# M20i

MIKOTERM

Wireless, Internet Thermostat, Wi-Fi

M20i-TXB

M20i-RX

**Quick Guide**

Ver. 1.4
Release date: IX 2024
Soft:
Main module v2.0.2
MCU v1.7.0

Works with the app: ENGO SMART App
Powered By: tuya
GET IT ON Google Play
Available on the App Store
Hey Google
works with alexa


**Producer:**
Engo Controls sp. z o. o. sp. k.
43-262 Kobielice
Rolna 4
Poland
***www.engocontrols.com***

**Importer OEM:**
Mikoterm d.o.o.
Industrijska zona Aleksandrovo
Niška 211, 18252 Merošina
Serbia
***www.mikoterm.com***


## Introduction

A wireless set for controlling standard heating devices (e.g. gas boilers). It is characterized by: simplicity of construction, intuitive operation using the keys and a large and legible display. The built-in Wi-Fi module enables easy and quick configuration of the device in the ENGO Smart mobile application. The controller can be shared with many users, has a scheduling function and a PIN lock. Factory paired and ready to work.

## Product Features:

- Wi-Fi 2.4 GHz communication standard
- Wireless communication in the 868 Mhz standard
- Compatibility with the ENGO Smart application
- Possibility to set the minimum and maximum setpoint temperature range
- HEATING/COOLING function

## Technical specifications

| | |
|---|---|
| Thermostat power supply | 2xAA batteries |
| Receiver power supply | 230V AC 50 Hz |
| Max load of the receiver | 16(5)A |
| Receiver output signal | COM / NO (voltage free) |
| Temperature control range | 5,0°C - 35,0°C |
| Control algorithm | TPI or Hysteresis (±0,2°C to ±2°C) |
| Control algorithm | Wireless, 868 Mhz + Wi-Fi 2,4 GHz |
| Dimensions [mm] | Transmitter: 80 x 80 x 22<br>Receiver: 96 x 96 x 27 |

## Product Compliance

This product complies with the following EU Directives: 2014/53/EU, 2016/65/EU 868.0 MHz - 868.6 MHz; <13dBm Wi-Fi 2,4 GHz

## Please note!

This document is a brief manual of the installation and operation of the product and highlights its most important features and functions.

## 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:

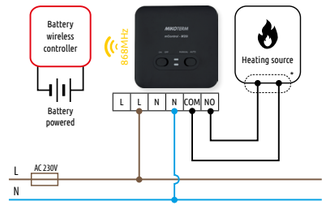
Installation must be performed by a qualified person with appropriate electrical qualifications, in accordance with the standards and regulations in force in a given country and in the EU. The manufacturer is not responsible for non-compliance with the instructions.

## WARNING:

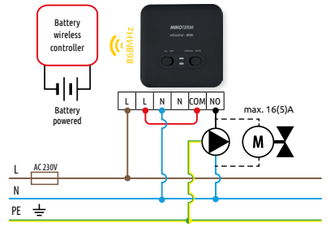
For the entire installation, there may be additional protection requirements, which the installer is responsible for.

## Wiring Diagrams

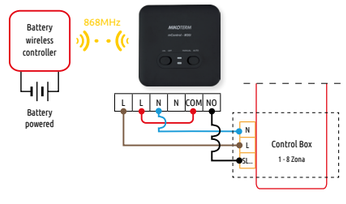

a) Connection diagram of the receiver to the heat source



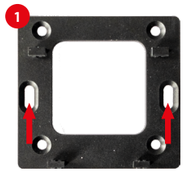

c) Connection diagram of receiver to control box




c) Šema povezivanja prijemnika sa centralom




## Wall mounting of the regulator



Attach the mounting plate to wall.

Insert the batteries.

Attach the thermostat to the plate.

