

Programmable wired Thermostat, 230V



Quick Guide

Ver. 1.0
Release date: X 2025
Soft: v0.3



Producer:
Engo Controls sp. z o.o. sp. k.
Rola 4 St.
43-262 Kielce
Poland

www.engocontrols.com

Product Compliance

This product complies with the following EU Directives: 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.

Introduction

ENGO E4 is a modern temperature controller that combines ease of use with advanced functionality to ensure everyday thermal comfort. A large, clear display and intuitive operation using three buttons make it exceptionally user-friendly. The default schedule allows for quick system startup, while the option to create custom programs enables full adjustment of the thermostat's operation to the user's daily routine. The E4 is available in two color variants – white and black – allowing it to blend seamlessly into modern interior designs. The controller is designed for surface mounting and powered by 230 V AC.

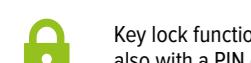
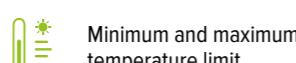
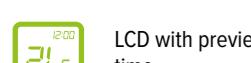
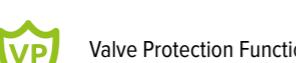
Product features:



230V powered



Heat/Cool changeover

Key lock function
also with a PIN codeMinimum and maximum setpoint
temperature limitLCD with preview of temperature and
time

Valve Protection Function and Antistop



Time schedule



Precise TPI temperature control algorithm

Technical data

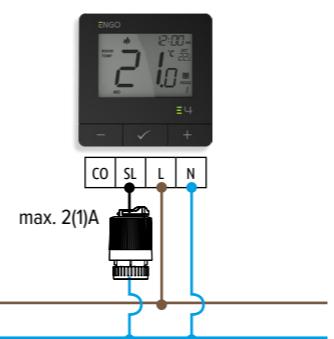
Power supply	230V AC 50 Hz
Max. Current	2 (1) A
Temp. setpoint range	5 - 45°C
Display temp. Accuracy	0,5°C
Control algorithm	TPI or Histeresis ($\pm 0,2^{\circ}\text{C}$ to $\pm 2^{\circ}\text{C}$)
Control output	SL 230V AC (TRIAC)
Control input	CO/NSB 230V AC
Dimensions [mm]	80 x 80 x 23

Description of thermostat terminals

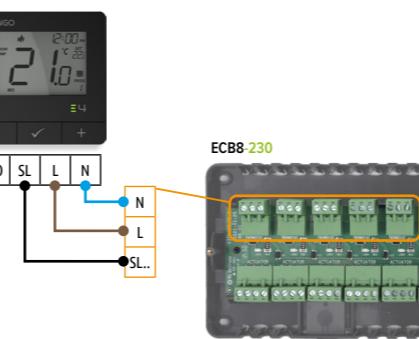
L, N	Power supply 230 V AC (L – live wire, N – neutral wire)
SL	Control output 230 V AC, maximum load 2(1) A (TRIAC)
CO	Control input 230 V AC - Heating/Cooling mode change (Active when P12=0) - Night Set Back temperature reduction (Active when P12=1)

