

mControl

HT500 SET

SMART DIGITAL ROOM THERMOSTAT (Wi-Fi)



THE CONTENT:

- 1. WHAT IS SMART ROOM THERMOSTAT?**
 - 1.1 HOW DOES HT500 SET WORKS?**
 - 1.2 WHAT ARE ADVANTAGES OF HT500 SET?**
 - 1.3 RULES TO BE CONSIDERED FOR SAFETY**

- 2. HT500 EQUIPMENT SET, INSTALLATION, CONNECTION, SYNCHRONIZATION**
 - 2.1 HT500 SET AND EQUIPMENTS**
 - 2.2 TECHNICAL DATA**
 - 2.3 HT500 SET RECEIVER**
 - 2.4 HT500 SET RECEIVER PLACEMENT**
 - 2.5 HT500 SET RECEIVER SETUP**
 - 2.6 HT500 SET SMART ROOM THERMOSTAT**
 - 2.7 HT500 SET Reset and Sync**
 - 2.8 HT500 SET SMART ROOM THERMOSTAT PLACEMENT**
 - 2.9 BATTERY PLACEMENT**
 - 2.10 RECEIVER WALL HANGER SCHEME**
 - 2.11 HT500 SET SMART ROOM THERMOSTAT SETUP**
 - 2.12 RECEIVER LED LIGHT COLOR EXPLANATIONS**

- 3. THERMOSTAT CONTROL THROUGH APPLICATION**
 - 3.1 MODES**
 - 3.2 OPERATING MODE ADJUSTMENT**
 - 3.3 LOCATION MODE**
 - 3.4 PROGRAM MODE**
 - 3.5 MANUAL, HOME, SLEEP AND OUTSIDE MODES**
 - 3.6 OTHER OPTIONS (MAIN MENU)**

- 4. WARRANTY CONDITIONS AND STATEMENTS**
 - 4.1 DECLARATION OF CONFORMITY**
 - 4.2 WARRANTY CONDITIONS**

1. WHAT IS SMART ROOM THERMOSTAT?

Smart Room Thermostat is a device which allows you to control your heating equipment via App with Internet even you are not at home.

1.1 HOW DOES HT500 SET WORKS?

HT500 SET Works as being smart room thermostat when connects with power adapter. It Works as being wireless room thermostat when batteries are installed instead of adapter. In this case, the device doesn't allow to control by mobile app. Adapter should be taken for turning back to smart room thermostat usage.

1.2 WHAT ARE ADVANTAGES OF HT500 SET?

- Control your home temperature, wherever you are in the World by Smart Room. Thermostat App with your mobile phone.
- Create daily or weekly programs easily by your Mobile Application.
- Using Location Mode reduces the temperature of your home when you move away from home, or increases the temperature of your home when you approach your home.
- Depending on the date range selected from the smart room thermostat's mobile application, you can get a historical report of your heating unit's working hours, the temperature of your home and the outside air temperature graphically.
- HT500 SET can placed to anywhere else in your home owing to working option with batteries.
- LCD display provides you have knowledge about your device instantly and you can control your heating unit with the buttons on device.
- HT500 SET keeps your living space desired temperature. By this means needlessly working of your heating unit is avoided. It provides %30 savings of your invoices.

1.3 RULES TO BE CONSIDERED FOR SAFETY

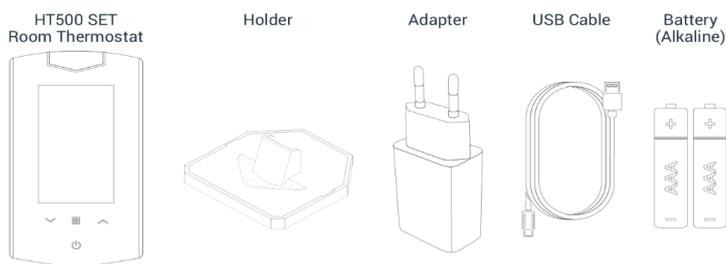
Be sure to read the manual before using the device and its equipments.

2. Opening, disassembly or use of the plastic parts of the product and equipments other than the intended purpose are out of warranty.
3. Only original adapter and USB cable which are located inside the box should be used for power. Other accessories are a potential safety hazard and can be cause loss of your device.
4. Usage of original adapter and USB cable which are located inside the box for other devices, is a potential safety hazard. Your other devices or adapters can be damaged.
5. Please note that the voltage of the outlet where you set up your device and equipments is the recommended value in the user manual.
6. Keep away your product and all equipments from all kinds of foreign matter such as liquid, dust, heat etc.
7. Do not expose the device cables to any jamming or pressure. Pay attention to plugging in jacks and sockets as you can always reach the power connections of the devices.
8. Disconnect the power supply to prevent damage to your device and equipments during thunderstorms and lightning.
9. Disconnect the power supply if your device has not been used for a long period of time.
10. Your equipment and apparatus should be used with caution as instructed in the user manual. In case of damages and malfunctions because of external use (contact with liquid, fall into place, etc.), ask for help from services.
11. Contact our service for maintenance and repair of the HT500 SET and its appliances. Use appropriate tools to repair and maintain products and equipment.

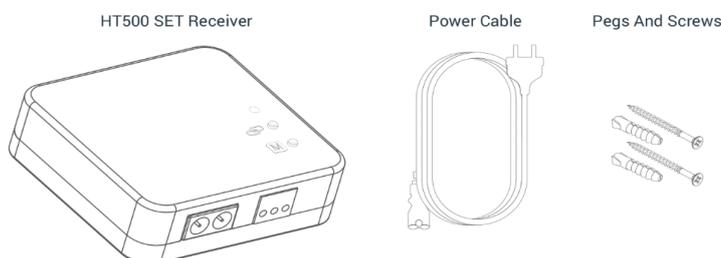
2. HT500 EQUIPMENT SET, INSTALLATION, CONNECTION, SYNCHRONIZATION

2.1 HT500 SET AND EQUIPMENTS

THERMOSTAT EQUIPMENTS



RECEIVER EQUIPMENTS



2.2 TECHNICAL DATA

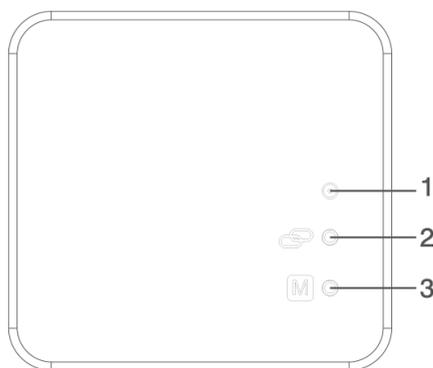
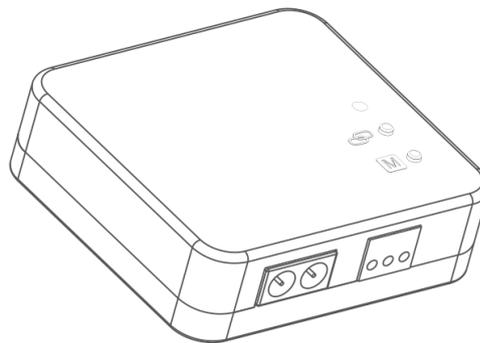
Room Thermostat - Technical Data

Feeding Voltage (Usage with Adapter)	5V (DC)
Feeding Voltage (Usage with Battery)	3V DC (2 x AAA alkaline battery)
Maksimum Load Current (Usage with Adapter)	500 mA
Maksimum Load Current (Usage with Battery)	80 mA
Dimensions	131mm / 74mm / 25.5mm
Temperature Measurement Sensitivity	0.1°C
Temperature Setting Range	0.1°C – 1.0°C
Operating Sensitivity	0.5°C
Wi-Fi Connection Frequency	Wi-Fi 802.11 b/g/n @ 2.4GHz
Communication Distance	100m (outdoors)
Operating Temperature	(-10°C) – (+50°C)
Storage Temperature	(-20°C) – (+60°C)

Receiver - Technical Data

Feeding Voltage	220V (AC)
Dimensions	85mm / 90mm / 28.5mm
Relay NO Switching Current	7A (220V AC)
Operating Temperature	(-10°C) – (+50°C)
Storage Temperature	(-20°C) – (+60°C)

2.3 HT500 SET RECEIVER



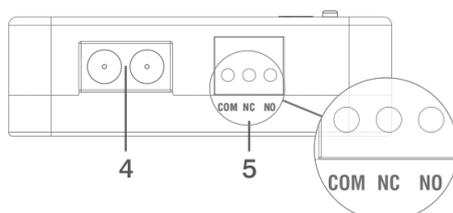
1-Receiver LED Light

2-Sync Button:

Syncs receiver and room thermostat.

