

ELKO *One* – Matter Thermostat 16 A

Device User Guide

Information about features and functionality of the device.

11/2024



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Safety Information

Important Information

Read these instructions carefully and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of either symbol to a “Danger” or “Warning” safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that accompany this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

Failure to follow these instructions will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Cybersecurity

Cybersecurity aims to prevent your system, communication networks, and devices from possible attacks, data tampering, or confidential information leakage.

Following these cybersecurity principles may help to reduce the risk of cyber threats to the network where your system is installed.

- Keep your phone up-to-date and install the latest security updates.
- Only connect to secure Wi-Fi networks.
- Only download apps from Google Play or Apple store.
- Use all the security settings on your smart phone/tablet:
 - Long passcodes or pass phrases
 - Two-factor authentication (2FA)
 - Facial recognition
 - Block unknown apps

Refer CSA Matter Security Principles.

Secure disposal / End of Life / Decommission

If a device needs to be disposed of, perform a factory reset to delete all data, project data, and programming is deleted from the device. Make sure that it is securely disposed to prevent its redeployment into your operational system or unauthorized use.

ELKO One – Matter Thermostat 16 A



EKO50107



EKO50108

For your safety

⚡⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Safe electrical installation must be carried out only by skilled professionals. Skilled professionals must prove profound knowledge in the following areas:

- Connecting to installation networks.
- Connecting several electrical devices.
- Laying electric cables.
- Safety standards, local wiring rules and regulations.

Failure to follow these instructions will result in death or serious injury.

⚡⚠ DANGER

RISK OF FATAL INJURY FROM ELECTRIC SHOCK

The output may carry electric current even when the load is switched off.

- Disconnect the device from the supply by means of the fuse in the incoming circuit before working on the device.

Failure to follow these instructions will result in death or serious injury.

⚡⚠ DANGER

RISK OF FATAL INJURY FROM ELECTRIC SHOCK

The device is not a Safety Extra Low Voltage (SELV) device. The sensor lines are on mains (AC 230 V) line.

- Only use sensors with double insulated cables.

Failure to follow these instructions will result in death or serious injury.

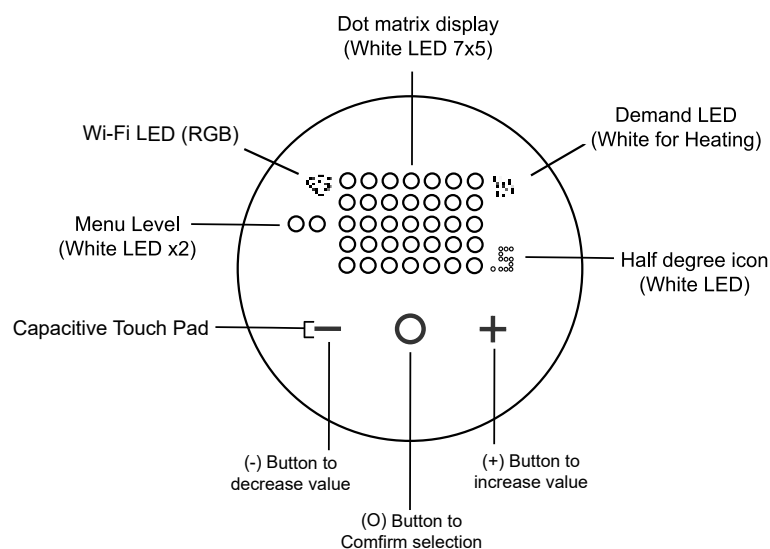
About the device

The **ELKO One – Matter Thermostat 16 A** (hereinafter referred to as the **thermostat**) will provide you with a simple, easy to use product to control your heating system and save energy. Covering different heating applications the thermostat is compatible with electric underfloor heating or electric radiators, but it could also be used to control mains-powered motorized valves or circulating pumps for water-based heating.

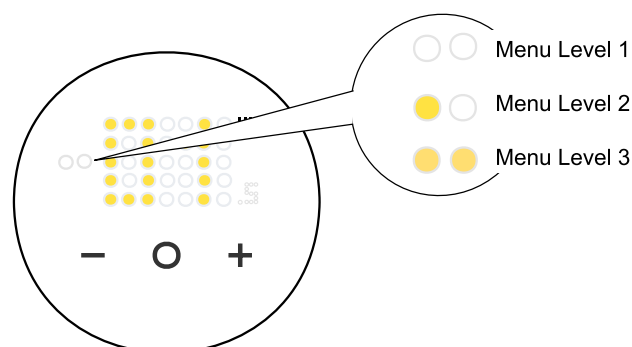
Thermostat features:

- Matter-compatible
- Dot-matrix displays
- Adjustable brightness for LED
- Control room temperature setpoint
- Open window detection
- Frost Protection
- Schedule
- Child lock

Operating elements



Menu level indication



NOTE: All LED indications are explained in the LED behavior chapter, page 36.

Matter setup code

You can locate the Matter setup code on both the device and the instruction sheet, which you will need to securely add the product to your smart home network.

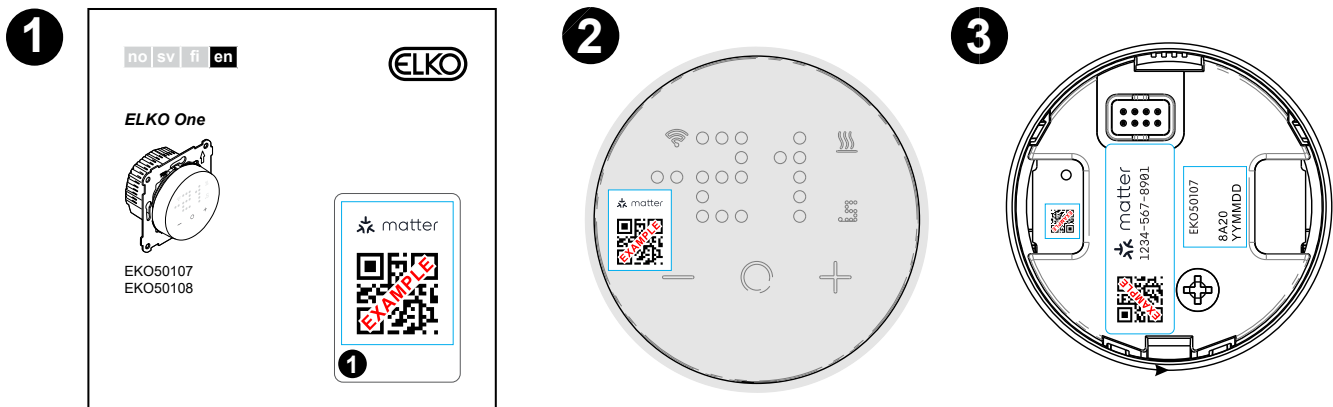
IMPORTANT: Keep your Matter setup code in a safe and secure place, and no one else should have a copy of it.

