWM (1 kHz) for modulating valves, dampers and pump/fan speed — selectable...

Power supply	230 V ±10% / 50 Hz, ≈ 3 VA
Mounting	35 mm DIN rail; flush-mount
Dimensions	68×85×58 mm



3WHC432 / 3WHC412V

System

Controller for a 3-way mixing valve

230V 24V wired

For mixing groups, e.g. in underfloor heating – keeps the water temperature after the 3-way valve and controls the...

- Controller for a 3-way mixing valve and circulation pump – keeps the water temperature after the valve
- Weather-compensated temperature curve or fixed setpoint
- Heating and cooling – changeover from the buttons or automatically by outdoor sensor / contact

Versions: 3WHC432 – 3-point · 3WHC412V – 0-10V

Power supply	230V / AC / 50Hz or 24V / AC; consumption ≤ 2VA
Inputs	2 external NTC 10 kΩ sensors – S1 (water after the valve), S2 (outdoor...
Relay outputs	3 pcs. (pump, close, open); max 4A in total; supply "live" control potential



Proxel WF485

Bridge

Process Safe ModBus - Cloud Bridge over WiFi (model WF-485MBS)

WiFi · app Modbus

For monitoring and controlling Modbus RTU equipment through the cloud. Process Safe bridge to the cloud over...

- A Modbus RTU (RS-485) to web/cloud bridge over WiFi, model WF-485MBS
- Built-in PIC microcontroller for offline data validation and real-time custom tasks ("Process Safe")
- Data is accessible via a web dashboard, the Proxel Connect mobile app, and an API

Model	WF-485MBS (project WF485)
Function	Modbus RTU (RS-485) ↔ Web/Cloud bridge over WiFi
Built-in controller	PIC MCU (offline validation + real-time custom tasks)



Proxel LG-FCU-10V-Modbus

Bridge

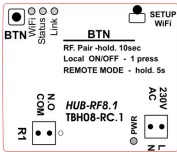
0-10V to Modbus converter for LG hydronic cassettes

230V Modbus

For controlling LG hydronic cassettes from a controller with a 0-10V output. Turns the analogue signal into Modbus...

- Converter of a 0-10V signal into Modbus RTU (RS-485) commands for LG hydronic cassettes
- 0-10V input from a fan coil controller, thermostat or BMS
- 4 steps: stop and speeds 1, 2 and 3, with hysteresis and a 10 s delay between changes

Input	0-10V (withstands up to 15V)
Output	RS-485, Modbus RTU master, 9600 bps, 8N1
Power supply	230V



TB01/TB08

Link

Wireless dry-contact signal transmitter (WiFi + RF)

230V WiFi · app wireless RF

For a boiler, pump or alarm start signal without a cable. Wireless transmission of a relay signal (RF + WiFi); the hu...

- A wireless (RF + WiFi) system for relaying a single dry-contact relay state from one point to one or more othe...
- Transmitter TB01.TX.1 monitors an open/closed circuit on input SW1 and forwards the state wirelessly
- Hub receiver TBH08-RO.1 (HUB-RF8.1) serves up to 8 modules (transmitters and/or remote outputs) and...

TBH08-RO.1 (hub) and TB01-RO.1 (output)	1x output, voltage-free relay, max 5A / 230V AC
Power supply (SELV)	230V / AC / 50Hz
Power consumption	<2VA

Complete systems for real situations

Selected examples from more than 34 solutions described on thermob.eu – with the problem, the wiring diagram and the products needed.

No cable between the thermostat and the boiler

The boiler sits in the basement, a plant room or the far end of the home, and there is no thermostat cable run to the living area.

RF1D room module (battery-powered) → radio →
WiFi receiver next to the boiler → cable → Boiler

Products needed: RF1D.WiFi

Large house with 8 wired zones

A new house with eight or more underfloor-heated rooms: every room wants its own temperature, and the installation must be tidy, reliable and expandable.

FC11W thermostats (1 per room) → cable →
FHB8R3-230 wiring center at the manifold → cable →
Thermal actuators, pump and boiler (center outputs)

Products needed: FHB8R3-230 + FC11W

One thermostat for heating and cooling – heat pump, fan coils or boiler + chiller

The home has both heating and cooling.

RF1D2 room module (battery-powered) → radio →
WiFi receiver (2 relays) → cable →
Heat pump / boiler + chiller / valves

Products needed: RF1D2.WiFi

Hotel rooms with fan coil units

Every room needs its own temperature control, but wiring dozens of rooms and maintaining them must stay simple, and guests must not be able to derange the system settings.

Reception / mobile app → WiFi →
FC22xV thermostat in every room → cable →
Fan coil unit (fan and valve)

Products needed: FC22xV

Underfloor heating and an LG hydronic ceiling cassette – one thermostat

The room has underfloor heating and an LG hydronic cassette in the ceiling.

Proxel Connect app → WiFi → FC222V room thermostat
→ cable →
Relay 1 → floor · relay 2 → water to the cassettes · 0-10V → LG-FCU-10V-Modbus
→ cable → Modbus RS-485 → LG hydronic cassettes

Products needed: FC22xV + Proxel LG-FCU-10V-Modbus

Reversible air-to-water heat pump — control with automatic changeover

A heat pump manufacturer needs a ready controller for a reversible machine: compressor, reversing valve, circulation pump and a modulating valve/fan, with separate heating and cooling settings and changeover from a remote contact.

Sensors: water (T1), outdoor (T2) + H/C switch (DI1)
→ cable → MTC5 — Heat/Cool programs, PI regulator, timers
→ cable → Compressor, reversing valve, pump, 0-10V valve

Products needed: Proxel MTC5

PROXEL CONNECT

App and web portal

Temperature, mode and weekly schedule from your phone or computer. The devices keep working without the internet – the cloud adds remote access, monitoring and support.

FOR INSTALLERS

Installer portal

Wiring diagrams, datasheets in several languages, compatibility and troubleshooting – in one place. Direct support from the engineers who develop the products.



ThermoB is a brand of Proxel Engineering

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