3-Manual Button:

Deactivates receiver and allows you to use boiler manually.



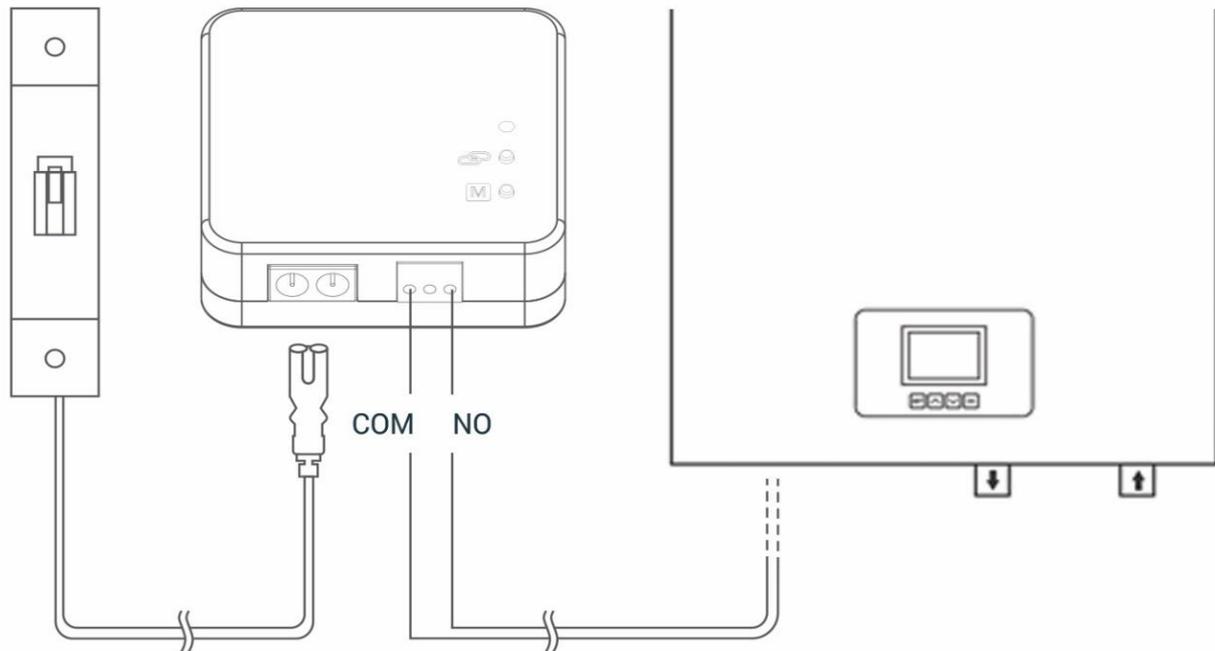
4-Receiver Power Cable Input

5-Boiler Connection Cable Input

2.4 HT500 SET RECEIVER PLACEMENT

The important thing to note in the HT500 SET receiver placement is that avoiding physical contact with boiler and protecting against materials such as liquid, dust etc. You can place your receiver in boiler's cabinet without physical contact with boiler or mount receiver to wall by using Receiver.

CONNECTION SCHEME



2.5 HT500 SET RECEIVER SETUP

- Primarily, shut down electrical current which your boiler is connected (fuse, power outlet etc.)
- Connect one of the boiler connection cable to HT500 SET receiver as shown in the Connection Scheme.
- Connect other boiler connection cable end to boiler's room thermostat input as shown in the boiler's user manual.
- Connect Receiver Power Cable first to receiver then plug into. If there is no plug near your boiler, you can connect cable to your boiler's connection fuse.
- After finishing connections, turn on electrical current first, then turn on your boiler.
- You may see orange light blinks on the receiver by pressing for 2 seconds to manual usage button of receiver. After being sure that your boiler is working, press same button for 2 seconds again and see orange light disappeared.
- Setup your Room Thermostat to sync receiver with room thermostat.

Attention: Only persons who have got Professional Competence should make operations electric wiring or boiler setup.

At the following link you can watch a video that describes in detail the procedure for connecting the receiver:

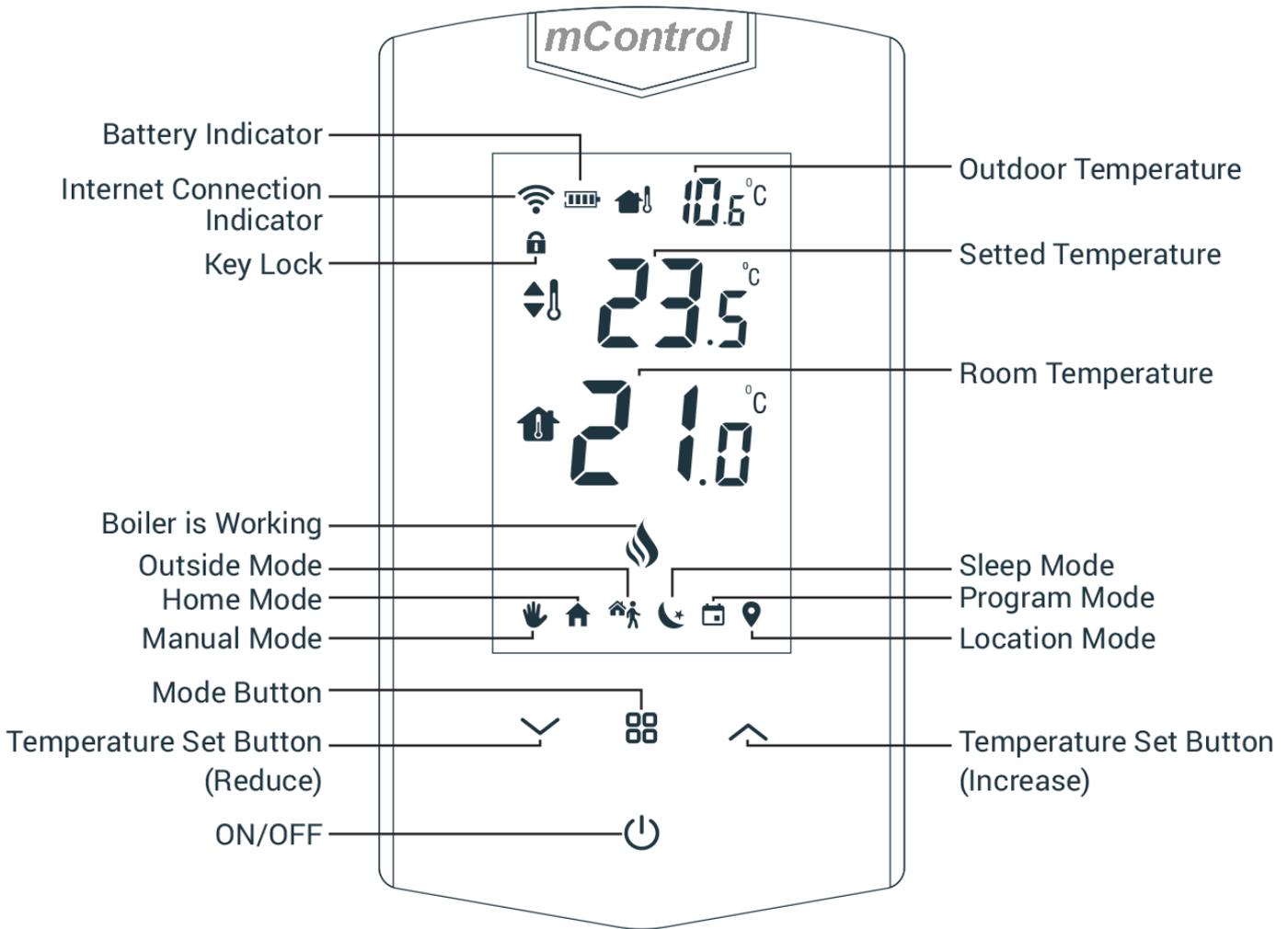
– <https://www.youtube.com/watch?v=EPZexrCDGdA>