## Receiver M20iRXWIFI

**Receiver's switches description:**

**LEFT SWITCH**
1. Receiver ON
2. Receiver OFF

**RIGHT SWITCH**
3. MANUAL - Receiver works in manual mode (according to the left switch)
4. AUTO - Receiver works in AUTO mode (according to the thermostat's command)


**LED indications in the receiver**

The status of the receiver is indicated by two LEDs. These are LEDs with the following colors:

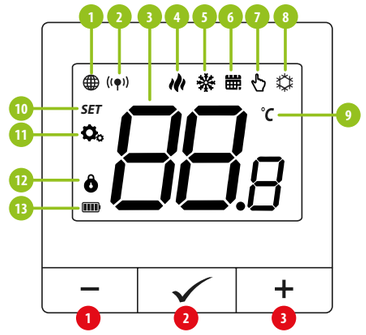
1
- **red (upper one),**
- **green (upper one),**
- **blue (upper one),**
- **pink (upper one)**

2
- **orange (lower one).**

**A detailed explanation of the meaning of the LEDs can be found in the table below:**

| | DESCRIPTION |
|---|---|
| **The red LED flashes** | The red LED diode flashes - Receiver and thermostat are prepared for installation in the app.<br>LED always flashes red:<br>- immediately after connecting the receiver to the power supply, if the thermostat is not added to the app<br>- after running the parameter "APP" -> YES (installer parameters)<br>- after removing thermostat from the app (device automatically entered pairing mode) |
| **The red LED steady** | The red LED diode is steady - E20i Wi-Fi has not been installed in the app and it is working in Offline mode. It means also app pairing mode timed out (pairing with app must be done within 10 minutes after enabling pairing mode). |
| **The green LED is solid** | The receiver is connected to a router but there is no connection to Internet (router is offline) |
| **The green LED flashes** | The receiver lost connection with a router (router is off) |
| **The blue LED is solid** | The receiver is connected to a router that has Internet access (router is online) |
| **The blue LED flashes** | The receiver was paired but lost communication with the thermostat due to out of range or low battery in the thermostat. When receiver lost communication with thermostat it starts flashing after 15 minutes. |
| **The orange LED is solid** | In automatic mode, the receiver received a heating / cooling signal from the thermostat or the receiver was started in manual mode (left switch ON, right switch MANUAL) |
| **The orange LED flashes** | The receiver is in the pairing mode and is looking for a signal from the thermostat (then you must activate the "SYNC" parameter in the thermostat). |
| **The orange LED is off** | The receiver does not send a heating / cooling signal. |
| **The pink LED is on** | Update process started. To increase the chance of success of the update - immediately after the pink diode appears, click any thermostat's button to turn on backlight |

## LCD icon description




1. Button −
2. Button ✓
3. Button +

1. Internet connection
2. Send a signal (pairing)
3. Current/Setpoint temperature
4. Heating indicator
5. Cooling indicator
6. Schedule mode icon
7. Temporary override mode
8. FROST (anti-freeze mode)
9. Temperature unit
10. Settings icon / temperature settings
11. Settings icon
12. Button lock
13. Battery indicator

## Button functions

| | |
|---|---|
| + | Change the parameter value up |
| − | Change the parameter value down |
| ✓ | Manual/Schedule mode<br>- short button press (Online mode) |
| ✓ | Enther the installer parameters<br>- hold 3 seconds |
| ✓ | Turn OFF/ON thermostat<br>- hold 5 seconds (standby) |
| + & − | Enter the pairing mode<br>- hold until the PA message appears, then release the keys |
| + & − | Pairing the transmitter with the receiver<br>- hold until the SY message, then release the keys |
| + & − | Factory reset<br>- hold until the FA message appears, then release the keys |
| + & ✓ | Lock/Unlock thermostat keys<br>- hold 3 seconds |
| − & ✓ | Heating/Cooling mode change<br>- hold 3seconds |

## Installation of thermostat in the app

Make sure your router is within range of your smartphone. Make sure you are connected to the Internet. This will reduce the pairing time of the device. Use only Wi-Fi 2,4GHz network

## STEP 1 - DOWNLOAD ENGO SMART APP

Download the ENGO Smart app from Google Play or Apple App Store and install it on your smartphone.