You will need the Matter setup code to add the product to your smart home app.

NOTE: Refer *Commissioning with Matter*, page 24 for pairing process.

You can find the Matter setup label on the following location.

1. On the instruction sheet supplied with the product.
2. On top of the thermostats protective film.
3. On the back of thermostat logic module.



Installation instruction

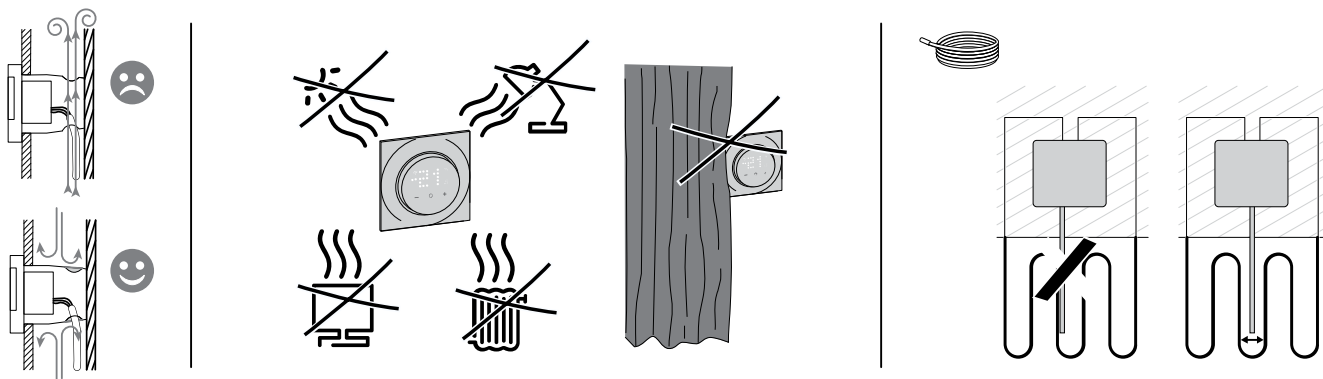
Refer to the installation instruction supplied with this product.

See Matter Thermostat 16 A.

NOTE: It is strongly recommended to use a surge protection device in case thermostat is connected in the same circuit with inductive loads (e.g. fluorescent lights, contactors or motor drives).

Insert installation site

- Recommended installation height: 1 to 1.5 m above the floor.
- Do not install too close to windows, doors or ventilation openings.
- Do not install above heaters or other heat sources.
- Do not cover or install behind curtains.
- Avoid direct sunlight and light from lamps.
- Mounting on the cavity wall requires proper sealing of the conduit box or installation tube, to prevent airflow from affecting temperature sensor performance.



How to install ELKO One Thermostat.

Installer setting

Thermostat can be configured in two installer levels according to room heating requirement.

IMPORTANT: This process should only be used by authorized/ professional installers.

Installer Level 1, page 10

Installer Level 1 allows you to set the preset value depending on what the thermostat is directly controlling.

Installer Level 2, page 12

Installer Level 2 enables you to configure additional thermostat parameters, enhancing the user's experience in temperature regulation.

Installer Level 1

Installer Level 1 allows you to set the preset value depending on what the thermostat is directly controlling.

Setting device preset

You can preset the thermostat on the first power-on or immediately after an ex-factory reset. The thermostat will require the selection of a preset to pre-configure settings depending on what the thermostat is directly controlling, which allows the thermostat to function correctly for the intended use case. Preset selection is a manual process and all preset uses a PI* control algorithm which provides highly stable results.

*PI (Proportional and Integral) controller is a commonly used method in control systems to correct for error between the commanded setpoint and the actual value based on some type of feedback.

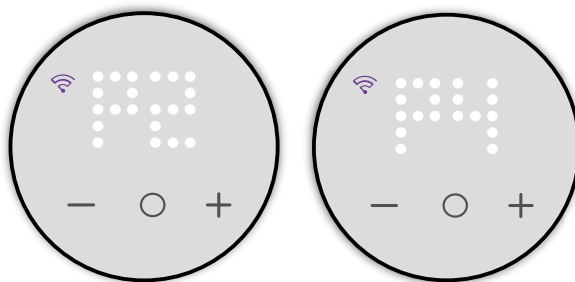
You can choose one preset configuration:

Preset mode	Configuration	Control type / Set point range	Cycle time** (min)
P1	Room control: Oil Boiler/Heat pump (Internal sensor only)	Room Control, 4°C ~ 30°C	20
P2	Room Control: Hydronic or Electrical Radiator/Gas Boiler (Internal sensor only)		10
P3	Room Control with floor limits: Hydronic or Electrical Underfloor with floor limits (Internal & external temperature sensing probe only)		10
P4	Floor Control: Electrical Radiator (External temperature sensing probe only)	Floor Control, 10°C ~ 40°C	10

****Cycle time:** This setting determines the length of each on/off cycle of the output relay. In a cycle time, the time interval between relay cycle is based on the demand setpoint. A longer cycle time may be more appropriate for slow heating surfaces, such as a concrete floor. A short cycle time is more appropriate for faster heating surfaces, such as an electric panel heater.

Initial preset configuration

When the thermostat enters preset mode, by default “P2” flashes on the matrix LED’s if there is no external sensor connected, or “P4” if there is any external sensor connected.

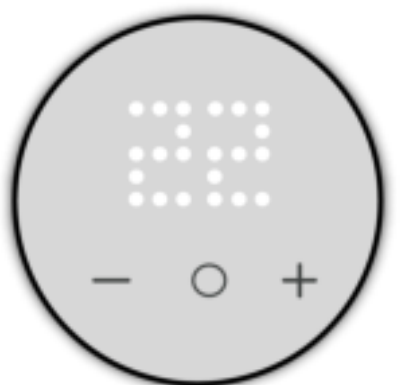


Modifying the preset value

To modify the preset from default value, wake-up the thermostat by pressing any touch button and then simultaneously press “O” and “+” for 5 s to access the installer settings menu.

NOTE: If the preset is already configured and you want to change the value, reset it to the ex-factory settings before making any changes to the preset. Refer ex-factory reset, page 35.

- Dot matrix display shows default preset.
- Wi-Fi LED turns purple.



Then, use the + button on the thermostat to increase the preset value by 1 and the – button to decrease the preset value by 1.

For example: Pressing the + button changes preset P1 to P2, and further presses change it to P3 and P4.

