CONTROLS
Quick Installation Guide

Wavin Sentio
Control system

For indoor climate management



wavin

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Find more information

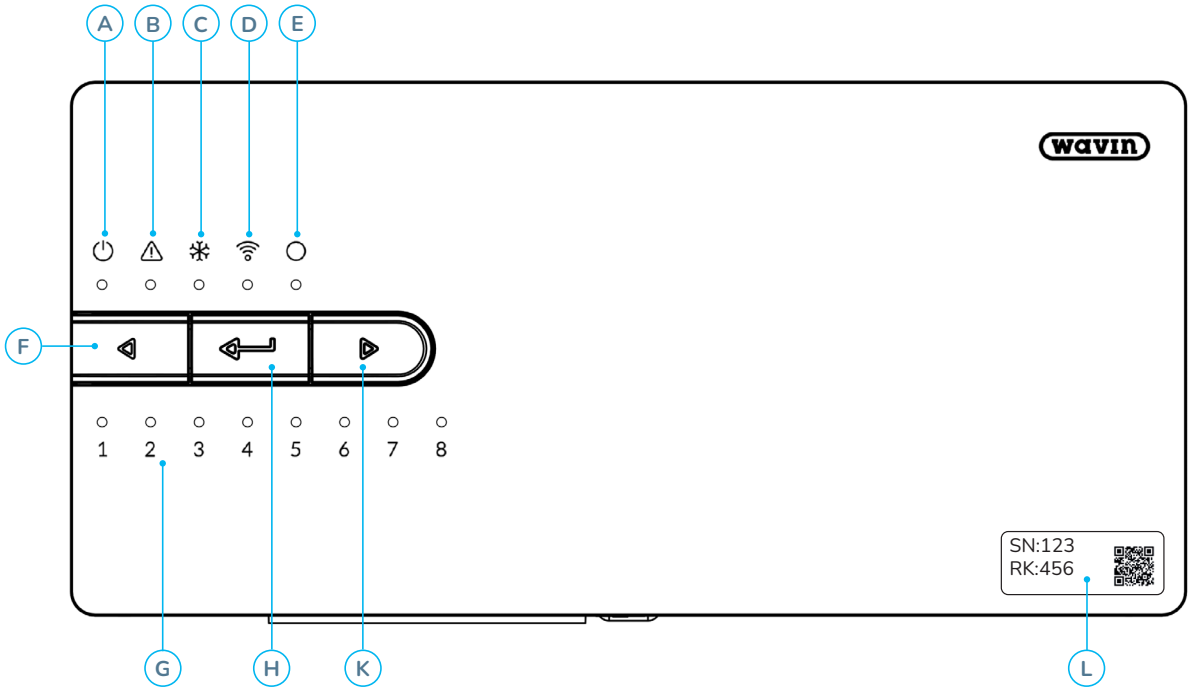
Use the QR code to visit the Wavin Sentio website at **https://www.wavin.com/sentio**, where you can find this document in your language, as well as additional support tools, FAQs and troubleshooting tips.