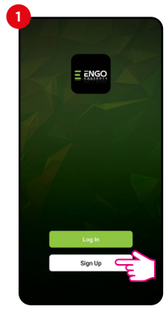
ENGO SMART

Google Play App Store

## STEP 2 - REGISTER THE NEW ACCOUNT

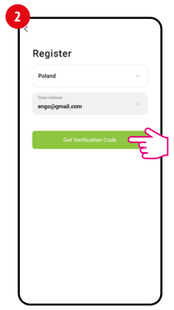
To register a new account, please follow the steps below:

1




Click „Register" to create new account.

2

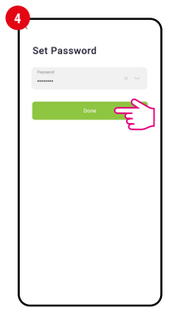



Enter your e-mail address to which the verification code will be sent.

3


Enter the verification code received in the email. Remember that you only have 60 seconds to enter the code!

4




Then set the login password.

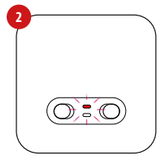
## STEP 3 - CONNECT THE THERMOSTAT TO WI-FI

After installing the app and creating an account:

1

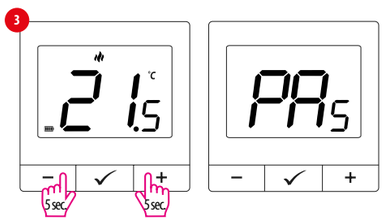

On your mobile device, make sure the ENGO Smart has access to permissions (Location, Bluetooth, Nearby devices). Then turn on Bluetooth and Location. Connect to 2.4GHz Wi-Fi network to which you want to assign the device.

2



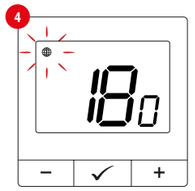
Connect the receiver to the power supply.
When first powered up, the red led will start flashing, which means that devices are ready to be added to the application. Go to step 5 (adding devices in the app). If the red LED on the receiver is not flashing, proceed with the next steps.

3



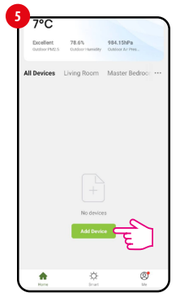

Press and hold the – & + buttons for approx. 5 seconds until the display shows „PA". Then release the keys.
The pairing mode will start.

4



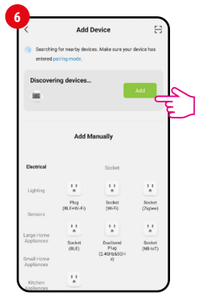

The Thermostat counts the time back (180s).

5




In the app, select: „Add Device".

6

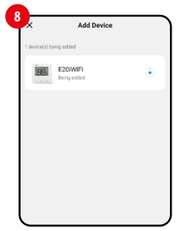



After finding the thermostat, go „Add".

7

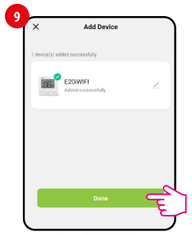

Select the Wi-Fi network in which the thermostat will operate and enter the password of this network.

8



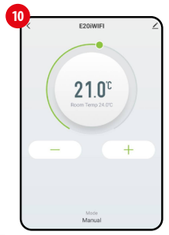

Wait for the app to configure the thermostat with the selected Wi-Fi network.

9



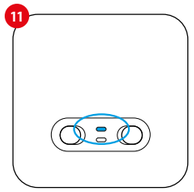

Go „DONE".

10

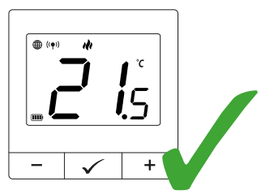



The thermostat has been installed and displays the main interface.

11




When the blue LED on the receiver will light up, it means the device has been correctly added to the application and is now connected to the Internet.



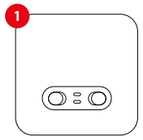

A globe icon appeared on the LCD.