Connection description

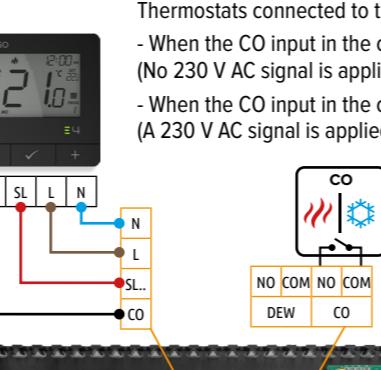
a) Connection diagram to actuator



b) Connection diagram to the control box



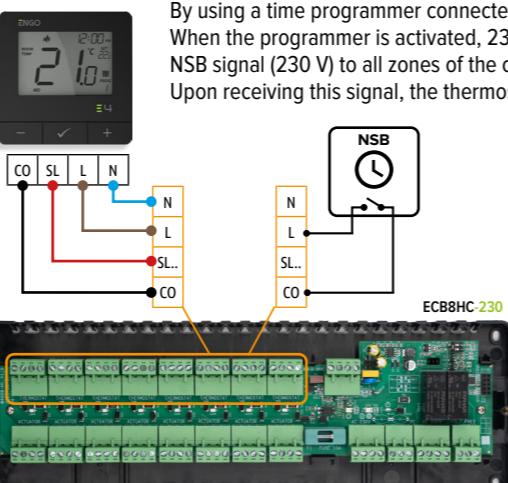
c) Connection diagram for connection to the control box with Heating/Cooling mode switching



Thermostats connected to the control box will automatically switch the operating mode:
- When the CO input in the control box is open – the system operates in heating mode (No 230 V AC signal is applied to the CO input of the thermostat).
- When the CO input in the control box is closed – the system operates in cooling mode (A 230 V AC signal is applied to the CO input of the thermostat).

ATTENTION:
Automatic HEATING / COOLING mode switching in the thermostat is active when parameter P12=0.

d) Connection diagram for connection to the control box with Night Setback (NSB) timer



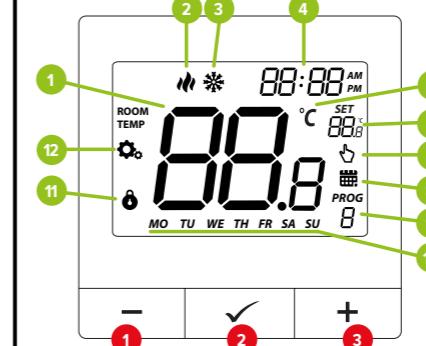
Thermostats operating in manual mode and connected to the control box will automatically apply night temperature reduction:
By using a time programmer connected to one of the zones – to terminals L and CO. When the programmer is activated, 230 V appears on the CO terminal, which sends the NSB signal (230 V) to all zones of the control box.
Upon receiving this signal, the thermostat switches to the Night Setback mode.

ATTENTION:
The NSB function in the thermostat is active only in manual mode and when parameter P12=1. The night setback temperature value must be set in parameter P13.

Legend:

	Fuse
L, N	230V AC power supply
SL.	Control signal 230 V
CO	Mode change / NSB function terminal

LCD Icon Description



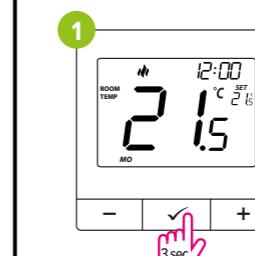
1. Current temperature
2. Heating indicator (icon is animating when there is heating demand)
3. Cooling indicator (icon is animating when there is cooling demand)
4. Clock
5. Temperature unit
6. Setpoint temperature
7. Temporary override mode
8. Schedule mode icon
9. Program number
10. Day of the week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

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

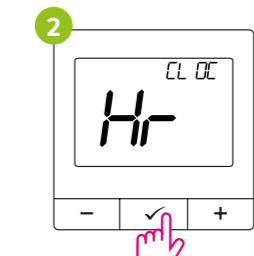
Button Description

+	Change the parameter value up
-	Change the parameter value down
✓	Manual/Schedule mode - short button press Entering time schedule / clock programming / installer parameters - hold 3 seconds
	Turn OFF/ON thermostat - hold 5 seconds
+ & -	Factory reset – press and hold the buttons until the "FA" message appears, then release them, select "YES," and confirm.
+ & ✓	Lock/Unlock thermostat keys - hold 3 seconds
- & ✓	Heating/Cooling mode change - hold 3 seconds. (Function inactive when P12=0 – automatic Heating/Cooling switching)

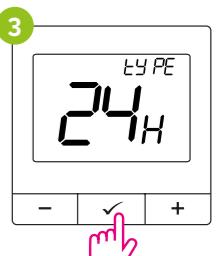
Setting the day of the week and time



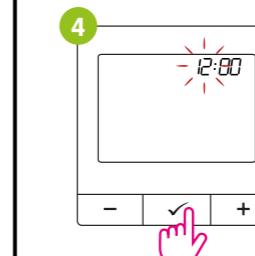
To enter clock settings press and hold ✓ button for 3 seconds.