Central control unit

Overview of buttons and LEDs

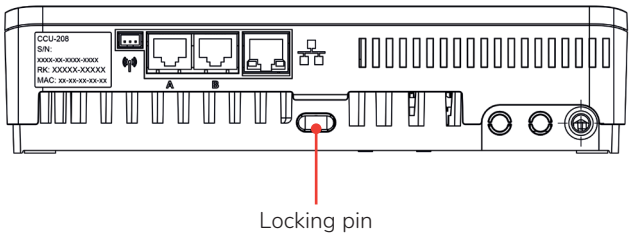


Key	Icon	Function	LED Status	Explanation
A		Status	Off	No power to the unit
			Green on	Power on and OK
			Red on	System is initialising
B		Warning	Yellow flash	Error i.e. thermostat or sensor disconnected
			Yellow fast flash	System update in progress
C		Cooling	Blue on	Cooling active
D		LAN status	Green on	Connected to internet and cloud service
			Green flash	Connected to internet but not cloud service
			Green fast flash	Learn mode active for app registration
			Blue on	New firmware version found and ready to update
			Blue flash	Preparing to check for new firmware version
			Blue fast flash	Check for new firmware version in progress
E		Peripherals	Green on	Global peripherals enrolled
			Red flash	Enrol mode active - new peripherals can be connected
F		Select left	-	Press to select the next LED to the left
G	1-8	Actuator channels	Red on	Heating active
			Green on	Idle - no heating or cooling active
			Blue on	Cooling active
			Purple on	Idle - no actuator / radiator-only zone
			Red flash	Enrol mode active - new actuators can be connected
			White slow flash	Valve exercise routine in progress (preventative maintenance)
			Yellow on	Updating / restarting following a setting change
			Red-green flash	Heating blocked
			Blue-green flash	Cooling blocked
H		Enter / Learn	-	Press to confirm a selection
K		Select right	-	Press to select the next LED to the right
L		Serial number sticker	-	Shows the unique serial number (SN) and registration code (RK) for the CCU. The QR code represents the registration code, and can be scanned from the Sentio app for easy setup

Safety

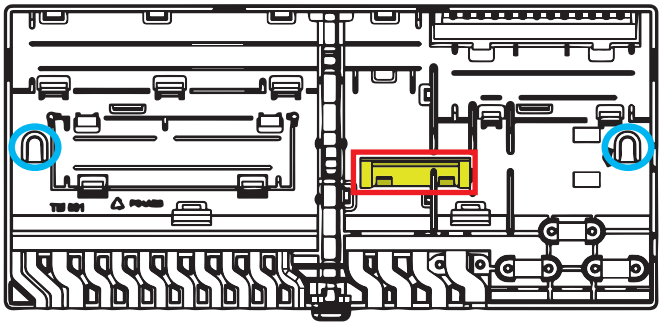
All electrical works must be undertaken by a qualified technician in possession of the relevant qualifications and training, as required by local law.

Remove the cover



Use a screwdriver or similar tool to loosen the locking pin on the bottom of the unit. Remove the front panel by sliding it up (if the unit is in front of you) or toward you (if it is already mounted on the wall).

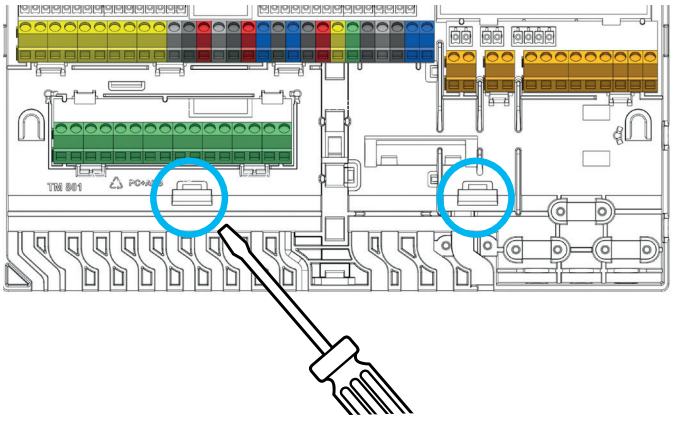
Mount to the wall



Mounting CCU and EUs on the wall

The CCU central control unit, and EU extension units, can be mounted on a wall and are supplied with a built-in spirit level, screws, and wall plugs.

The built-in spirit level can be used for accurate wall mounting.