Pressing the – button changes preset P4 to P3, and further presses change it to P2 and P1.

NOTE: To exit preset menu, simultaneously press “O” and “+” or thermostat will automatically exit if there is no interaction within 10 s.

Confirming the preset

Select the preset that meets your needs using the +/- buttons, and then hold the **O** for > 1 s to confirm the selection.

IMPORTANT: Once the preset is confirmed, the device proceeds to Installer Level 2.

Refer to Installer Level 2, page 12 to continue the configuration.

Installer Level 2

Installer Level 2 enables you to configure additional thermostat parameters, enhancing the user's experience in temperature regulation.

Based on the preset value set in Installer Level 1, the following parameters can be configured:

Menu	Menu function	System default option	Preset Mode 1	Preset Mode 2	Preset Mode 3	Preset Mode 4
51	Floor probe type, page 13	00	✗	✗	✓	✓
52	Minimum floor limit, page 14	10	✗	✗	✓	✓
53	Maximum floor limit, page 14	27	✗	✗	✓	✓
54	Control method, page 15	01	✓	✓	✓	✓
55	2-pt min On/Off time, page 16*	2 : 02 mins	✓	✓	✓	✓
56	Temporal limit, page 17	Enable	✗	✗	✓	✓
57	Windows open detection, page 17	Disable	✓	✓	✓	✓

* 2-pt min setting in a thermostat is only available when the control method is set to option 04 or 05.

✓ : The menu level apply to the preset.

✗ : The menu level does not apply to the preset.

Once the preset is chosen, press **O** button for 1 s to confirm the preset. Then the device continues to the Installer Level 2.

TIP: For more info on preset, refer device preset, page 10.

When you enter Installer Level 2, the Wi-Fi LED glows purple, and the left most menu level indicator glows white.

Press **+** or **-** to navigate between the menu option from 51 to 57.

Floor probe type

A thermostat with a preset value of **P3** and **P4** can be connected with an external floor sensor to regulate the room temperature.

After preset, you will enter floor probe type (floor sensor type) selection menu where you can manually select the sensor type connected to the thermostat; this allows the thermostat to convert and display the temperature accurately.

To select the floor sensor type:

1. Select menu **51** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the thermostat to switch between the sensor types.

Following are the available sensor type:

- **00** Not equipped with any probe
 - **02** kOhm
 - **10** kOhm
 - **12** kOhm
 - **15** kOhm
 - **33** kOhm
 - **47** kOhm
3. Select the sensor type which is installed and then press the **O** touch button for > 1 s to confirm the selection.



Minimum floor limit

After setting floor probe type, you must set the minimum floor limit. It is lower limit of the floor sensor.

To set floor limit:

1. Select menu **52** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the device to set the minimum limit.
3. Press the **O** touch button for > 1 s to confirm the selection.

NOTE:

- The temperature limit ranges from **10° C** to **39° C**.
- Each “+/-” tapping will increase or decrease the temperature by 1° C.
- When the minimum floor limit is set, it changes the minimum floor control setpoint that can be set in the [user settings](#), page 21.



Maximum floor limit

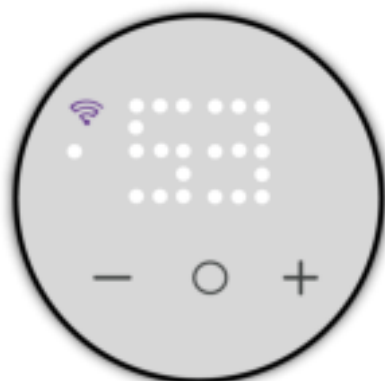
After setting minimum floor limit, you must set the maximum floor limit. It is upper limit of the floor sensor.

To set maximum guard temperature:

1. Select menu **53** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the device to set the maximum limit.
3. Press the **O** touch button for > 1 s to confirm the selection.

NOTE:

- The temperature limit ranges from **11° C** to **40° C**.
- Each “+/-” tapping will increase or decrease the temperature by 1° C.
- When the maximum floor limit is set, it changes the maximum floor control setpoint that can be set in the [user settings](#), page 22.



Control method

Control method used in thermostats to achieve variable heating outputs for precise control of the average power delivered to the heating system, helping to maintain the desired temperature.

To set control method:

1. Select menu **54** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the thermostat to switch between the option.

Following are the available control method:

- **01** PWM 20 mins
- **02** PWM 10 mins
- **03** PWM 5 mins
- **04** 2 pt 0.5 K
- **05** 2 pt 0.1 K

NOTE:

- Control method 01 to 03 works on PWM (Pulse Width Modulation) which rapidly switches the power on and off to the heating system to achieve variable output. By adjusting the width of the on and off periods, PWM controls the average power delivered to the system, effectively regulating the temperature.
- Control method 04 and 05 works on PID (Proportional-Integral-Derivative) which uses feedback to continuously adjust the output based on the difference between the desired setpoint and the actual temperature. It calculates an output value that provides both proportional, integral, and derivative actions to minimize the error over time, resulting in precise and stable temperature control.

3. Press the **O** touch button for > 1 s to confirm the selection.



2-pt min On/Off time

IMPORTANT: This parameter setting in a thermostat is only available when the control method is set to option 04 or 05.

You can set the minimum duration for which the thermostat's heating system must remain On or Off before it can switch the state (On or Off).

This feature helps to prevent rapid cycling of the system, which can improve energy efficiency and reduce wear and tear on the equipment and optimizing the performance of the heating system. When enabled, switch over takes place every hour.

To set 2-pt min:

1. Select menu **55** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the thermostat to switch between the option ranges from **1** to **10** represented in mins.

NOTE: Each “+/-” tapping will increase or decrease the value by 1.

3. Press the **O** touch button for > 1 s to confirm the selection.

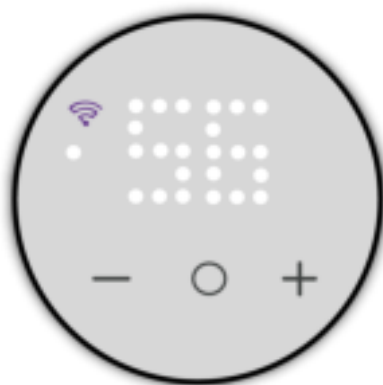


Temporal limit

Enabling or disabling the temporal limit in a thermostat allows users to control whether time-based restrictions are applied to certain functions. When enabled, the thermostat will adhere to predefined time constraints for specific settings or modes, helping to manage energy usage and maintain comfort effectively. Disabling it removes these time-based restrictions, providing more flexibility in how the thermostat operates. This feature can be particularly useful for optimizing energy efficiency and accommodating various scheduling needs.

