ENGO E40

Programmable ZigBee/868MHz
Smart Thermostat, battery

E40-BATW E40-BATB

Quick Guide

Ver. 1.0
Release date: IV 2025
Soft:
ZigBee Module v1.0.8
MCU v0.0.7

Works with ENGO SMART App | Powered By tuya

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ENGO CONTROLS

Producer:
Engo Controls sp.z.o.o. sp.k.
Rolna 4 St.
43-262 Kobielice
Poland

www.engocontrols.com

Product Compliance

This product complies with the following EU Directives: 2014/30/EU, 2014/35/EU, 2014/53/EU, 2011/65/EU

SAFETY INFORMATION:

Use in accordance with national and EU regulations. Use the device only as intended, keeping it in a dry condition. The product is for indoor use only. Please read the entire manual, before installation or use.

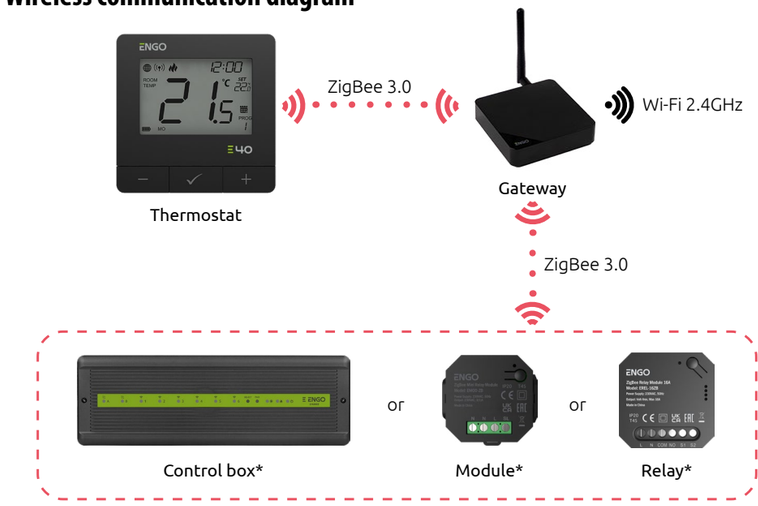
Installation

Installation must be performed by a qualified person with appropriate electrical qualifications, in accordance with the standards and regulations in force in a given country and in the EU. The manufacturer is not responsible for non compliance with the instructions.

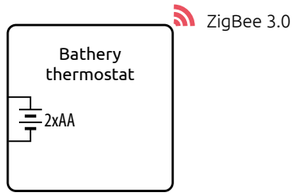
ATTENTION:

For the entire installation, there may be additional protection requirements, which the installer is responsible for.

Wireless communication diagram



Connection description



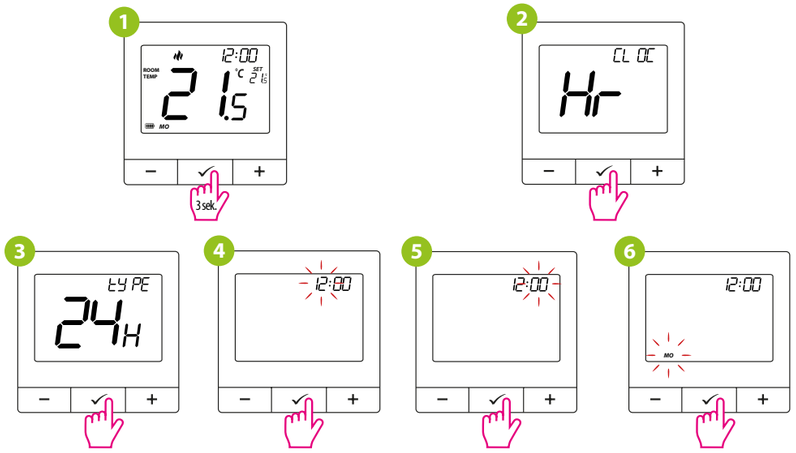
* Products sold separately

Legend:

- Battery power supply
- Connection with ZigBee 3.0 network
- Connection with WiFi 2.4GHz network