– or on the Mikoterm YouTube channel which you can reach through our site

– or by loading the following QR code:



2.6 HT500 SET SMART ROOM THERMOSTAT



“∨”, “∧” **Temperature Set Buttons:** Increasing or reducing the temperature while manual mode is active.

“⏏” **Mode button:** Unlock keylock by pressing 2 seconds. Change the modes.

“⏻” **ON/OFF:** Turn off the boiler and thermostat by pressing 4 seconds.

2.7 HT500 SET Reset and Sync

Sync while setup: Sync signal is sent to receiver if “∧” button is pressed for 4 seconds.

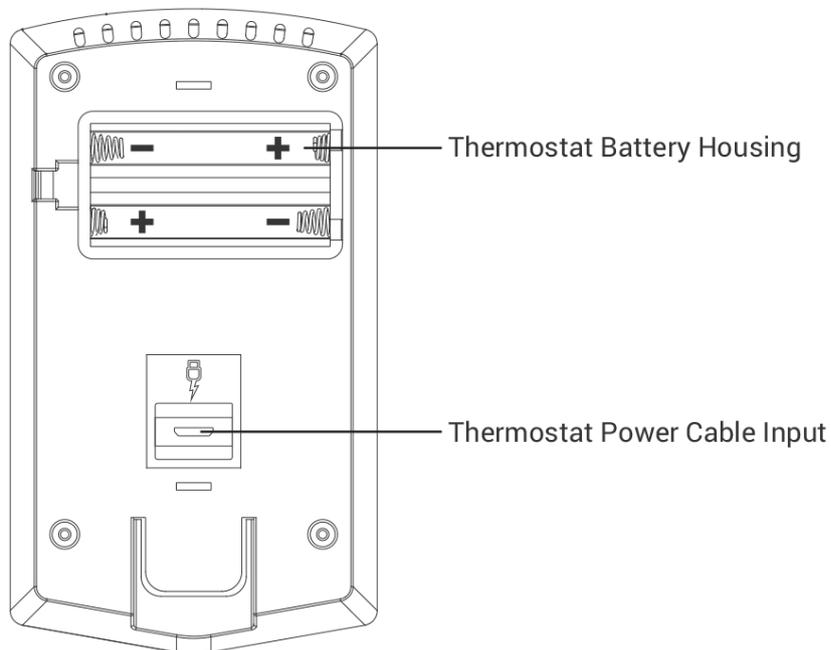
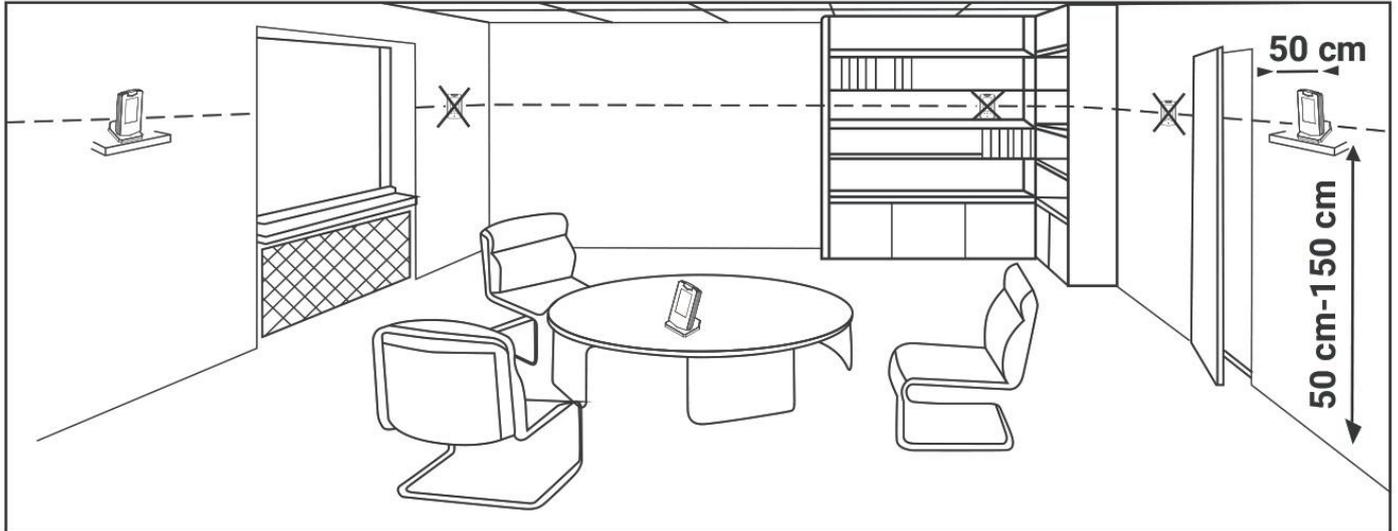
Sync while using the device: First the device is setted to off-mode by pressing “⏻” button. Then sync signal is sent to receiver if “∧” button is pressed for 4 seconds.

Wi-Fi Reset while setup: Device is reset by pressing “∨” button for 4 seconds. Thus new setup can start.

Wi-Fi Reset while using the device: First the device is setted to off-mode by pressing “⏻” button. Device is reset by pressing “∨” button for 4 seconds. Thus new setup can start.

2.8 HT500 SET SMART ROOM THERMOSTAT PLACEMENT

Place your HT500 Smart Room Thermostat in a room where you most use it as your living area. For example: living room. Be attentive to placement in the area of wireless internet modem zone at home by reason of the signal is sent via internet connection to room thermostat. Avoid installing the HT500 SET where there is a lot of air circulation such as door entry or window edges. Also, do not place in places near heat units (central heating system, fireplace, etc.) and places that receive direct sunlight. We recommend that the room thermostat be placed at an altitude of 50 cm to 150 cm from the floor. You can try a few places to find the most suitable place.

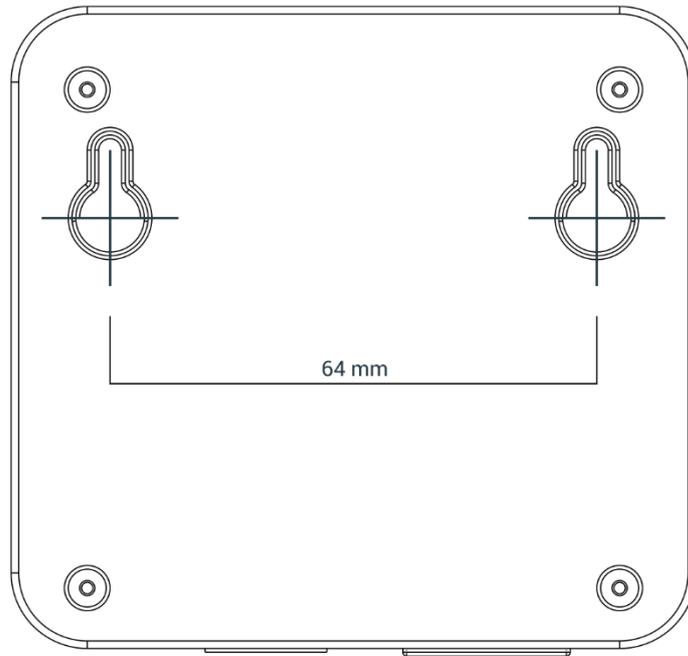


2.9 BATTERY PLACEMENT

Remove the battery housing from the back side of thermostat. Install 2 alkaline batteries to battery housing. Please be sure the directions of batteries. Assemble battery housing back. Change the both batteries together.