To set temporal limit:

1. Select menu **56** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the thermostat to display following option.
 - ✕: Disable
 - ✓: Enable (5 min off time)
3. Press the **O** touch button for > 1 s to confirm the selection.



Windows open detection

Windows open detection in a thermostat is a feature that utilizes sensors to detect when windows or doors are open in the room. When there is a sudden drop in temperature, the thermostat will stop heating and after 20 min, normal control will resume. This helps improve energy efficiency and can contribute to cost savings by ensuring that the system operates more intelligently in response to changes in the indoor environment.

To set windows open detection:

1. Select menu **57** by pressing **O** touch button for > 1 s to enter the settings.
2. Press **+** or **-** touch button on the thermostat to display following option.
 - ✕: Disable
 - ✓: Enable
3. Press the **O** touch button for > 1 s to confirm the selection.



User settings

You can configure LED brightness, sensor calibration, set point limit, and other end user setting.

Based on the preset value set in Installer Level 1, the following parameters can be configured:

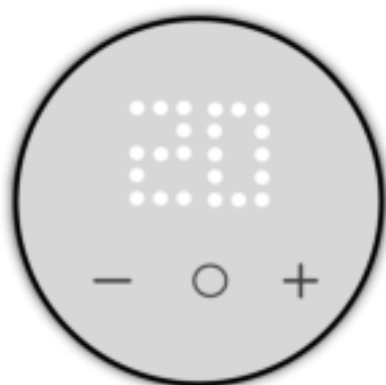
Menu	Menu function	System default option	Preset Mode 1	Preset Mode 2	Preset Mode 3	Preset Mode 4
1	Idle brightness, page 19	00 (0%)	✓	✓	✓	✓
2	Room sensor calibration, page 20	0 (0.0° C)	✓	✓	✓	✗
3	Floor sensor calibration, page 20 (If external temperature sensing probe is connected)	0 (0.0° C)	✗	✗	✓	✓
4	Minimum setpoint temperature, page 21	For room control (P1 and P2) : 4° C For floor control (P3 and P4) : 10° C	✓	✓	✓	✓
5	Maximum setpoint temperature, page 22	For room control (P1 and P2) : 30° C For floor control (P3 and P4) : 27° C	✓	✓	✓	✓
6	Stand-by mode, page 23	✗ (disabled)	✓	✓	✓	✓

✓ : The menu level apply to the preset.

✗ : The menu level does not apply to the preset.

To access user setting menu (menu level 3):

1. Wake-up the thermostat by pressing any one touch button and then simultaneously press "+" and "-" for 5 s. Once you enter user setting, the Wi-Fi LED glows yellow, and left most menu level LED indicator glows white.
2. Navigate the menu item by pressing "+" or "-" touch button and then press "O" touch button for > 1 s to confirm selection.



NOTE: If the thermostat remains inactive for 10 seconds during the process, it will time out and exit the settings.

Idle brightness

You can configure the brightness of the LEDs when thermostat is inactive (after time-out of screen active brightness).

To set idle brightness:

1. Select menu **1** by pressing **O** touch button for > 1 s to enter brightness settings.
2. Press **+** or **-** touch button on the thermostat to switch between following brightness level.
 - **00**: 0% (No display)
 - **01**: 10%
 - **02**: 25%
 - **03**: 50%
 - **04**: 75%
 - **05**: 100%
3. Press **O** touch button for > 1 to confirm selection.



Room sensor calibration

Room sensor calibration involves adjusting and configuring sensors within a room to achieve accurate and reliable measurement of temperature. This process helps in maintaining optimal comfort, energy efficiency, and overall performance of the thermostat.

To set sensor calibration:

1. Select menu **2** by pressing **O** touch button for > 1 to enter calibration settings.
2. Press **+** or **-** touch button on the thermostat to set the calibration value between.

NOTE: The temperature calibration ranges from **-9° C** to **+9° C** and can be adjusted in 0.5° C increments.

3. Press **O** touch button for > 1 to confirm selection.



Floor sensor calibration

Floor sensor calibration involves adjusting and configuring sensors which is connected to floor heating system to achieve accurate and reliable measurement of temperature. This process helps in maintaining optimal comfort, energy efficiency, and overall performance of the thermostat.

To set sensor calibration:

1. Select menu **3** by pressing **O** touch button for > 1 to enter calibration settings.
2. Press **+** or **-** touch button on the thermostat to set the calibration value between.

NOTE: The temperature calibration ranges from **-9° C** to **+9° C** and can be adjusted in 0.5° C increments.

3. Press **O** touch button for > 1 to confirm selection.



Minimum setpoint temperature

You can set the minimum setpoint temperature. It is lower temperature limit you can set in the thermostat.

To set setpoint limit:

1. Select menu **4** by pressing **O** touch button for > 1 to enter setpoint settings.
2. Press **+** or **-** touch button on the thermostat to set lower temperature limit.
 - Room control ranges from **4° C** to **29° C** and can be adjusted in 1° C increments.
 - Floor control ranges from **10° C** to **39° C** and can be adjusted in 1° C increments.
The minimum floor control setpoint value is determined by the minimum floor limit set in the [installer settings](#), [page 14](#).
3. Press **O** touch button for > 1 to confirm selection.

NOTE: The minimum setpoint temperature should be lower than maximum setpoint temperature.



Maximum setpoint temperature

You can set the maximum setpoint temperature. It is upper temperature limit you can set in the thermostat.

To set setpoint limit:

1. Select menu **5** by pressing **O** touch button for > 1 to enter setpoint settings.
2. Press **+** or **-** touch button on the thermostat to set upper temperature limit.
 - Room control ranges from **5° C** to **30° C** and can be adjusted in 1° C increments.
 - Floor control ranges from **11° C** to **40° C** and can be adjusted in 1° C increments.
The maximum floor control setpoint value is determined by the maximum floor limit set in the *installer settings*, page 14.
3. Press **O** touch button for > 1 to confirm selection.

NOTE: The maximum setpoint temperature should be higher than minimum setpoint temperature.



Example: When the minimum setpoint limit is set to 12° C and the maximum setpoint limit is set to 28° C, the thermostat allows for a minimum room temperature setting of 12° C and a maximum room temperature setting of 28° C.

Stand-by mode

When room heating is not needed, you can put the thermostat into stand-by mode.

To set stand-by mode:

1. Select menu **6** by pressing **O** touch button for > 1 to enter stand-by mode settings.
2. Press **+** or **-** touch button on the thermostat to display **✓** and then press **O** touch button for > 1 to confirm selection.

TIP: When thermostat display **X**, press **O** touch button for > 1 to exit stand-by mode setting.