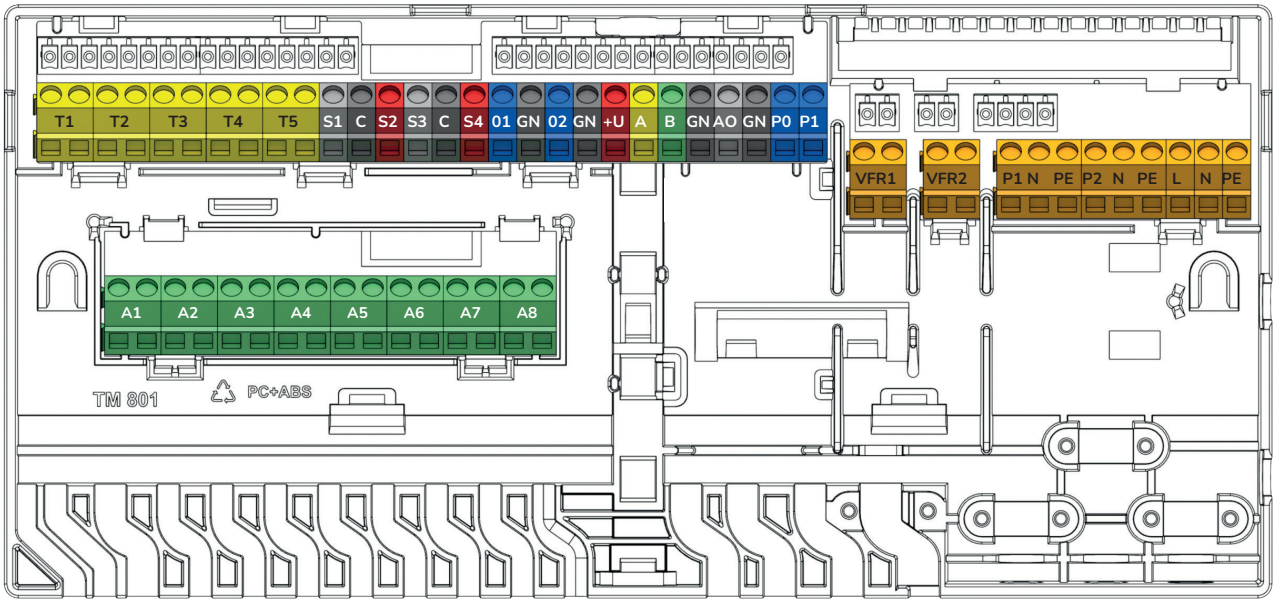


Mounting / Demounting CCU and EUs on a DIN-rail

The bases of the units are suitable for mounting on a 35mm DIN rail (type O, EN50022). They can be clicked onto a mounted DIN rail, which can be inserted from the side. The connection elements must not be used when the units are mounted on a DIN rail.

The CCU has two DIN rail locks. A screwdriver can be used to unlock and release the units for removal.

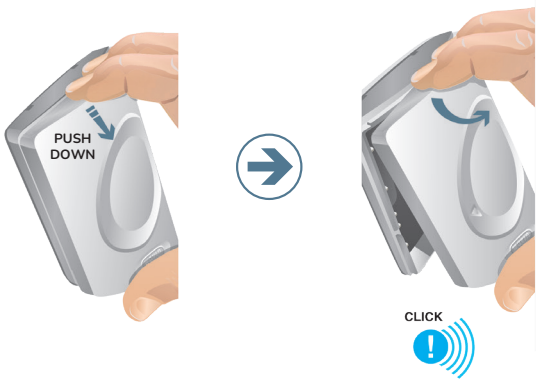
Internal components



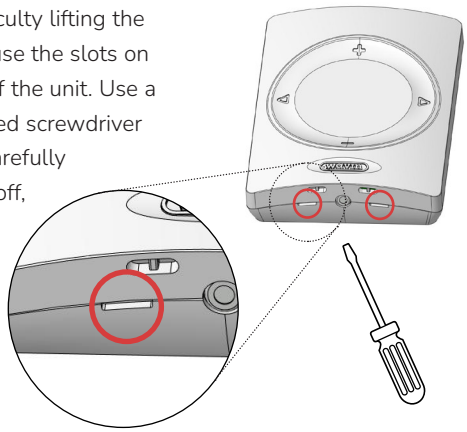
Purpose	Label	Color	Description
Thermoactuator 1-8	A1-A8		Electronic output intended for 1 or 2 pcs of 24V DC 1W/PC Wavin thermoactuators
Temperature sensor 1	T1		Input for NTC-10kΩ temperature sensor, (default outdoor thermometer or source temperature sensor)
Temperature sensor 2/4	T2/T4		Input for NTC-10kΩ temperature sensor, default inlet temperature sensor mixing units
Temperature sensor 3/5	T3/T5		Input for NTC-10kΩ temperature sensor, default outlet temperature sensor mixing units
ITC Servo output 1	S1		0-10V output or S+ output for 3point for servo , maximum load 24V 2W
24V 2W	C		Common terminal for servo ITC1
	S2		+24V for 0-10V servo or S- signal for 3point servo maximum load 24V 2W
ITC Servo output 2	S3		0-10V output or S+ output for 3point for servo maximum load 24V 2W
24V 2W	C		Common terminal for servo ITC2
	S4		+24V for 0-10V servo or S- signal for 3point servo maximum load 24V 2W
General Purpose I/O1	IO1		ON/OFF universal Input / Output. Input 5V 5mA, output = O.C. 100mA
	GN		Common terminal for GPIO1
General Purpose I/O2	IO2		ON/OFF universal Input / Output. Input 5V 5mA, output = O.C. 100mA
	GN		Common terminal for GPIO2
ROXI BUS connection	+U		+ 24V for ROXi BUS, maximum output current controlled by power management
wired Sentio components	A		A data signal for ROXi BUS
	B		B data signal for ROXi BUS
	GN		Ground for ROXi BUS
Analog output 0-10V	AO		Analog output 0-10V / "+"
	GN		Common terminal for AO, PO, PI / "-"