Warning: Please throw away dead batteries to trashes special only for batteries.

2.10 RECEIVER WALL HANGER SCHEME



2.11 HT500 SET SMART ROOM THERMOSTAT SETUP



1. Power on the device by using adapter which you received with HT500 SET. "1" number will be seen on display. It means, HT500 SET is ready for smart setup.
Note: Setup can't start without adapter connection.
2. Scan QR Code below via your smartphone. You can install HT500 SET mobile application from Apple Store or Google Play to your smartphone with that code. (You may need **QR Code Reader App** regarding to your phone's model and brand). Complete your membership by enter into the mobile application which you downloaded.
3. You will receive confirmation mail after you completed signing up.
4. If you confirm the incoming mail, the application will automatically have directed to setup page.
5. Perform the instructions on the Setup page in order and complete setup.

At the following link, you can watch a video that describes in detail the procedure for installing the application and synchronizing the thermostat:

– <https://www.youtube.com/watch?v=ZhYK3CQmx1U>

– or on the Mikoterm YouTube channel which you can reach through our site

– or by loading the following QR code:



Note: in order to synchronize the thermostat with the home network, you must make sure that the frequency of the Wi-Fi network is 802.11 b / g / n @ 2.4GHz. It is also important that the code for the home router with which the thermostat is synchronized does not have characters and punctuation marks such as (= + _ #.!?, @% \$,/> <* -), but only letters or numbers.

Note: If you have started the thermostat synchronization process on one phone and you have not synchronized the thermostat correctly, you cannot synchronize the thermostat on the other phone until you uninstall the application on the previous one or synchronize the thermostat correctly.

Important: there is only one administrator account for thermostat control and you can add 4 more users (the procedure for adding users is described in chapter 3.6).

2.12 RECEIVER LED LIGHT COLOR EXPLANATIONS

Green	Modem synced with thermostat and Works properly.
Green Flashing	Pressed to receiver sync button and waiting for thermostat sync signal.
Red	Receiver has energy but no thermostat synced.
Red Flashing	Boiler shut down because no signal from thermostat more than 22 minute.
Orange	On Manual Mode.

3. THERMOSTAT CONTROL THROUGH APPLICATION

NOTE: if your mobile phone is set to Serbian and the application will be installed in Serbian. While if your mobile is set to English or any other language, an English language application will be installed during installation.

After the correct installation of the mC HT500 SET application, connection and synchronization, starting the mC HT500 SET application, you will get image 1 on the phone screen. If you see information on the phone screen that you do not have a connection to the thermostat, it means.

To activate the boiler to heat, you must increase the set temperature, which in image 1 is 19 °C, using the up arrow. The set temperature must be higher than the current room temperature, which in image 1 is 22 °C. When you increase the set temperature, the fire will start to glow orange - image 2.

If you want the boiler to stop heating, use the down arrow to reduce the set temperature to be lower than the current room temperature - image 1.

There are 6 operating modes:

- Manual mode
- Home mode
- Outside mode
- Sleep mode
- Program mode
- Location mode

Click on modes
a selection menu for operating
mode will appear - image 2.



image 1

Explanation of symbols:



Connection quality



Location of the thermostat that was installed during



Weather forecast for the location where the thermostat is installed



The user who currently operating the thermostat



Arrow to increase the set temperature



Arrow to decrease the set temperature

19.0°

Set temperature

22.0°

Current room temperature



The boiler does not work (set temp. Is lower than current)



The boiler is running (set temp. Is higher than current)

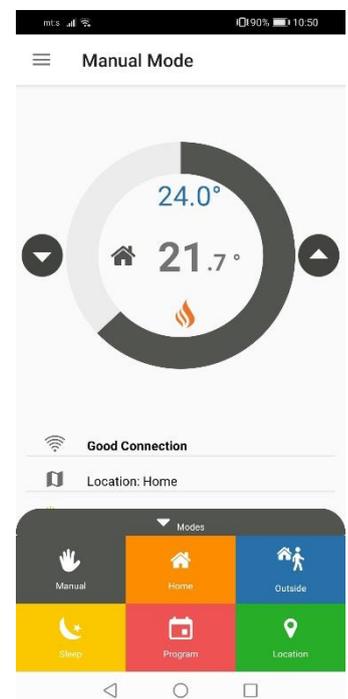


image 2

3.1 MODES

By clicking on one of the modes from image 2, the thermostat switches the operation to the selected mode (pictures 3,4,5,6,7,8).



image 3 – manual mode



image 4 – home mode



image 5 – outside mode



image 6 – sleep mode

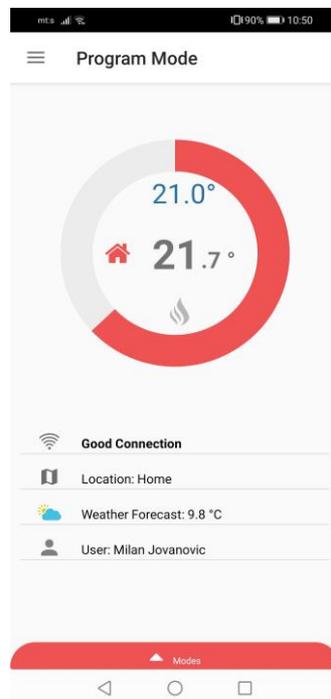


image 7 – program mode

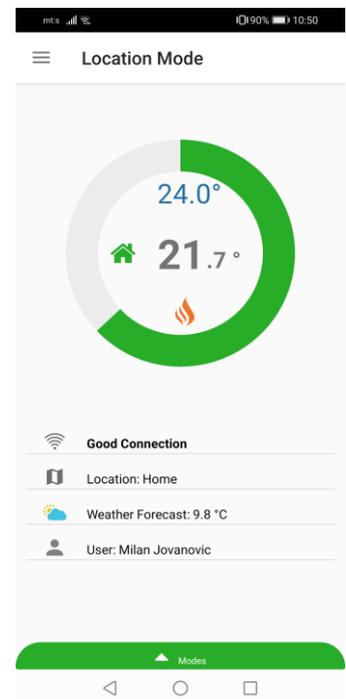


image 8 – location mode

3.2 OPERATING MODE ADJUSTMENT

To adjust the operating mode parameters, go to the settings by clicking on the menu icon - image 9, after which the image application menu - 10 opens. By selecting modes / modes, you enter the operating mode settings - image 11. Here you can set the temperature for each operating mode individually, so that when you select a specific operating mode (image 3,4,5,6,7,8) the thermostat will operate according to the settings you set as in image 11. Also if you want to reset the operating mode parameters factory settings, select **"return to factory settings"**.

To specify the settings for the location mode, go to **"change smart location settings"**, after which the page for setting the smart location will open - image 12.