NOTE: When thermostat is set to stand-by mode:

- Occupied setpoints is not used.
- LED display is turned off.
- Wi-Fi network is turned off.
- If thermostat is in heating mode, frost protection will be enabled.



To cancel existing stand-by mode, press any touch button for >5 s.

Matter system

The thermostat can be commissioned with any Matter compatible smart home system and their respective controllers/hubs for seamless user experience.

System requirement

Before setting up the thermostat in your smart home, you need to make sure that you meet the minimum system requirements.

Smartphone:

- **Apple users:** iOS 16.1 or later.
- **Android users:** Android 8.1 or later

Connectivity and hub:

Connect Matter device with Wi-Fi® router on 2.4 GHz bands and your preferred smart home platform.

TIP: The 2.4 GHz band signal can travel a greater distance than other bands. If your smartphone cannot switch Wi-Fi® bands, try moving farther from your router until your phone switches to the 2.4 GHz band. Then, continue setting up the Matter thermostat.

Below is the list of smart home platform* and their supported hub#

Apple Home	Alexa	Google Home	Samsung SmartThings
<ul style="list-style-type: none"> • Apple TV 4K (2nd gen) • Apple TV 4K (3rd gen, 128 GB) • HomePod (2nd gen) • HomePod mini 	<ul style="list-style-type: none"> • Echo (4th gen) • Echo Hub • Echo Plus (2nd gen) • Echo Show 8 (3rd gen) • Echo Show 10 (3rd gen) • Echo Studio 	<ul style="list-style-type: none"> • Nest Hub (2nd gen) • Nest Hub Max • Nest Wi-Fi • Nest Wi-Fi Pro 	<ul style="list-style-type: none"> • SmartThings Hub v3 • SmartThings Station

*#The list is not comprehensive, make sure to review the specifications of the required smart platform hubs/speakers.


TIP: If you have previously set up a smart home hub (such as Apple Home Kit, Amazon Alexa, or Google Home) and added it to the respective smart home app, make sure that the device has the latest software update installed, and that your phone and app are also up to date for smoother commissioning process.

If the smart home hub is new, make sure that it has the latest software update installed.

Commissioning with Matter

IMPORTANT: Make sure installer setting, page 36 and user setting, page 18 are configured before commissioning.


1. Wake-up the thermostat by pressing any one touch button and then press and hold **O** button for 2 s to 5 s to enter commissioning mode.

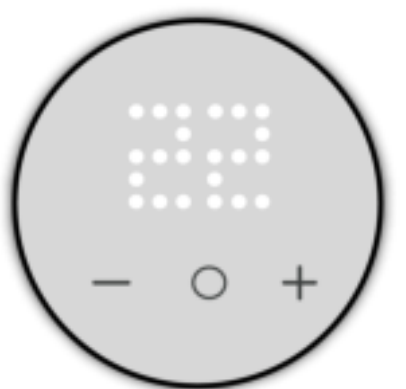
The thermostat matrix display "Jn" and  LED turns yellow to indicate commissioning mode is initiated


2. Open Matter supported smart home app and scan the Matter code provided with the thermostat.

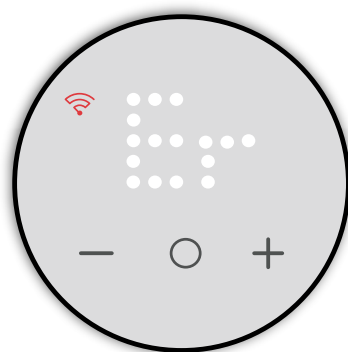
TIP: For more information on location of Matter code, Refer Matter setup code, page 8.

Wait for few seconds for the thermostat to get commissioned. You can check the progress in the app.

Upon successful commissioning, app show the connected message and  LED turns solid yellow.



If any error occurs during commissioning process, thermostat matrix display "Er"  LED turns red.



Press **O** touch button to exit and restart Matter Wi-Fi configuration.

Matter commissioning video reference

Below are the some commonly used smart home commissioning video for the following ecosystems:

Amazon Alexa

How to set up the ELKO One Matter thermostat with Amazon Alexa

Apple Home

How to set up the ELKO One Matter thermostat with the Apple Home Pod

Google Home

How to set up the ELKO One Matter thermostat with Google Home

Homey Pro

How to set up the ELKO One Matter thermostat with Homey Pro

Setting the room temperature

The room temperature can be increased/decreased manually by pressing the touch button on the thermostat.

- Press the “+” button to increase the temperature setpoint.
- Press the “-” button to decrease the temperature setpoint.



NOTE:

- Temperature can be adjusted in 0.5°C increments.
- Max. and Min. temperature setpoint which can be set is based for the limit defined in the [user setting](#), page 18.

In P4, if floor sensor is fitted, device will be in room temperature with floor limits mode.

If the room temperature equals or exceeds the setpoint, and the floor temperature is below the lower limit (min. guard), a demand is created, heating the room to warm the floor, and the demand LED flashes white at 1 Hz.

If the room temperature is lower than the setpoint and the floor temperature exceeds the upper limit (max. guard), the demand should be 0, control output should be prevented, and the demand LED flashes white at 1 Hz.

Standalone setback schedule

Setback schedule refers to a schedule programmed directly into a thermostat, independent of any external system or network. This allows the thermostat to operate based on the set schedule without requiring input from other devices or control systems.

IMPORTANT: Connecting the thermostat to the Matter environment will automatically disable the setback schedule.

If the setback schedule is enabled, the thermostat will run the following setback schedule.

NOTE:

- In the case of a fresh installation or a power-cut with no schedule set or enabled in the thermostat, the thermostat will control to the setpoint.
- In the event of a power outage or similar situation during a scheduled event (setback schedule enabled), the thermostat maintains the set time and day for 8 hours.

Monday-Friday

Event	Time (24 h)	Temperature
Morning	06:00-08:00	Setpoint
Daytime	08:00-16:00	Setpoint - 5°C
Evening	16:00-23:00	Setpoint
Night	23:00-06:00	Setpoint - 5°C

Saturday-Sunday

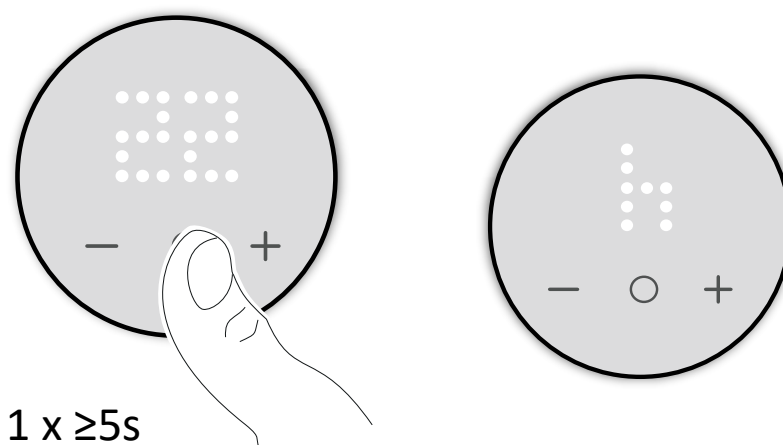
Event	Time (24 h)	Temperature
Day	08:00-23:00	Setpoint
Night	23:00-08:00	Setpoint - 5°C

When the setback schedule is enabled, if the user changes the setpoint from the thermostat user interface, the entered value will take precedence over the scheduled setpoint until the end of the current time slot.