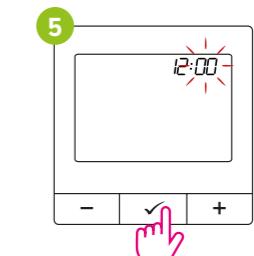
Select "Hr" with the - or + button and confirm with the ✓ button.



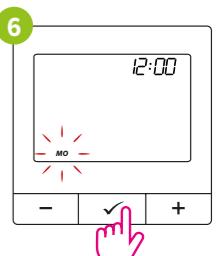
Using the - or + buttons, set the clock format, then confirm with ✓ button.



Using the - or + buttons, set the hour, then confirm with ✓ button.



Using the - or + buttons, set the minutes, then confirm with ✓ button.



Using the - or + buttons, set the day of the week, then confirm with ✓ button.

Switching between manual and schedule modes

In manual mode, the thermostat maintains a constant setpoint temperature until the user changes its value or switches to Auto (schedule) mode.



The icon has appeared on the screen.

To change the operating mode, press the button. The thermostat has switched to automatic mode.

To switch from automatic mode to manual mode, proceed in the same way – press the .

Default schedule

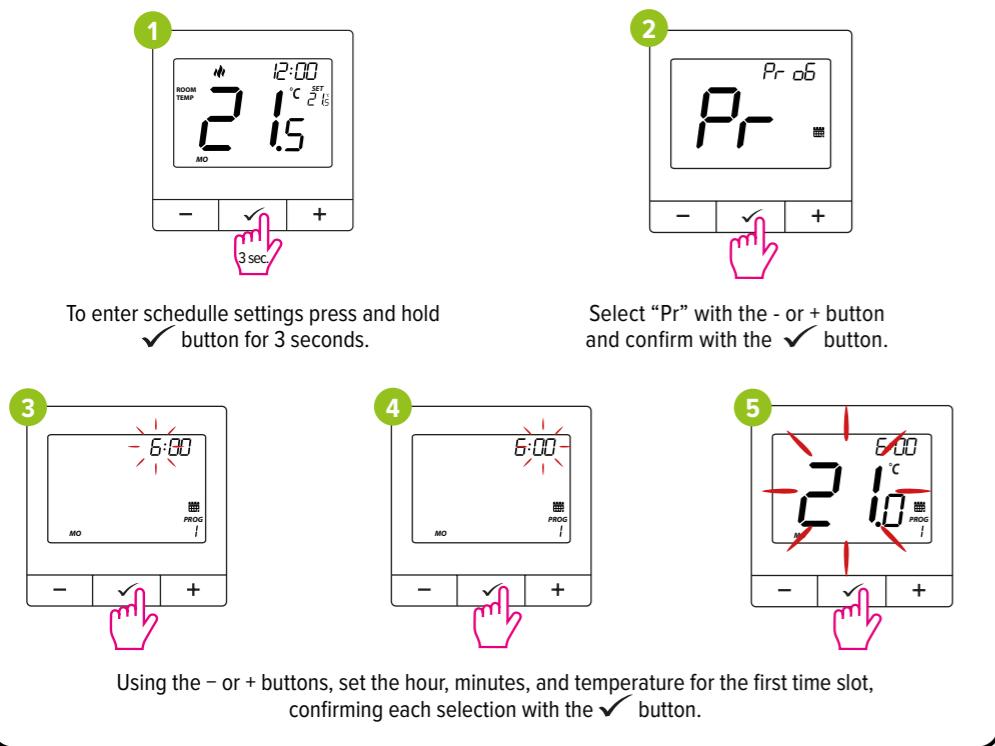
By default, the schedule is set identically for each day of the week, according to the table and chart shown below:

Default schedule		
Time period - PROG	Start time	Setpoint temperature- SET
1	6:00	21°
2	8:00	21°
3	16:00	21°
4	22:00	20°

Setting the schedule

The schedule allows programming of 4 time periods per day with minute-by-minute precision. Each of the 4 time periods can be assigned a different temperature setting.