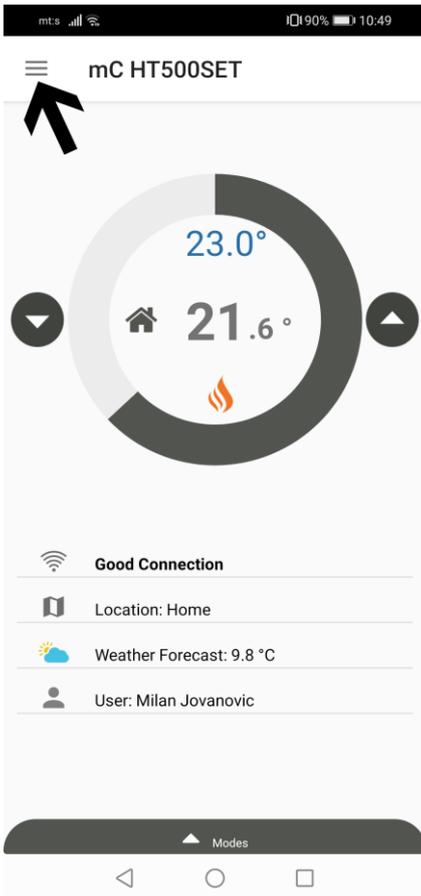


image 9

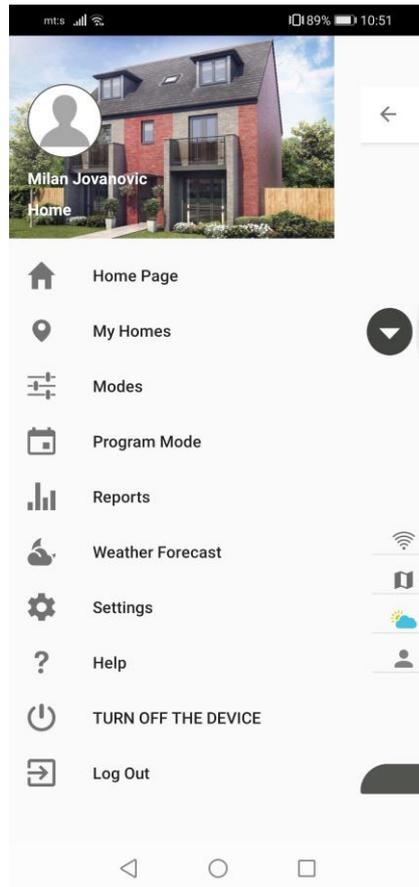


image 10

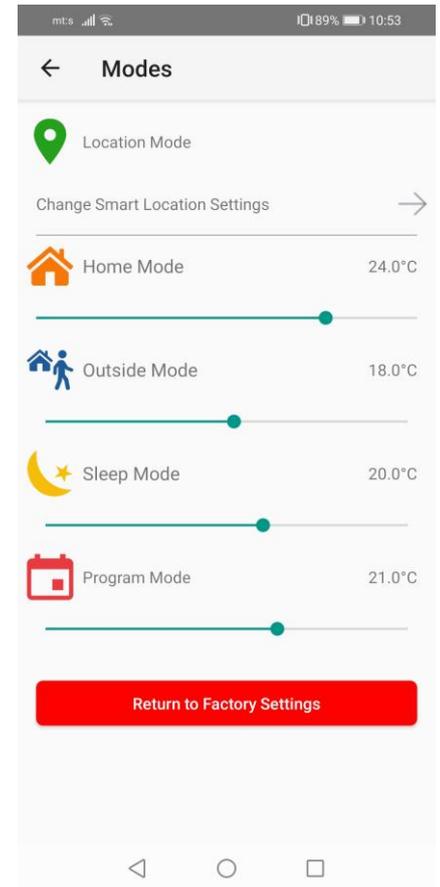


image 11

3.3 LOCATION MODE

On the smart location setting page, you can specify the distance (circle radius) from your station (thermostat). The location mode of the thermostat works so that when you enter within the circuit you set by setting the distance, the thermostat will automatically set the boiler one temperature and when you leave the circuit another temperature. In the example in image 12, a radius of 5 km is given, where when you enter the set circuit, the temperature set by the thermostat to the boiler is 24 °C, while when you leave the circuit, the thermostat will set the boiler a temperature of 18 °C.

NOTE: in order for the location mode to work in addition to the set parameters, you need to turn on the location on your phone (image 13) and the location mode on the application for mC HT500 SET (image 8).

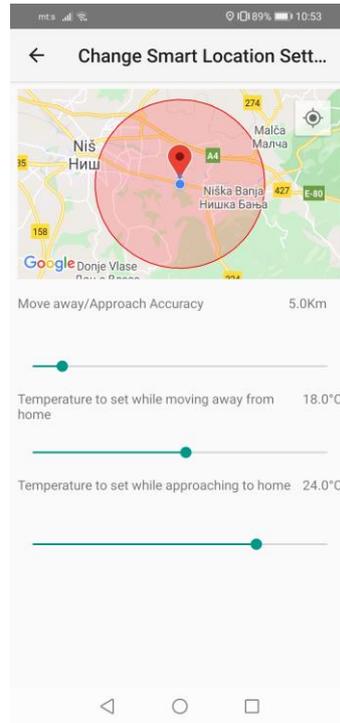


image 12

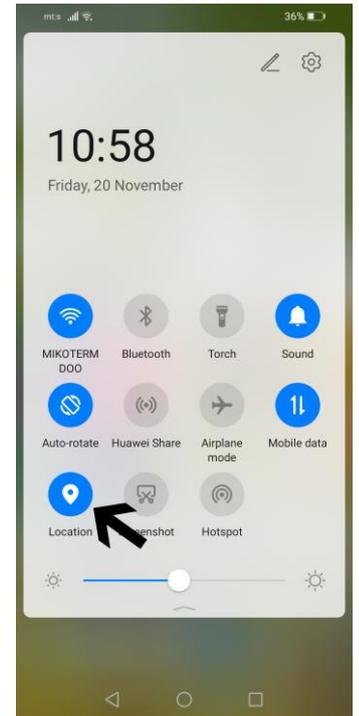


image 13

3.4 PROGRAM MODE

To enter the settings for the program mode, you need to select the program mode / program mode option in the main menu (image 10), after which the page for setting the program mode of the thermostat will open - image 14. To set the program mode, first select the day for which you want to make the settings (you can also select several days), and then click on + (image 15). After that, the option for setting the temperature opens - image 16. Set the temperature and time, then confirm with save (image 17). After saving the set values, you can perform an inspection - image 18. If you want to delete the default values, press delete / delete, image - 19, after which a window will open to select the day for which you want to delete the settings - image 20. Select the day and confirm remove - image 21.

NOTE: in order for the program mode to function properly, it is necessary to set a minimum of two temperature changes in one day (image 18) and to set the program mode to be switched on (image 7).