Setting the day of the week and time

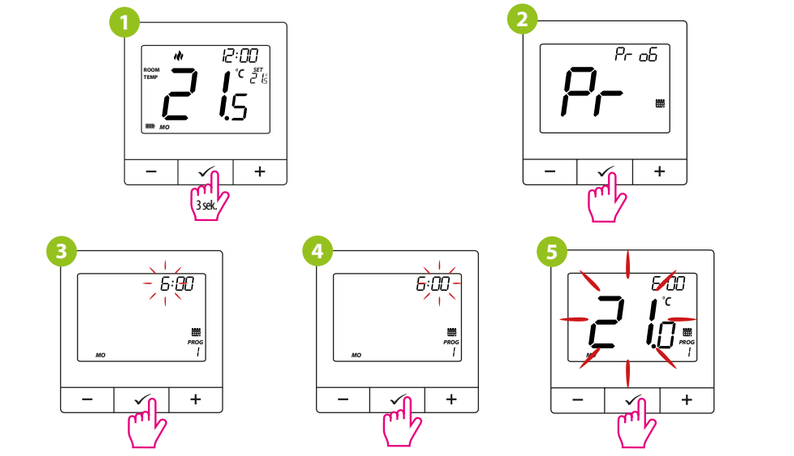
To enter clock settings press and hold ✓ button for 3 seconds, then Select "Hr" with the - or + button and confirm with the ✓ button.



Using the - or + buttons, set the clock format, then confirm with ✓ button. Similarly, set the following parameters: Hour, minutes and day of the week.

Setting the schedule

To enter the schedule programming, press and hold ✓ button for 3 seconds, then Select "Pr" with the - or + button and confirm with the ✓ button.

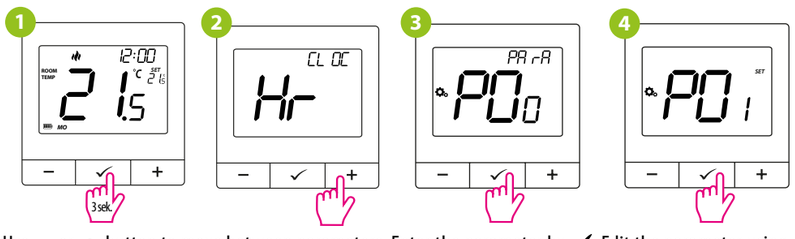


Use the "-" or "+" buttons to set the hour, minutes and temperature for each of the four time intervals, each time confirming the selection with ✓ button . You can copy the set schedule to the next day by confirming 'YES' value for the "Copy" parameter - just approve it with ✓ button. If you want to set an individual schedule for the next day, set the "Copy" parameter to "NO", confirm the selection with ✓ button , and then create a schedule.

ATTENTION!
Programs should be set for all days of the week.

Installer settings

To enter installer parameters press and hold ✓ button for 3 seconds, then Select "PArA" with the - or + button and confirm with the ✓ button.



Use – or + button to move between parameters. Enter the parameter by ✓. Edit the parameter using – or + Confirm the new parameter value with the ✓ button.

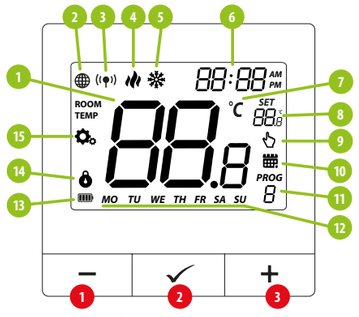
Introduction

The ZigBee/868MHz, battery-powered, programmable Internet temperature controller in surface-mounted design. The product is based on ZigBee/868MHz wireless communication technology. It is designed for radiator or floor heating. It works with electronic wireless heads. It can control as many as 6 radiator heads in one room. Measuring the room temperature away from the radiator ensures comfort and economy. A unique feature of this controller is the ability to control WITHOUT WIRELESS - The "ENGO binding" function provides a direct link between the controller and receivers, such as a wireless control box, module or relay (device with "BIND" function). ZigBee binding can only be done using an Internet gateway (sold separately). If the controller is used with an Internet gateway connected to the Internet, it has the ability to control wirelessly using the ENGO Smart mobile app. Without cooperation with the Internet gateway, the controller can control radiator heating by synchronizing with ETRV heads. The controller's schedule can also be programmed offline . The controller has a key lock function, minimum and maximum set temperature settings, and the ability to operate in heating or cooling mode.