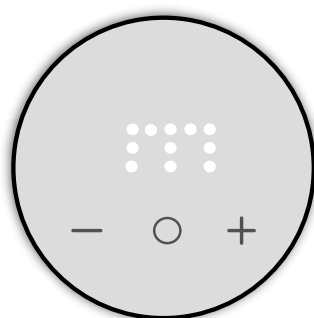
Example: If the setback schedule is enabled with a setpoint of 19° C, and at 8 am with the current will be setpoint at 14° C (19° C - 5° C), if the user changes the setpoint to 20° C using the + button, this new value will replace the 14° C until the end of the current time slot (4 pm). After that, the setpoint will revert back to 19° C.

To enable and set schedule

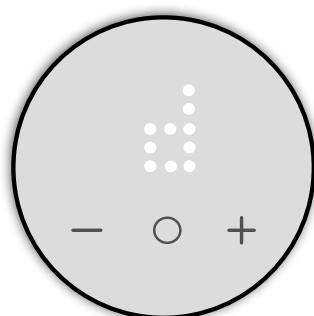
1. Wake-up the thermostat by pressing any one touch button and then press and hold **O** button for ≥ 5 s to enter setback schedule.
Thermostat matrix blinks **h** indicates that thermostat is in set hour state.



2. Press +/- button to adjust hour from 0 to 23.
3. After selecting the hour, press **O** button for > 1 s to confirm.
Thermostat saves the hours setting and move to set minutes.
The thermostat matrix blinks **m** indicates that thermostat is in set minutes state.



4. Press +/- button to adjust minutes from 0 to 59.
5. Press **O** button for > 1 s to confirm minutes.
Thermostat saves the minutes setting and move to set day of week.
The thermostat matrix blinks **d** indicates that thermostat is in set day of week state.



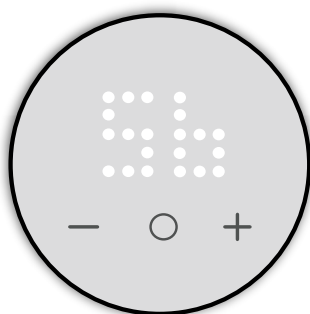
6. Press **+/-** button to change the day from 1 to 7.

You can specify a schedule to run on any day of the week, from Monday (1) to Sunday (7).

- **01**: Monday
- **02**: Tuesday
- **03**: Wednesday
- **04**: Thursday
- **05**: Friday
- **06**: Saturday
- **07**: Sunday

7. Press **O** button for > 1 s to confirm day.

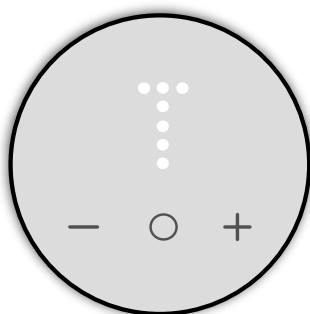
Thermostat saves the day setting and move to set schedule enable state. The thermostat matrix blinks **Sb** indicating that thermostat is in setback schedule enable state.



8. Press **+/-** button to toggle between ✓ and ✗.

9. When thermostat display ✓, press **O** button for > 1 s to confirm setback selection.

10. The thermostat matrix blinks **T** indicating that thermostat is in set setpoint state.
Press **+/-** button to set the required setpoint temperature during the scheduled period.



11. Press **O** button for > 1 s to confirm setback setpoint.

IMPORTANT: Make sure to set all parameters before enabling the schedule to avoid error detection.

Setback schedule is enable.

To disable the schedule

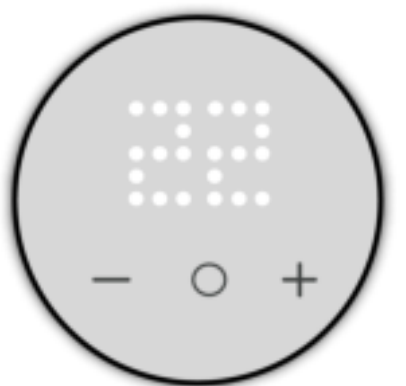
1. Press and hold **O** button for > 5s to enter setback schedule.
2. Navigate to setback schedule in the thermostat.
The thermostat matrix blinks **Sb** indicating to thermostat is in setback schedule.
3. Press +/- button to toggle between ✓ and ✕.
4. When thermostat display ✕, press **O** button for > 1 s to confirm selection.
Setback schedule is disabled.

Setting child lock manually

The child lock feature is designed to prevent children from accessing or inadvertently operating the thermostat. When enabled, users cannot make adjustments to the temperature or other settings on the thermostat..

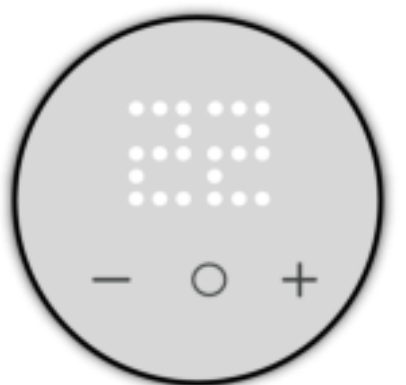
To enable child lock:

1. Wake the thermostat by pressing any one touch button.
2. Press and hold **O** and – button simultaneously for > 5 s.



To disable child lock:

1. Wake the thermostat by pressing any one touch button.
2. Press and hold **O** and – button simultaneously for > 10 s.



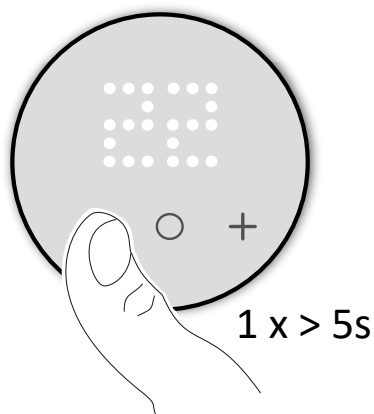
Switching on/off the heating mode

When thermostat is not in use, you can turn on/off the device manually.