## Pairing process with the receiver

**PLEASE NOTE!**

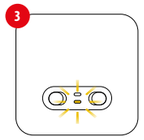
**THERMOSTAT IS ALREADY PAIRED WITH THE RECEIVER!**

1



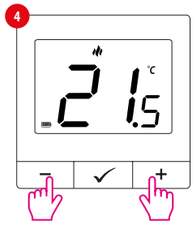
2

3



If you want to re-pair the receiver and thermostat with each other and then add it to the application, make sure that the receiver is disconnected from the power supply, and the switches on it are in the ON and AUTO positions. Then connect the receiver to the power supply and wait a few seconds. Next, move the left switch to the OFF position and back to the ON position with a quick motion. The orange LED will start blinking, which will confirm that the receiver has entered the pairing mode.

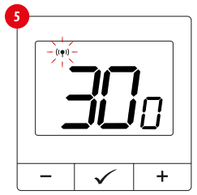
4





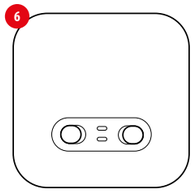
Press and hold the – & + buttons for approx. 5 seconds until the display shows „SY". Then release the keys.

5




The thermostat started to send a signal ((•)) to find the receiver and started the countdown with the number 300 (sec). The pairing process may take up to 300 seconds.

6



When the orange LED stops blinking, the devices have been paired on a new frequency.

7




After successfull pairing operation "End" message will be displayed.

8



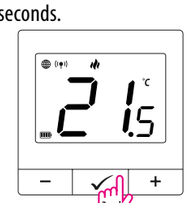

Thermostat displays the main screen, icon "((•))" .

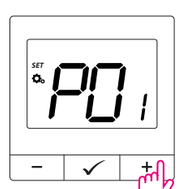
**PLEASE NOTE!**

If the devices remain unpaired after 10 minutes (e.g. no antenna icon on the controller, the receiver does not respond to the heating signal from the controller), the pairing process must be repeated, taking into account the distances between the devices, obstacles and interference.

## Installer settings

To enter installer parameters press ✓ and hold button for 3 seconds.

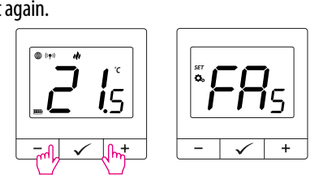



Use – or + button to move between parameters. Enter the parameter by ✓. Edit the parameter using – or +. Confirm the new parameter value with the ✓ button.

## Factory reset

To RESET Thermostat to factory settings, hold down the – and + buttons until the FA message appears.
Then release the keys. Thermostat will restart, restore default factory settings and displays the home screen. The device will be removed from the app you will need to add it again.




After the reset, the devices are still paired.

## Installer parameters

| Pxx | Function | Value | Description | Default value |
|---|---|---|---|---|
| P01 | Heating/Cooling Selection | | Heating | |
| | | | Cooling | |
| P02 | Control algorithm (in Cooling mode TPI algorithm is unavailable) | TPI UFH | TPI for Underfloor Heating | HIS 0.4 |
| | | TPI RAD | TPI for Radiators | |
| | | TPI ELE | TPI for Electrical Heating | |
| | | HIS 0.4 | SPAN +/-0,2°C | |
| | | HIS 0.8 | SPAN +/-0,4°C | |
| | | HIS 1.2 | SPAN +/-0,6°C | |
| | | HIS1.6 | SPAN +/-0,8°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 to +3.5°C | If the thermostat indicates wrong temperature, you can correct it by ± 3.5°C | 0°C |
| P04 | Relay type | NO | Normally Open type of relay | NO |
| | | NC | Normally Closed type of relay | |
| P05 | Minimum setpoint | 5°C - 20°C | Minimum heating / cooling temperature that can be set | 5°C |
| P06 | Maximum setpoint | 20,5°C - 35°C | Maximum heating / cooling temperature that can be set | 35°C |
| P07 | PIN Code | 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 (Active when P07=PIN) | NO | Function disabled | NO |
| | | YES | Function enabled | |
| CLR | Restoration default value | NO | No | NO |
| | | YES | Yes | |