PWM - out	PO		PWM output 100Hz-5kHz, using common terminal GN with analogue output AO
PWM – in	PI		PWM input 100Hz, using common terminal GN with analogue output AO
Voltage Free Relay 1	VFR1		ON/OFF voltage free relay, AC 24-230V, 1A
Voltage Free Relay 2	VFR2		ON/OFF voltage free relay, AC 24-230V, 1A
Mixing Pump 1	P1		ON/OFF output for circulation pump 1, AC 230V 1A, switched to Mains L
	N		Neutral for Pump 1, connected to mains N
	PE		PE for Pump 1, connected to mains PE
Mixing Pump 2	P2		ON/OFF output for circulation pump2, AC 230V 1A, switched to mains L
	N		Neutral for Pump 2, connected to mains N
	PE		PE for Pump 2, connected to mains PE
Mains / Power supply	L		Main power input – Live (AC 230V)
	N		Main power input – Neutral
	PE		Main power input – PE

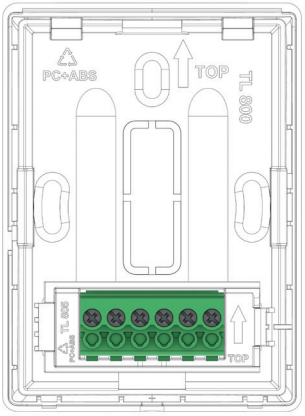
Remove the thermostat cover



If you have difficulty lifting the cover, you can use the slots on the underside of the unit. Use a small flat-headed screwdriver (or similar) to carefully prise the cover off, taking care not to damage the housing.