To turn off heating mode:

NOTE: Make sure to disable child lock before turning off the device.

Wake-up the thermostat by pressing any one touch button and then press – touch button for > 5 s to turn off heating mode.

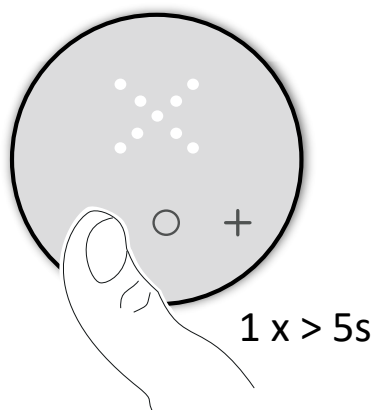


When thermostat heating mode is off:

- LED displays no room temperature
- Does not control room temperature
- Outputs remain off
- Frost protection will be enabled.
- On initial interaction, the device shows an “X” on the display to show that it is off.

To turn on heating mode:

Wake-up the thermostat by pressing any one touch button to thermostat matrix display X and then press – or O or + button for > 5 s to turn on.



When the thermostat is turned on, it returns to its last state.

Over the air update

Matter Over The Air (OTA) allows user to receive firmware updates.

To check for a firmware update, go to the device settings in your smart home app. Tap **Update** to install the latest firmware.

The Matter thermostat will show a loading LED indication while the update is in progress.



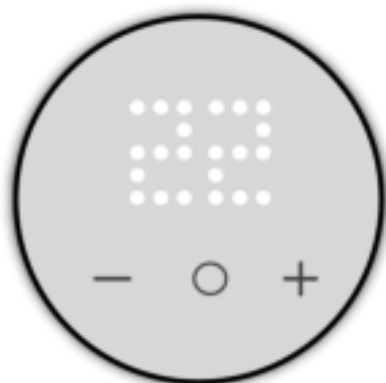
Once the update is complete, the thermostat will display the setpoint and the app shows the latest firmware version.

Resetting the device

You can manually reset the thermostat to reset user data or ex-factory for complete factory reset.

Reset user data

1. Wake-up the thermostat by pressing any one touch button and then simultaneously press **+** and **–** for 5 s to enter user setting. Once you enter user setting, the Wi-Fi LED glows yellow, and both menu depth LED indicator glows white.
2. Press **+** or **–** touch button for thermostat to display **49** and then press **O** touch button for > 1 to confirm selection.
3. Press **+** or **–** touch button to navigate between following option:
 - a. ✓: To processed with reset.
 - b. ✗: To cancel reset and go back to user setting.
4. Press **O** touch button for > 5 to confirm selection.



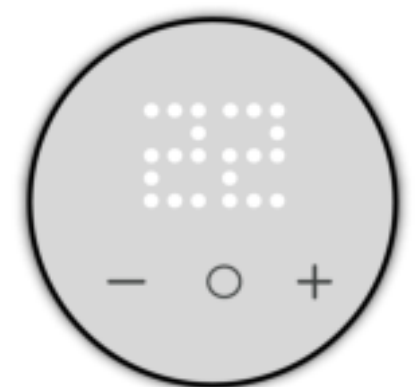
NOTE: If the thermostat remains inactive for 10 seconds during the process, it will time out and exit the settings.

Reset user data will:

- Reset Matter connection.
- Restore setpoint and user settings to default.
- Maintain the installer configuration of the device.

Ex-factory reset

1. Wake-up the thermostat by pressing any one touch button and then simultaneously press **O** and **+** for 5 s to enter installer setting. Once you enter installer setting, the Wi-Fi LED glows purple.
2. Press **+** or **-** touch button for thermostat to display **99** and then press “**O**” touch button for > 1 to confirm selection.
3. Press **+** or **-** touch button to navigate between following option:
 - a. ✓: To processed with reset.
 - b. ✗: To cancel reset and go back to installer level 1.
4. Press **O** touch button for > 5 to confirm selection.



NOTE: If the thermostat remains inactive for 10 seconds during the process, it will time out and exit the settings.

Ex-factory reset will:

- Reset Matter connection.
- Restore setpoint and user settings to default.
- Delete all schedules information.
- Restore installer setting to default.
- Reboot as ex-factory state.

Cleaning

The external housing should be kept clean. Wipe the surface with a damp cloth.

NOTICE

EQUIPMENT CLEANING INSTRUCTIONS

Do not use any cleaning agent, especially alcohol.

Failure to follow these instructions can result in equipment damage.

LED indications



Wi-Fi LED indication

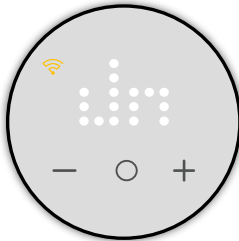



Status	Description
No LED	Thermostat is not commissioned to Matter supported app after configuring installer and user setting.
Yellow solid	Disconnected from Wi-Fi.
Blinks white (1 Hz)	Received identify command during pairing.
White solid	Connected to Wi-Fi.




Heating demand LED indication

Status	Description
Blinks white (2 Hz)	Limit sensor error.
Blinks white (0.5 Hz)	Window open detected.
Blinks white (1 Hz)	Floor limit active.
White solid	Heating demand.
No LED	No heating demand.



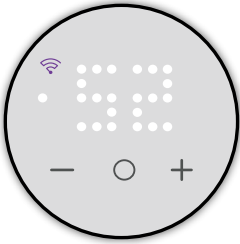



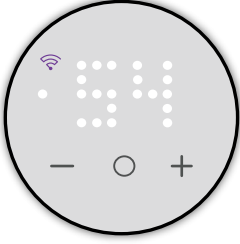

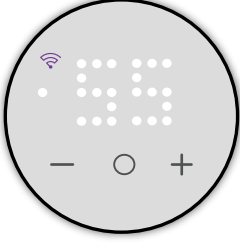

Matter commissioning

Status	User interaction	Description
Matter commissioning		The thermostat matrix display "Jn" and LED turns yellow to indicate joining progress. 
Fails to join the network		The thermostat matrix display flashes "Er" and  LED turns red when the thermostat fails to join the network.

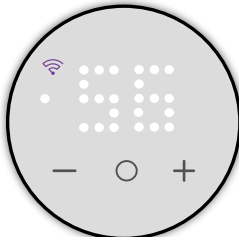

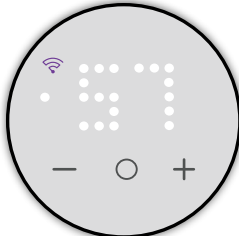

Installer level 1 / Device preset

Status	User interaction	Description
Enter preset selection		By default, thermostat matrix display flashes "P2" if there is no external sensor connected, or "P4" if there is any external sensor connected when the thermostat is first powered on or after a ex-factory reset.