When creating a schedule, the start time and the setpoint temperature are defined for each of the 4 time periods.

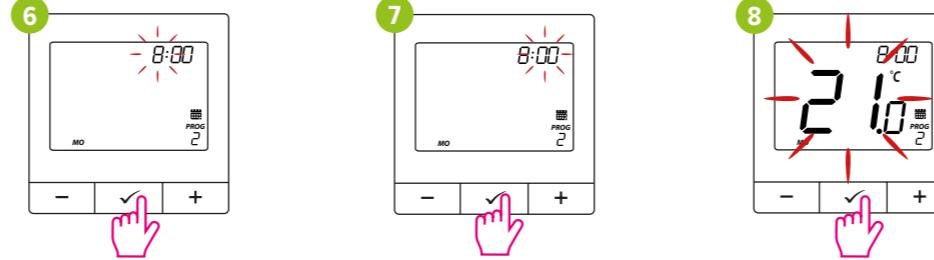


To enter schedule settings press and hold button for 3 seconds.

Select "Pr" with the - or + button and confirm with the .

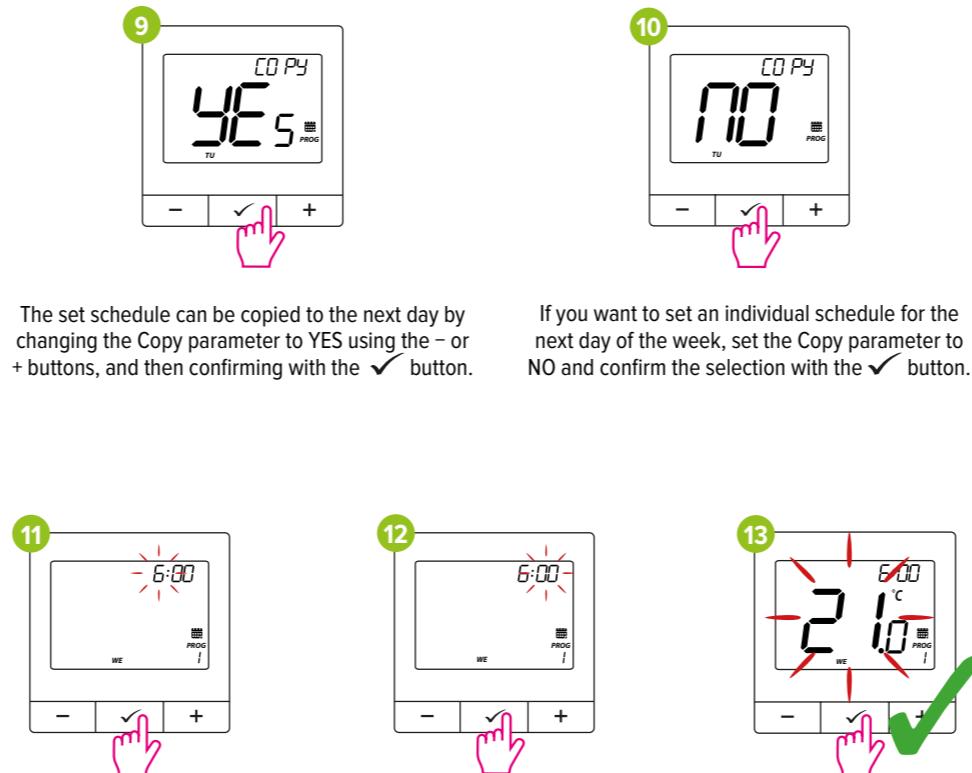
Using the - or + buttons, set the hour, minutes, and temperature for the first time slot, confirming each selection with the .