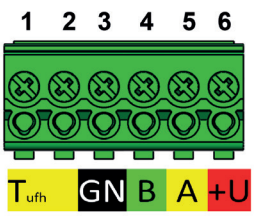


Thermostat/sensor terminals



Terminal block description

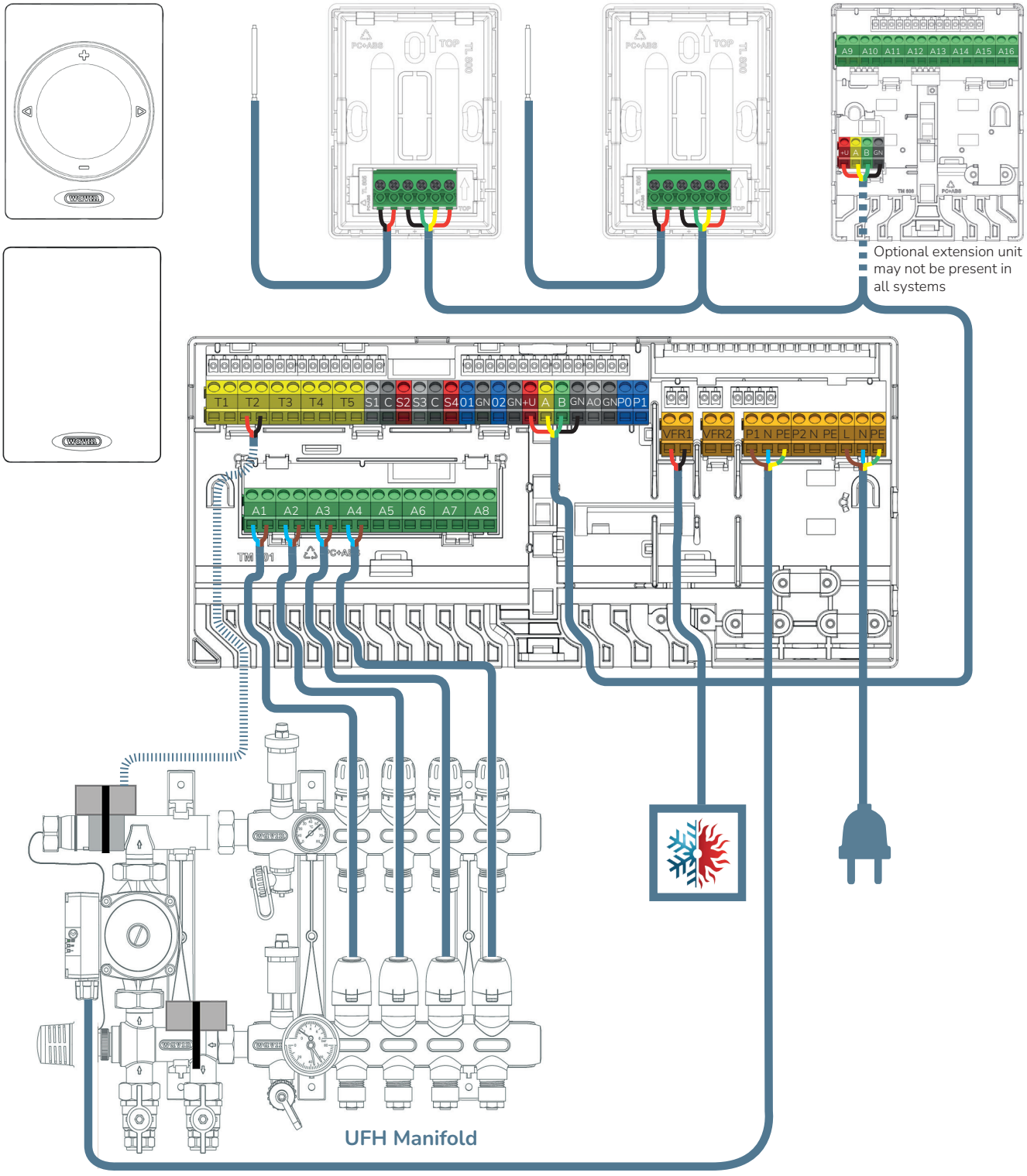
1	External temperature sensor
2	External temperature sensor
3	GND (BUS Roxi)
4	B channel (BUS Roxi)
5	A channel (BUS Roxi)
6	+U (BUS Roxi)



Wiring diagram

Typical underfloor heating system arrangement

Visit the Wavin website for information on the wide range of other applications



Cable specification

Wiring to	Cable type
Thermostat/sensor BUS network	*Recommended:* Low voltage alarm/security cable with 4 cores *Alternative:* Cat5e/Cat6 or similar
Power supply	1.5mm² twin and earth
LCD touch screen	RS-485/ethernet cable with RJ45 connectors (supplied in box with LCD touch screen)

Connecting Wired Room Thermostats and Sensors

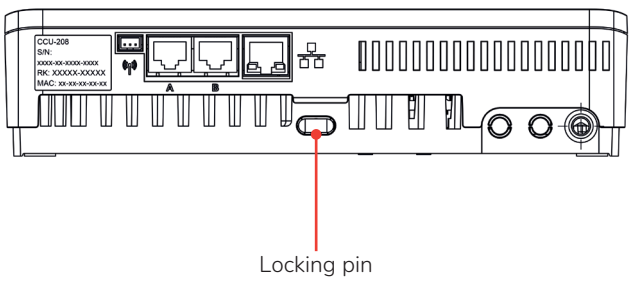
- Thermostats require a 4 core low-voltage data cable.
- Maximum supported cable length is 200m.
- Minimum wire diameter 0.5 mm, minimum wire cross section 0.2mm².
- Do not use mains power cable to connect thermostats.
- Use of a branching radial circuit will minimize cable usage.
- If preferred, each thermostat can use a dedicated cable (star configuration), however it may be necessary to use a 3rd party junction box at the CCU to connect them all together before connecting to the CCU itself.