Technical data

Power supply	2xAA battery
Temp. setpoint range	5,0°C to 45,0°C
Display temp. Accuracy	0,5°C
Control algorithm	TPI Hysteresis (±0.1°C to ±2°C)
Communication	ZigBee 3.0 RF 868MHz
Dimensions [mm]	80 x 80 x 23

LCD Icon Description + Button Description



1. Current temperature
2. ZigBee network connection indicator
3. Receiver binding indicator
4. Heating indicator (icon is animating when there is heating demand)
5. Cooling indicator (icon is animating when there is cooling demand)
6. Clock
7. Temperature unit
8. Setpoint temperature
9. Temporary override mode
10. Schedule mode icon
11. Program number
12. Day of the week indicator
13. Battery indicator
14. Button lock
15. Settings icon

1. "Down" Button –
2. "OK" Button **OK**
3. "Up" Button +

Button description

+	Change the parameter value up
–	Change the parameter value down
✓	Manual/Schedule mode - short button press (Online mode)
	Enther the installer parameters- hold 3 seconds
	Turn OFF/ON thermostat - hold 5 seconds
+ & –	Enter the pairing mode - hold 5 seconds
	Enter Sync / Binding mode - hold 5 seconds
	Factory reset - hold until the FA message appears
+ & ✓	Lock/Unlock thermostat keys - hold 3 seconds
– & ✓	Heating/Cooling mode change - hold 3seconds

Installation thermostat in the ENGO Smart app

1

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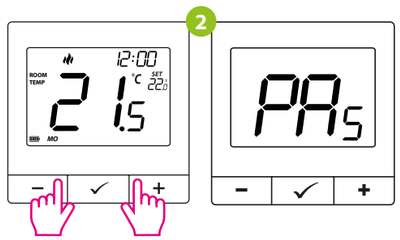
ENGO SMART App

GET IT ON Google Play

Available on the App Store

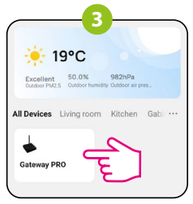
Download the ENGO Smart app from Google Play or Apple App Store and install on your mobile device. Register an account with the app.

2



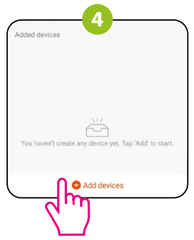
Make sure ZigBee Gateway has been added to the Engo Smart app. Press and hold the **–** and **+** buttons on the thermostat until the display shows „PA". Then release the keys. The pairing mode will be started up.

3



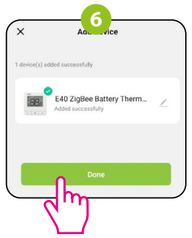
Enter the gateway interface.

4



Click "Add devices." Follow the instructions in the application.

6

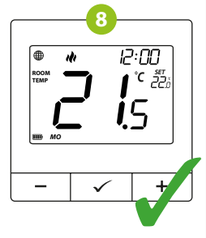


Name the device and click „Done".

7

The thermostat has been installed and displays the main interface.

8



On the device screen globe icon appeared stating that it has been he added to the ZigBee network.

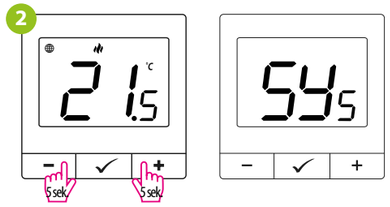
Synchronization with ETRV head

An internet gateway is not mandatory to synchronize thermostat with ETRV head. Make sure head is installed and adapted to valve insert (see head manual). If thermostat is already binded to a wireless control box or relay module, synchronization with ETRV head cannot be activated.

1

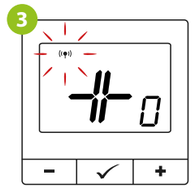
After successful adaptation process, press&hold head button for 3 seconds. The LED will start flashing blue.

2



Hold simultaneously – and + buttons on thermostat until the "SY" function appears.

3

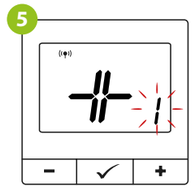


Release buttons, SYNC function will be active (synchronization with head).

4

After successful synchronization, LED diode will indicate blue light for 10 seconds.

5

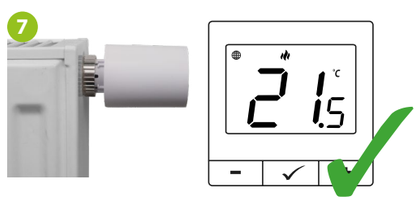


Thermostat will indicate how many heads are synchronized.

6

"END" message will appear after successful synchronization.

7



The devices are synchronized and ready to work.

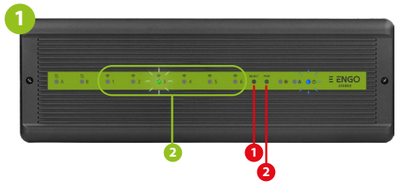
ATTENTION:

The synchronization should be performed for each head separately. One thermostat can control up to 6 heads within one room.

Binding thermostat with the relay or wireless control box

Make sure that the control box and thermostat are in the same ZigBee network (they are added to the same gateway) and the POWER LED lights up blue.