Setting the schedule



Using the - or + buttons, set the hour, minutes, and temperature for the second time slot, confirming each selection with the .

Similarly, set the start time and setpoint temperature for the third and fourth time periods.



The set schedule can be copied to the next day by changing the Copy parameter to YES using the - or + buttons, and then confirming with the .

If you want to set an individual schedule for the next day of the week, set the Copy parameter to NO and confirm the selection with the .

Create the schedule for the next day of the week (see steps 3–8).

ATTENTION:

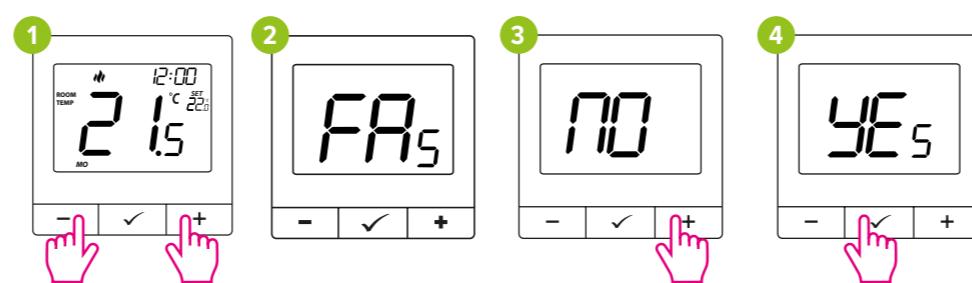
To exit to the main screen without saving changes, press and hold the button for 3 seconds.

ATTENTION:

Programs must be set for all days of the week!

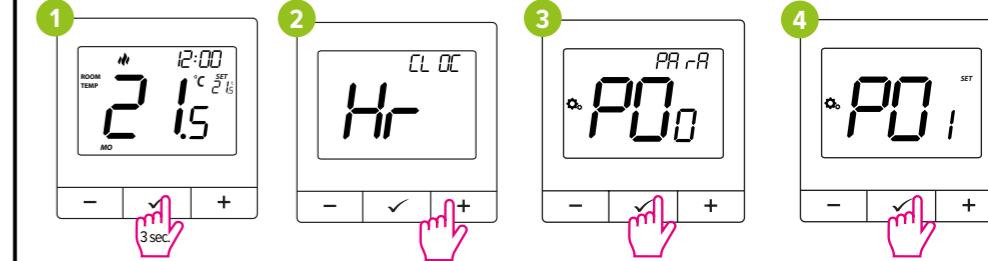
Factory reset

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.



Installer settings

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



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

Px	Function	Value	Description	Default value
P01	Heating/Cooling Selection		Heating	
			Cooling	
P02	TPI UFH	TPI for Underfloor Heating	TPI UFH for heating	TPI UFH for heating
	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		
P03	Offset temperature	-3.5°C do +3.5°C	If the thermostat indicates wrong temperature, you can correct it by max $\pm 3.5^{\circ}\text{C}$	0°C
	Minimum setpoint	5°C - 45°C	Minimum heating / cooling temperature that can be set	5°C
	Maximum setpoint	5°C - 45°C	Maximum heating / cooling temperature that can be set	35°C
	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	Configuration of the "SL" output 230 V AC (TRIAC)	NO	SL = 230 V when the thermostat is heating/cooling SL = 0 V when the thermostat is not heating/not cooling	NO
		NC	SL = 0 V when the thermostat is heating/cooling SL = 230 V when the thermostat is not heating/not cooling	
P12	Configuration of the "CO" input 230 V AC	0	Automatic HEATING / COOLING mode switching	0
		1	Night Setback – NSB (Active when the thermostat is in manual mode)	
		2	Input inactive	
P13	Night setback temperature value (Active when P12=1)	0.5°C - 5°C	Adjustable night setback temperature value	1°C
P14	Setpoint temperature adjustment available with keys locked	NO	Function disabled	NO
		YES	Function enabled	
CLR	Clear settings factory reset	NO	No action	NO
		YES	Factory Reset	