Component capacity

The maximum number of components that can be connected to a single CCU is as follows:

Component	Quantity
Thermostat / Sensor / Room	24
Thermal actuator 24V	16
Outdoor temperature sensor	1
Extension unit (EU-A)	2
Extension unit with VFR (EU-VFR)	2
LCD touch screen commissioning tool	2
Smart Radiator Thermostat	16
Dehumidifier	4

Replace the front cover

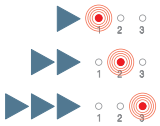


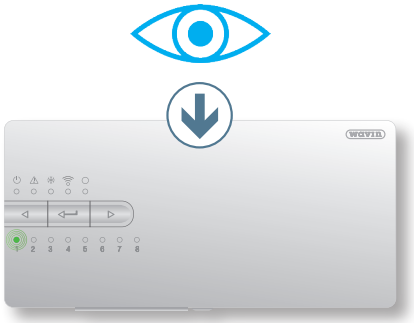
Before you begin, make sure the locking pin is still in the extended position. Align the front panel with the base panel and insert gently to avoid misalignment or damage to connector pins and terminals. Push the locking pin in until you hear a click to lock.

Enrol thermostats

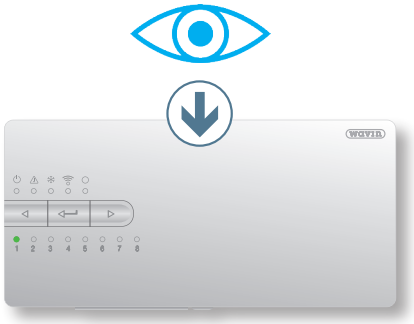


Select channel you wish to assign thermostat to

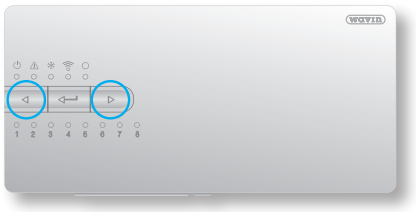




LED flashes green during pairing process



LED solid green when complete



Select channel using left and right arrows

Hold

Hold

Hold touch area to begin pairing

Continue holding until display changes and green LED appears

Thermostat is ready for use

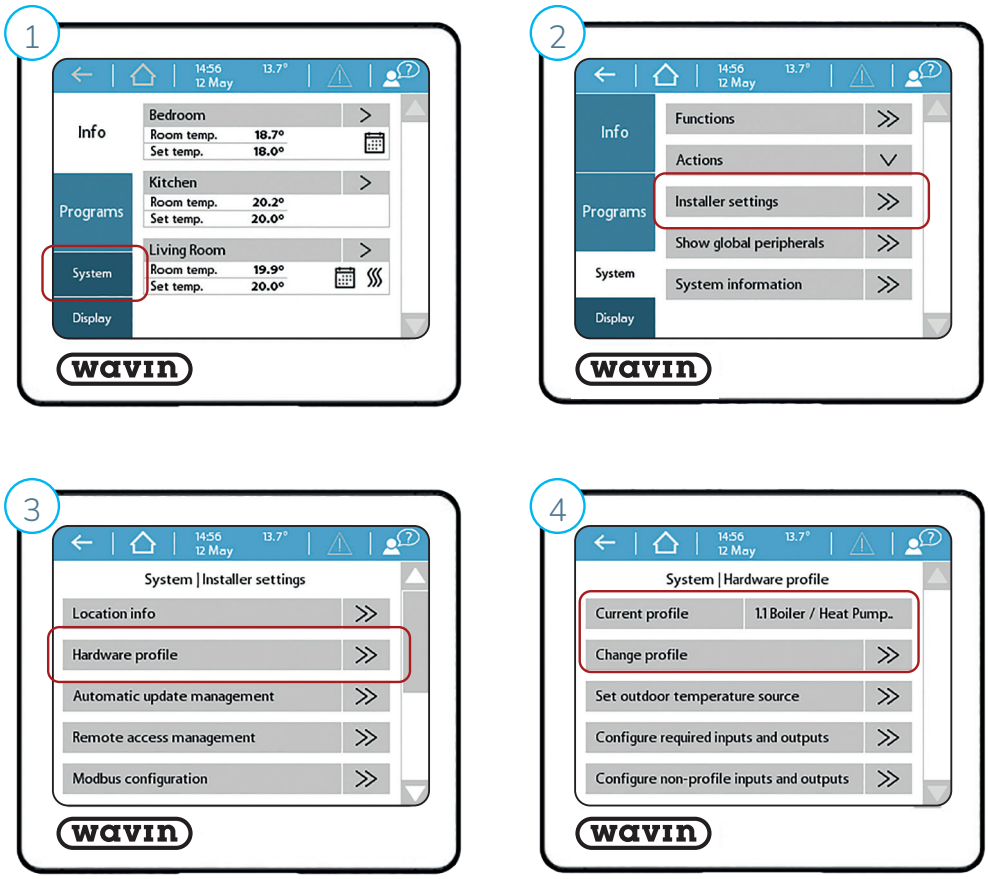
Return to start to pair next thermostat

Profile setting

Default profile