1



In order to correctly link thermostat with the control box, first select the zone in the control box with the SELECT button (1) (zone which you want to link with thermostat). The LED (2) will flash 3 times for the selected zone. Confirm your selection by clicking PAIR button (2). The LED (2) will flash green with the previously selected zone - binding process has started, it is active for 10 minutes and during this time you can link thermostat with the selected zone.

or

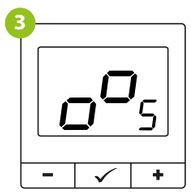
or

To properly link thermostat with the module/relay first click quickly the button on the device 5 times.
The LED diode will start flashing slowly on red, which means the device is in binding mode.

2

On the thermostat, hold **–** and **+** buttons until the "bind" function appears.

3

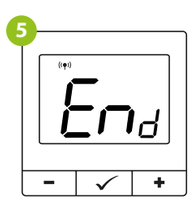


Release the keys, binding function process of linking thermostat is active.

4

The "binding" process takes up to 300 seconds.

5



After successfull binding operation „End" message will be displayed.

6

Both devices have been successfully linked. Thermostat displays the main screen, icon ((•)) appeared on the screen indicating connection with the receiver.

ATTENTION:

If the binding process fails, it must be repeated taking into account the distances between devices, obstacles and local radio signal interferences.

Remember:

Radio range can be increased by Engo ZigBee repeaters.

ATTENTION:

When the thermostat is binded with the zone , the zone will turn off after 50 minutes, if the communication between the devices is lost.

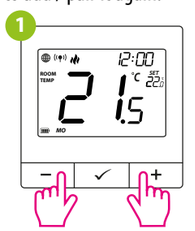
Installer parameters

Pxx	Function	Value	Desription	Default value
P01	Heating/Cooling Selection	🔥	Heating	🔥
		❄	Cooling	
P02	Control algorithm	TPI UFH	TPI for Underfloor Heating	TPI UFH for heating HIS 0.4 for cooling
		TPI RAD	TPI for Radiators	
		TPI ELE	TPI for Electrical Heating	
		HIS 0.2	SPAN +/-0,1°C	
		HIS 0.4	SPAN +/-0,2°C	
		HIS 0.6	SPAN +/-0,3°C	
		HIS 0.8	SPAN +/-0,4°C	
		HIS 1.0	SPAN +/-0,5°C	
		HIS 2.0	SPAN +/-1,0°C	
		HIS 3.0	SPAN +/-1,5°C	
		HIS 4.0	SPAN +/-2,0°C	
P03	Offset temperature	-3.5°C do +3.5°C	If the thermostat indicates wrong temperature, you can correct it by max ± 3.5°C"	0°C
P04	Minimum setpoint	5°C - 45°C	Minimum heating / cooling temperature that can be set	5°C
P05	Maximum setpoint	5°C - 45°C	Maximum heating / cooling temperature that can be set	35°C
P06	Backlight brightness	10% - 100%	Adjustable in the range from 10 to 100%	50%
P07	PIN Code for settings access	NO	Function disabled	NO
		PIN	Function enabled	
P08	PIN code value	000-xxx	user PIN	000
P09	Require a PIN to unlock the keys every time (function active when P8=PIN)	NO	Nie	NO
		YES	Tak	
P10	Valve protection	ON	Function enabled	OFF
		AS	Anti stop	
		OFF	Function disabled	
P11	Latest available firmware for heads	xxx	Firmware version available to update heads	Read only
P12	Current firmware installed in heads	null-xxx	null - firmware in the heads is latest possible. xxx - a newer version is available, press ✓ button to update the heads	-
P13	Delta RCWC algorithm (only for heads)	0.5°C do 5.0°C	In case of room temperature change, head opens proportionally to the size of the delta RCWC parameter. The smaller delta RCWC is, the faster the valve response will be.	2.0
P14	TRV Frost protection	ON	Function enabled	ON
		OFF	Function disabled	
CLR	Clear settings factory reset	NO	No action	NO
		YES	Factory Reset	

Factory reset

To RESET Thermostat to factory settings, hold down the **–** and **+** buttons until the FA message appears. Then release the keys. Then use the - or + button to change "NO" to YES" and confirm with ✓ button. Thermostat will restart, will restore the default factory settings and display the main screen. If the thermostat was added to the gate and the ZigBee network, it will be removed from it and you will need to add / pair it again.

1



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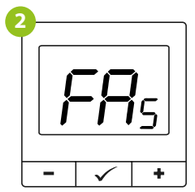

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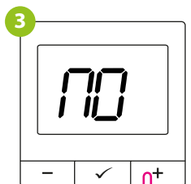

4