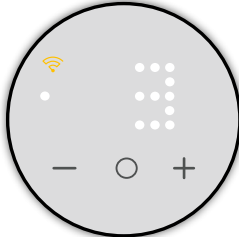

Installer level 2

Status	User interaction	Description
Floor probe type		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.
Min. floor limit		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.
Max. floor limit		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.
Control method		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.
2-pt min On/Off time		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.







Installer level 2 (Continued)

Temporal limit		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.
Windows open detection		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns purple.





User settings

Status	User interaction	Description
Idle brightness		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.
Room sensor calibration		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.
Floor sensor calibration		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.

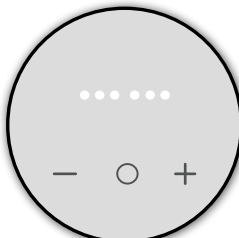
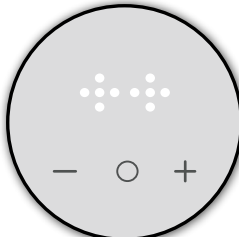
User settings (Continued)

Minimum setpoint temperature		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.
Maximum setpoint temperature		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.
Stand-by mode		The thermostat matrix display menu number, left most menu depth LED turns white, and  LED turns yellow.

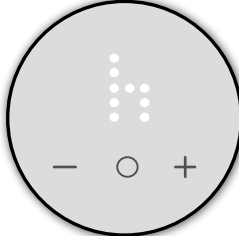
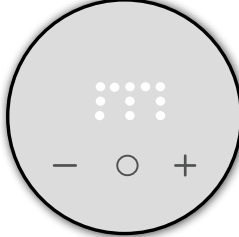
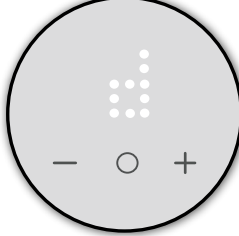
Resetting the device

Status	User interaction	Description
Reset User Data		The thermostat matrix display 49 , left most menu depth LED turns white, and  LED turns yellow.
Ex-factory Reset		The thermostat matrix display 99 and  LED turns purple.

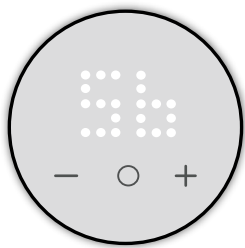
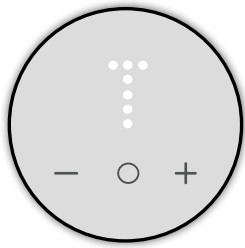
Temperature display

Status	User interaction	Description
Temperature below minimum display value OR Temperature reading error.		Note: The thermostat matrix displays temperature limits -9 °C to 99 °C. The thermostat matrix display flashes "--" When the temperature is below -9 degrees. OR The thermostat matrix display flashes "--" when the thermostat cannot determine the temperature due to an error.
Temperature above maximum display value		Note: The thermostat matrix displays temperature limits -9 °C to 99 °C. The thermostat matrix display flashes "+ +" when the temperature is above 99 degrees.

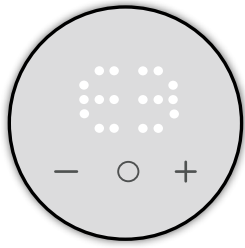
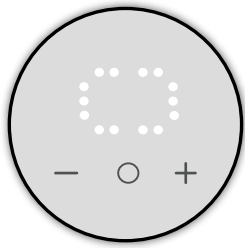
Setback schedule

Status	User interaction	Description
Set hour		The thermostat matrix display h indicating set hour state.
Set minute		The thermostat matrix display m indicating set minute state.
Set day of week		The thermostat matrix display d indicating set day week state.

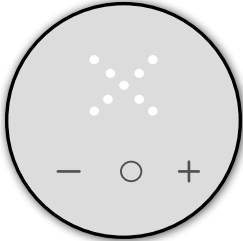

Setback schedule (Continued)

Setback		The thermostat matrix display Sb indicating set setback scheduled state.
Setback setpoint temperature		The thermostat matrix display T indicating set setpoint temperature state.

Other LED indication

Status	User interaction	Description
Child lock	Child lock enabled 	The thermostat matrix display lock and unlock status.
	Child lock disabled 	

Other LED indication (Continued)

Heating mode off		The thermostat matrix display X indicating that heating mode is off.
OTA Update		Over the air (OTA) update is in progress

Troubleshooting

Symptom	Possible cause	Solution
The thermostat has gone offline.	The thermostat heating mode is Off.	The turn on heating mode. Refer switching heating mode, page 32.
	Disconnected from Wi-Fi.	Check Wi-Fi connection.
Unable to commission the thermostat with app.	<ul style="list-style-type: none"> Check if the app is Matter compatible. Check network connection. 	<ul style="list-style-type: none"> Use Matter compatible app. Reset user data and try to rejoin, refer resetting the device, page 34.
Thermostat doesn't react to any button pressed	The thermostat is in child lock mode.	Press and hold O and – button simultaneously for >10. Refer child lock, page 31.

Technical Data

Nominal voltage		AC 230 V ~, 50 Hz
Maximum current rating	Resistive load	max. 16 A, 3680 W
	Inductive load	max. 4 A
Standby		max 0.5 W
Connecting terminals		Screw terminals for max. 2.5 mm², 0.5 Nm
Neutral conductor		Required
Ambient temperature		0 to 40 °C
Relative humidity		max. 90% non-condensing
IP rating		IP21
Temperature accuracy		max. ±0.5 °C (across the range of 4 to 30 °C)
Temperature measurement resolution		max. 0.1 °C
Display		7x5 dot matrix, 5 additional LEDs
Wi-Fi® standard		IEEE 802.11 b/g/n 2.4 GHz
Wi-Fi® security		WPA-PSK / WPA2-PSK
Operating frequency		2.401 GHz to 2.483 GHz
Max. radio-frequency power transmitted		< 100 mW
Floor sensor types		2, 10, 12, 15, 33, 47 (Thermistor resistance values in kOhm. Nominal value at 25 °C)
Protection Class		II
Working voltage		230 V
Over-voltage category		III
Rated impulse voltage		4 kV
Pollution degree		2
CTI rating of insulation components		175 V
Material group		IIIa (based on CTI value)
Disconnection type		1.B

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Components: CountryData, DynamicData, Flurl, Newtonsoft.Json, OxyPlot, ReactiveMarbles.ObservableEvents.SourceGenerator, ReactiveUI, Splat

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