During the start-up of the Sentio system you must select the type of system (profile) that the Sentio unit is to control. By default the Sentio unit comes with profile 1.1 as active. To change the profile and/or set all parameters a Sentio commissioning touch screen is required.

Changing the profile



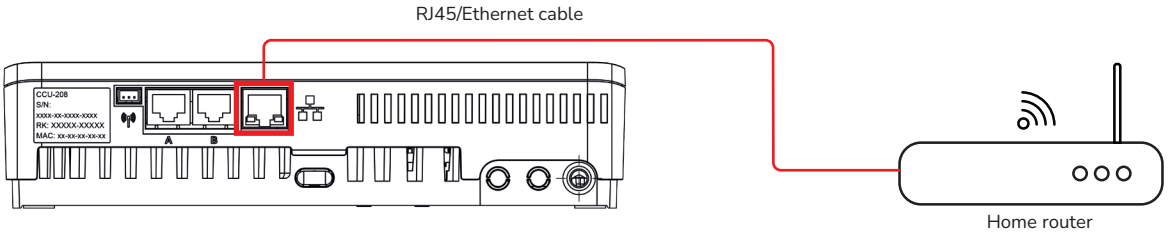
Profile options

Refer to the Sentio application manual for detailed information

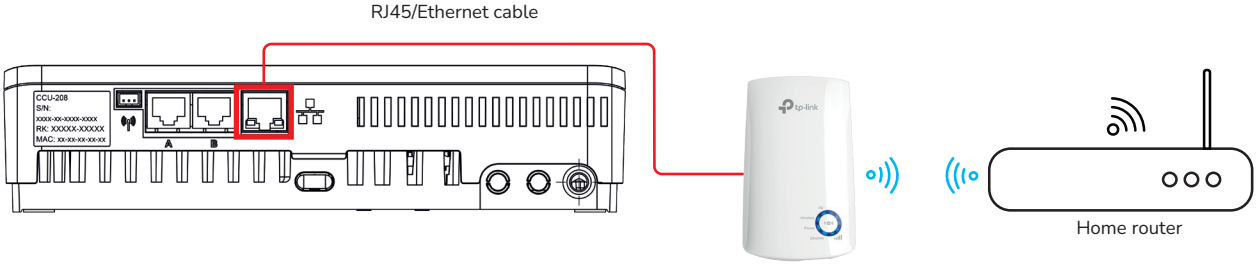
Source serving underfloor heating/cooling system	With	Profile	Required
District heating	None	1.0	
	1 ITC loop	1.3.1	Inlet sensor, outlet sensor
	2 ITC loops	1.3.2	Inlet sensor, outlet sensor
Boiler/Heat pump	None (On/off control)	1.1	
	0-10V control	1.2	
Condensing boiler	0-10V control, 1 ITC loop	2.2.1	Inlet sensor, outlet sensor
	0-10V control, 2 ITC loop	2.2.2	Inlet sensor, outlet sensor
Heat pump UFH/UFC	Heat/Cooling switch	3.3.0	Inlet sensor
	Automatic switch	3.3.1	Outdoor Sensor, Inlet sensor
	1 ITC + Heat/Cooling switch	3.3.2	Inlet sensor, outlet sensor
	1 ITC + Automatic switch	3.3.3	Outdoor Sensor, Inlet sensor, outlet sensor
Any single source (+ optional dehumidifiers)	2 Heat/cooling circuits	4.1.1	Inlet sensor
	1 ITC	4.1.2	Inlet sensor, outlet sensor
	1 ITC + heat/cooling circuit	4.1.3	Inlet sensor, outlet sensor
	2 ITC + heat/cooling circuit	4.1.4	Inlet sensor, outlet sensor
	Reference room	4.2	Inlet sensor