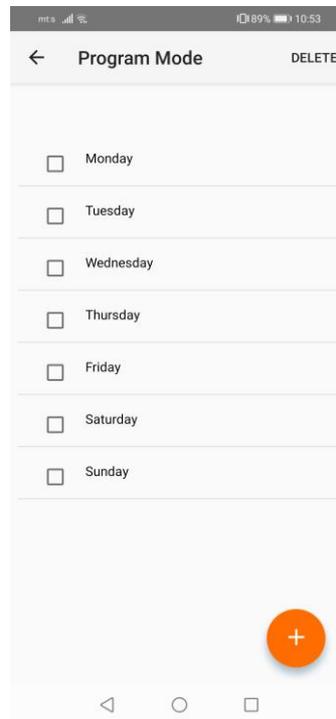


image 14

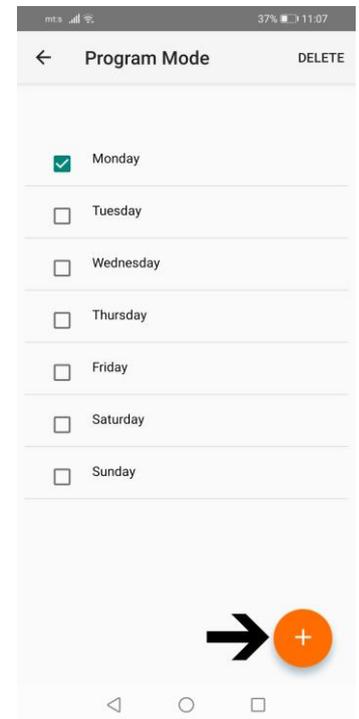


image 15

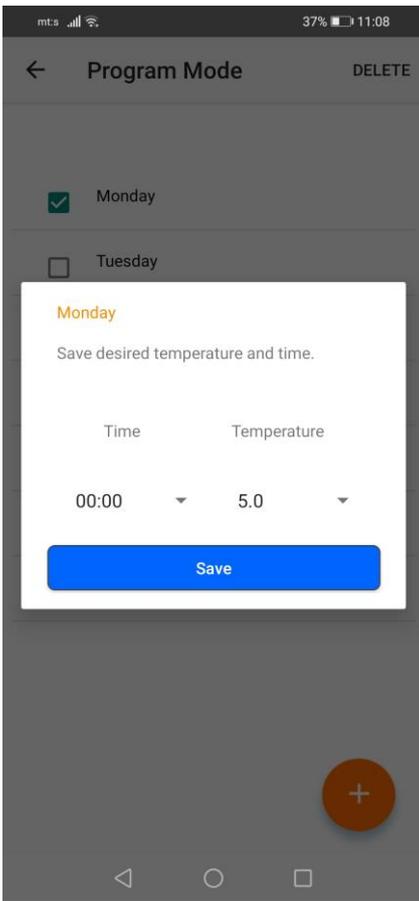


image 16

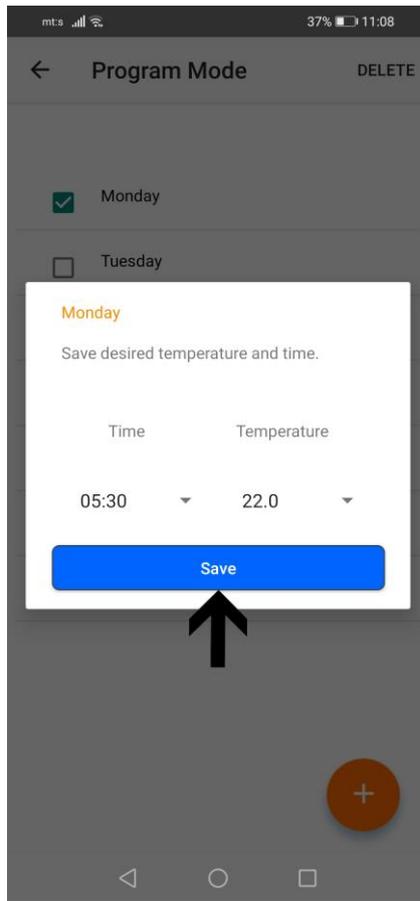


image 17

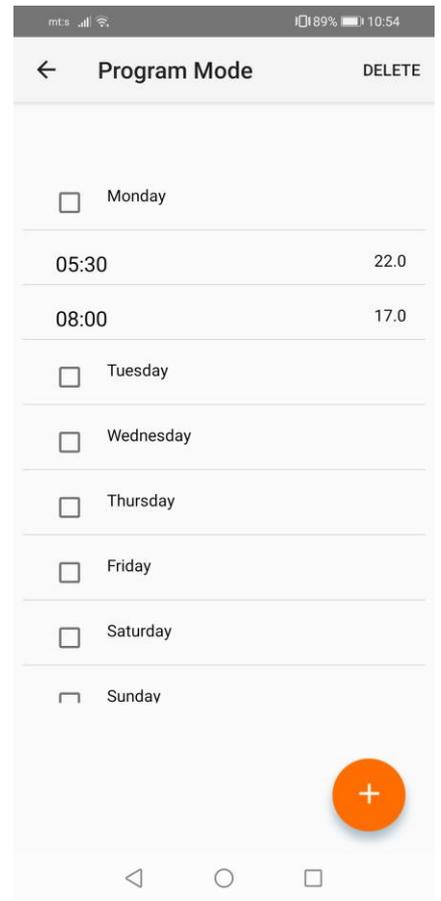


image 18

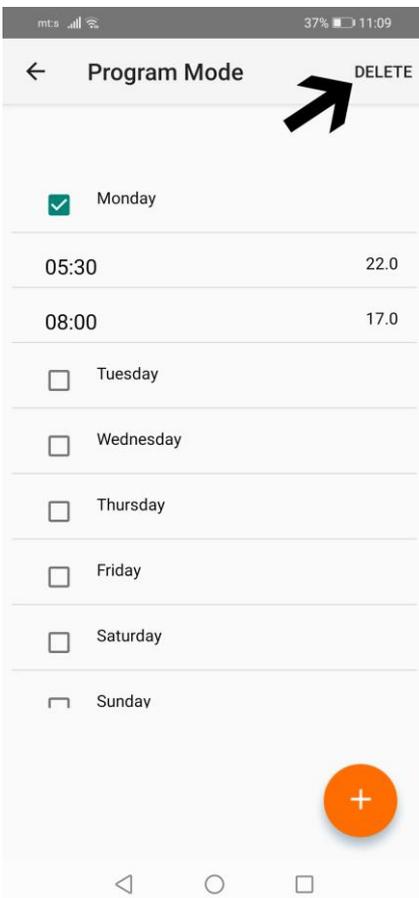


image 19

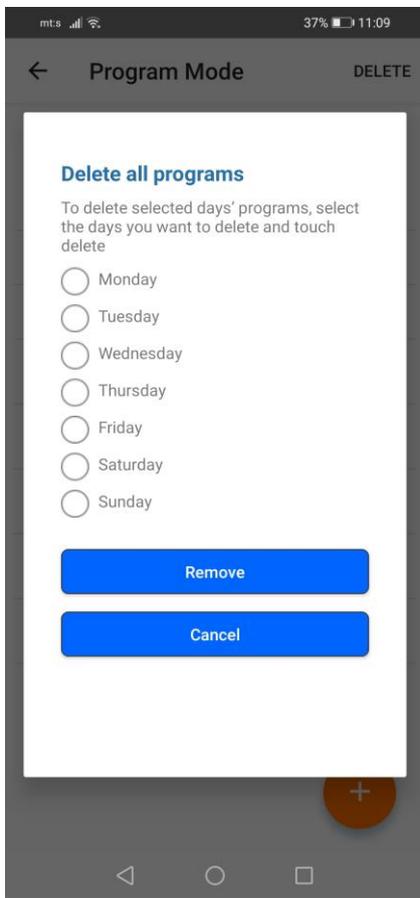


image 20

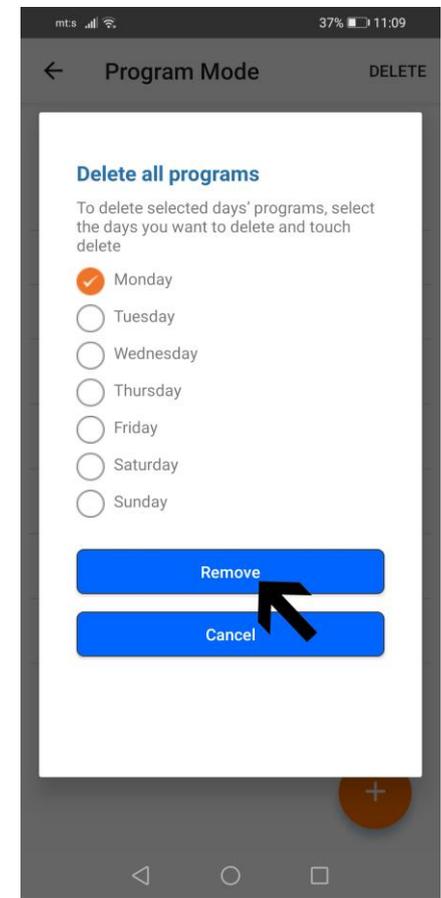


image 21

3.5 MANUAL, HOME, SLEEP AND OUTSIDE MODES



Manual mode allows you to adjust the current temperature you want in your home using the "up" or "down" arrows. Active manual mode (image 2 and 3).