Connect to the internet

Connect the LAN cable



If a direct cable to the router is not possible, a plug-in WiFi bridge (sold separately) can also be used:

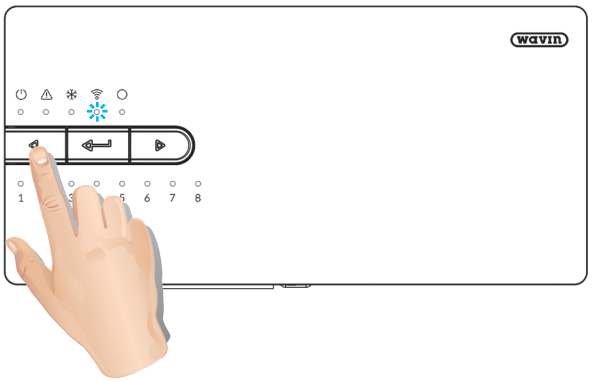


Update the system

We recommend that a firmware update is run as soon as the system is installed. This is ensures that the system is fully up-to-date with the latest features and fixes. This process will also automatically run once per month.

Press the left arrow twice to navigate to the Network LED and press the Enter/Learn button. If the LED turns solid blue, there is an update ready to be installed. Press Enter/Learn again to start the installation. The LED will flash yellow during the installation and turn solid green once complete.

If any issues occur during the update, the system will revert to the previous firmware version.



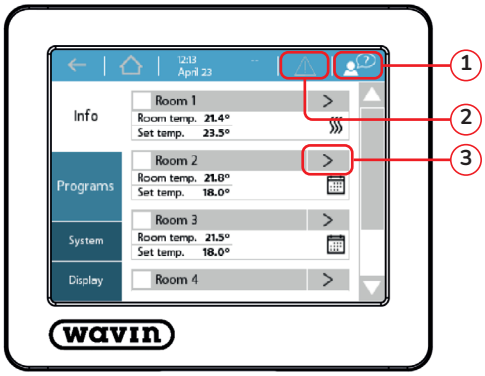
Commissioning tool

Commissioning with the touch screen

The touch screen can be used for easy commissioning of the Sentio system. One touch screen can be used for several CCUs, and is connected to the CCU via an ethernet cable, which is supplied in the box with the screen.

In addition to checking the thermostats have been correctly enrolled, the screen will also allow you to rename rooms and set initial time and temperature schedules. The screen also provides access to a wealth of detailed installer settings, allowing for additional fine tuning and the configuration of more complex systems.

It is not necessary for the daily use of the Sentio system to have a touch screen, although it does offer additional insights of the system behaviour.



1 Help icon: Show guidance and tips specific to the menu screen currently showing on the display.

2 Error icon: If there are any errors in the system operation, this warning icon will turn yellow and display a number representing the number of errors. Selecting the warning icon will take you to a screen with the error details.

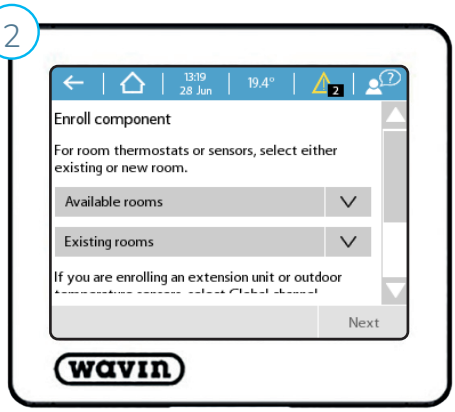
3 More info: Go to the full details for that room, allowing access to more details about the current operation conditions, temperatures, scheduling and additional options.

Enroll components using the touch screen

1



2



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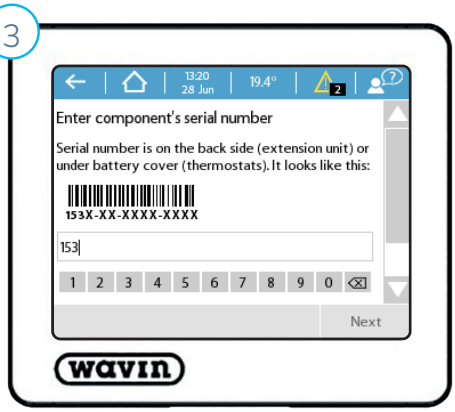

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