Home mode is used when you are at home and a temperature of 23°C is recommended. The temperature is set by selecting the modes / modes option (image 11). Active home mode image 4.



The sleep mode allows you to sleep comfortably with the set temperature you want. You can use this mode between 23:00 and 07:00, which is the usual bedtime. The suggested temperature value is 18°C. The temperature is set by selecting the modes / modes option (image 11). Active sleep mode image 6.



Outside mode is recommended when you are away from home for a short or long time. The temperature is set by selecting the modes / modes option (image 11). Active outside mode image 5.

3.6 OTHER OPTIONS (MAIN MENU)

Home page - takes you to the active mode (image 3-8).

My homes - takes you to your stations (thermostats) that you have activated on the mC HT500 SET application (there can be more than one station). By clicking on the station (image 22) and details (image 23) you enter the settings that allow you to add users, replace the profile photo of the station, change the location name, resynchronize and delete the station (image 24 and 25). In case you have more than one station, first select the station by clicking on the station you want to make changes to, then on details select the station if it is not already selected (image 23a).

Add a new (invited) user in option my homes

To add a user, select the add user option, after which a window for adding a new user's e-mail will open (image 26). After adding a new user's e-mail, the invited user can log in to the mC HT500 SET application on his phone via the invited user option (image 27), by entering his name and surname in the open fields, the email address with which the account administrator reported it and password (the password is determined by the invited user) - image 28. Then accept the terms of use and confirm on "sing up". Upon completion of the application, the invited user will receive an email with a confirmation link. By clicking on the send link, the invited user can access his account (the application will transfer-log it himself or he can log in via the log in option in image 27).

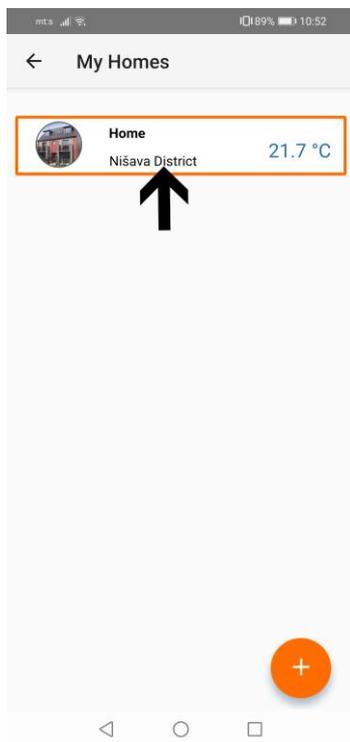


image 22



image 23

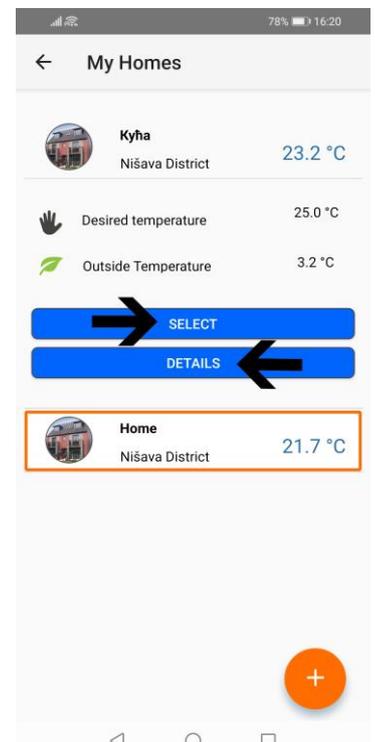


image 23 a

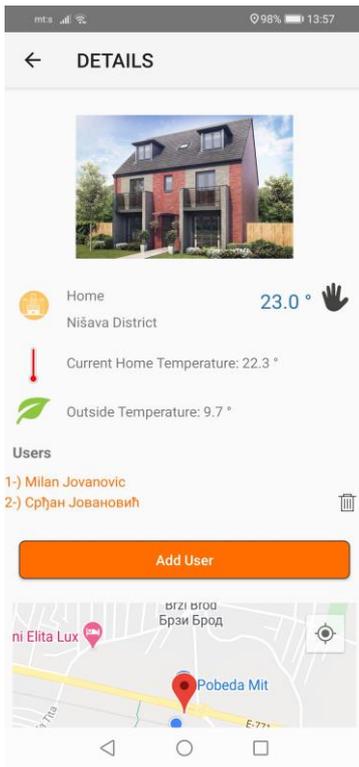


image 24

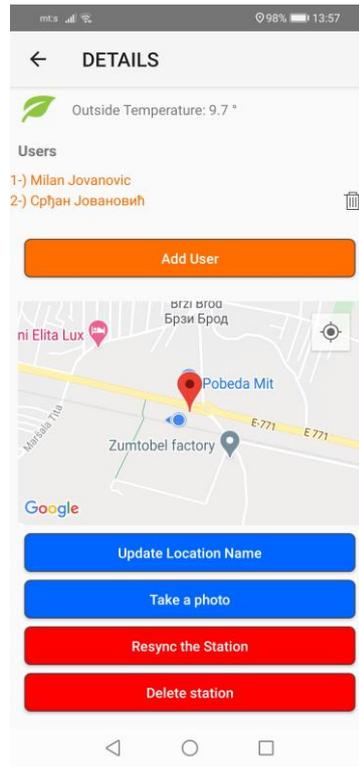


image 25

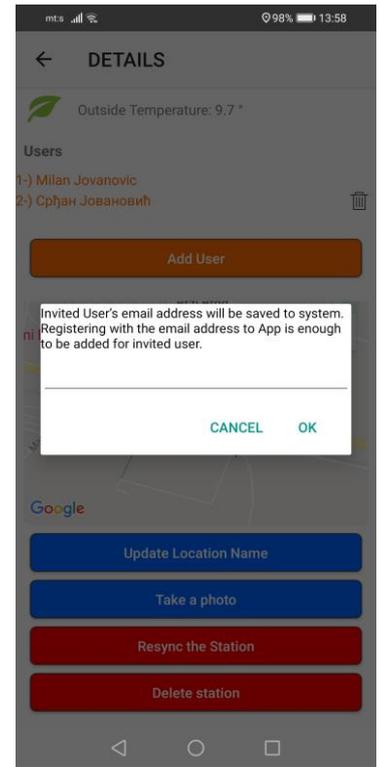


image 26



image 27

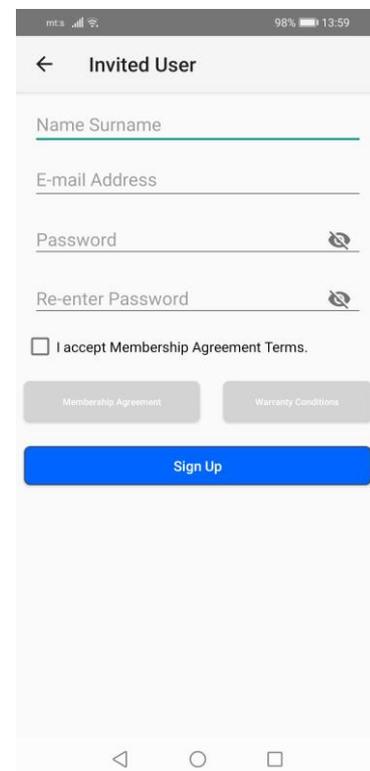


image 28

Reports - provides an overview of the previous operation of the thermostat where weekly, monthly or 6-monthly reports can be viewed (image 29).

Weather forecast - provides a daily and weekly overview of weather conditions for the place where your thermostat is located (image 30).

Help - you can see brief explanations for handling the mC HT500 SET application (image 31).

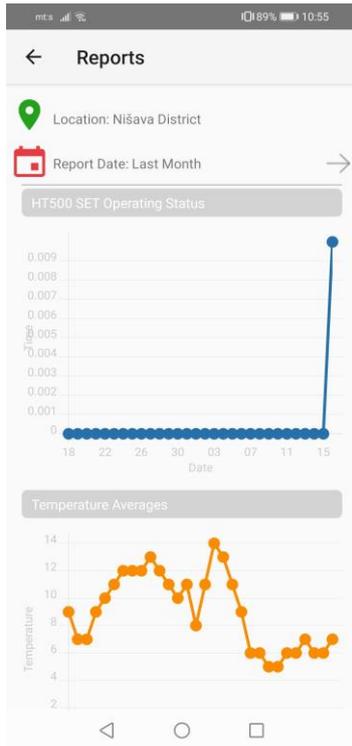


image 29



image 30

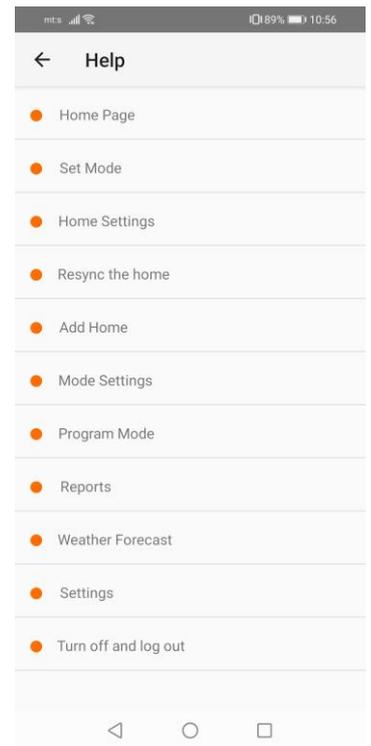


image 31

Settings - is an option where you can adjust the thermostat calibration and temperature sensitivity. You can also turn on / off the light on the thermostat display (screen light). You can change the image or user name via profile settings (image 32 and 33).

Turn (off / on) the device - offers the possibility to turn the thermostat on or off (image 34).

Log out - exit from your account and returns to the home page of the application (image 27).

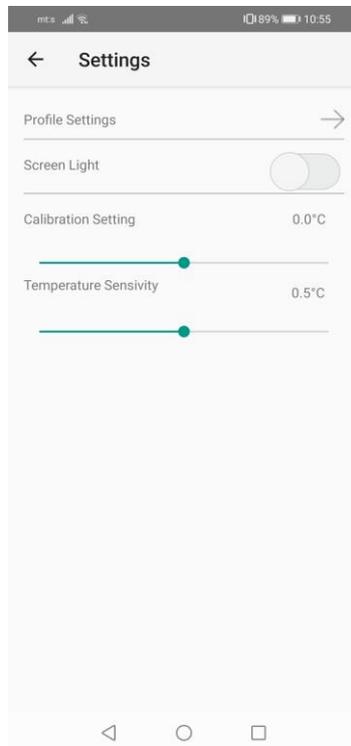


image 32

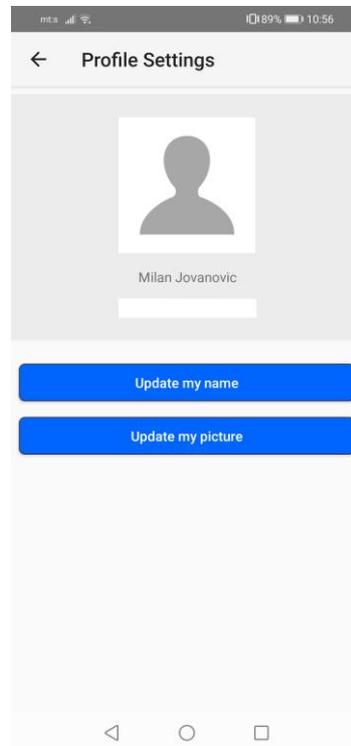


image 33



image 34

4. WARRANTY CONDITIONS AND STATEMENTS

4.1 DECLARATION OF CONFORMITY

Brand: **mControl**

Product Name: **HT500 SET**

Product Type: **Smart Room Thermostat**

The product is connected wirelessly at 2.4 Ghz internet and periodically shares the temperature and status information with the server on the internet.

Compatible Directives:

Radio and Telecommunication Terminal Equipment Regulation 2014/53/EU (R&TTE/RED EN 301 489-1 V2.1.1:2017, EN 300 220-1 V3.1.1:2017, EN 301 489-3 V2.1.1:2017, EN 300 220-2 V3.1.1:2017, EN 62479: 2010, EN 60730-2-9:2010, EN 60730-1:2011)

Electromagnetic Compatibility Regulation 2014/30/EU (EMC EN 61000-6-3: 2007 + A1: 2011, EN 61000-6-1: 2007)

Low Voltage Directive 2014/35/EU (LVD EN 60730-2-9:2010, EN 60730-1:2011)

4.2 WARRANTY CONDITIONS

1. Warranty starts at the delivery date of devices and equipments and warranted against manufacturing defect for 2 years.
2. Devices and equipments are delivered to customers in operation. Mounting and other connections will be additional fee for service.
3. Devices will maintenance and repair in our factory and should send by contracted transportation company. For out services, transportation and accommodation of service personnel are covered by customers. Overtime is added on service charge and is received as cash proceeds.
4. Maintenance of devices and equipments will be in our factory. For device maintenance, the round travel fares are covered by customers.
5. If devices are malfunction in warranty duration, devices will be inspected in our factory to find out whose responsibility (manufacturer or customer) and will announce to user by report.
6. Devices, which malfunctioned in warranty duration and found out it is responsibility of manufacturer, customer can demand new product or repair which all costs will fulfilled by manufacturer regarding to cost is not higher than device.
7. After inspection of malfunction and detected that, it is customer's fault, repair cost of the device which still in warranty duration will be customer's responsibility.
8. Customers should be aware of damages (if there is any) of product and warn manufacturer since the day warranty duration starts. If customer do not warn manufacturer with knowledge of damage, customer lose the rights of article 6.
9. Devices and equipments should be used as specified in User's Manual if not used as specified, products are out of warranty.
10. If products damaged, scratched or cracked by customer. The products will be out of warranty conditions.
11. Damages/Malfunctions because of using other brand' s and model' s devices and equipments without knowledge of manufacturer are out of warranty.
12. The arising deprecation owing to working in humid and acidic places and result of rusting, oxidation is out of warranty.
13. The transport damage is out of warranty. Customers can take a transportation insurance.
14. Damages by virtue of grid voltage are out of warranty.
15. Damages because of force majeure like flood, earthquake, fire etc. are out of warranty.
16. All parts of the product are under warranty of our company.
17. If product breaks down and gets fixed in warranty duration, duration of maintenance adds to the warranty duration. Products repairment can't exceed 20 work days. This duration starts when the product's problems are reported to the seller, agency, producer or the importer if there is no service station. Consumer can report the problem by; fax, e-mail, registered and reply paid letter or a similar way. If a conflict happens, the consumer has the responsibility of proofing it. If the problem can't be solved more than 10 days the producer or importer has to supply a similar device until end of the reparation. If the product breaks down because of material, label or mounting faults in the warranty duration, firm won't demand label costs, changing parts or any other kind of charge for repairment.
18. Despite consumers rights of maintenance;
 - a. If the product breaks down for 4 times in a year or 6 times in warranty duration and these problems effects main purpose of the product. (starting from delivery time during warranty.),
 - b. Exceeding the maximum repairing term,
 - c. In the case of not existing service station, determining that repairment is not possible with the report compiled by respectively service station's seller, dealer, agency, legation, importer or manufacturer.
19. Warranty document should be kept by customer until warranty duration is finished. If warranty is lost there will be no replacement. All maintance and repair cost is responsibility of customer in case of warranty document lost.