

MIC2 Digital Thermostat



Klima Underfloor Heating
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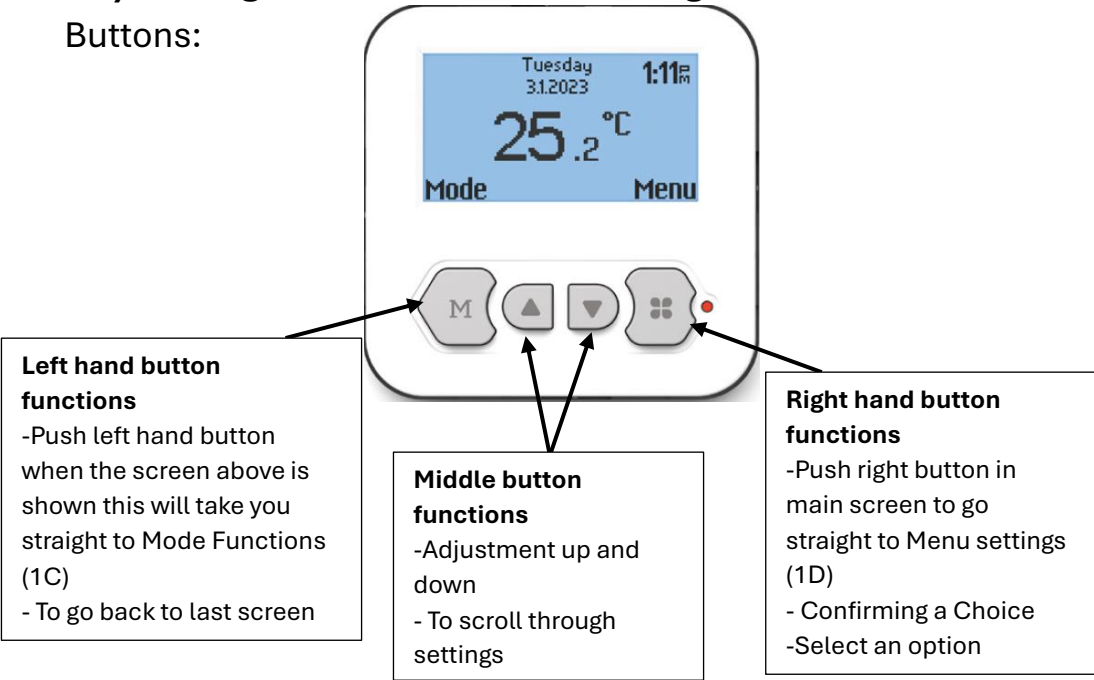
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1) User Manual

1A) Getting Started with the MIC 2 Digital

Buttons:



1B) Start Up Wizard

Startup menu/Wizard-
After connecting the thermostat to the power for the first time, it will take 5 minutes until the first questions appears on the screen.

This is due to the internal back up battery charging.

By pushing the symbol ✓ (Right hand Button) you confirm a choice and go to the next screen/option.

If you want to change or check an option in the startup menu/wizard, you can press the symbol X (Left hand button), and you will go back to the previous screen or option.

1. Thank you:

-The right-hand button as this message is just to say thank for using our product

2.Measurement Choice:

- Clock: Choose either 12-hour clock time (am/pm) or 24-hour clock time
- Temperature: Choose °C or °F

3.Program date:

- Year: program the current year
- Month: program the current month
- Day number: program today's date
- Program time: program the current time

4.Type of (floor) heating:

- Floor heating or different heating system. If you choose different heating system, the thermostat will move straight onto point 12 in this list.

Floor Constructions (If floor heating was selected)

Program the floor depth of the entire underfloor heating installation.

Choices:

- Up to (<) 2 centimetres thickness
- From 2 5 centimetres thickness
- From 5 10 Centimetres thickness
- More than (>) 10 centimetres

5. Floor covering:

- Wood or other (use other for tiled floor finish). If you select other, then the next question is asked if there is a floor sensor installed (yes or no)

6.Sensor selection:

- Floor sensor? Yes or no, if a floor sensor is installed then select yes or not then select No and it will take you to point 8

7.Temperature Control:

- Floor temp or room temp, if you selected yes for floor sensor then select floor temp. (If room temp is selected you will go straight to point

8. Floor limiter

- If Room temp was selected and a floor sensor installed then select yes, if no I selected it will take you to point 10

9.Floor temperature limit

- this is the temperature the underfloor heating will heat up to set to 27 degrees unless your floor finish says otherwise.

10.Summary of floor heating settings

- Review your setting to ensure the correct settings have been applied.

11.Temperature for Comfort heating

- Program the comfort temperature of your choice (the temperature you want the floor to heat to)
- Standard temperature is programmed at 23 degrees Celsius

12.Overview of standard program operating times

13. Slow start up:

If this is a new installation, then we would recommend selecting yes OR if you waited the 21 days before turning your thermostat on or this is not a new installation then select No.

1C) Mode (Thermostat Operating Functions)

1.Automatic:

- The thermostat will switch on according to the programmed, this will depend on if the thermostat is set to standard program or custom program.

2.Temporary:

-This will temporarily override the temperature in the automatic program, the override will operate until the next automatic program

3.Manual Control:

-To permanently override the automatic program, to cancel the manual mode, choose the automatic mode.

4.Off:

-Turns the heating system off but keeps the thermostat on. To turn the heating system back on you will need to select automatic.

5.Anti-frost:

-When set to this mode it will only turn the underfloor heating on if the floor temperature drops below 7 degrees and will maintain the floor at 7 degrees.
-To turn this mode off select automatic mode.

6.Timer:

-This mode is ideal for when you go on away holiday, or you will be away for a set period. The thermostat will be off for the set number of days inputted. After these set number of days have passed it will go back to automatic mode.

7.Slow Heating:

- To only be used for new floors. The thermostat will slowly raise the temperature of the floor over 21 days, after this the thermostat automatically started the stand or custom time programme. If you need to stop or restart the slow start up mode, press the left-hand button.

1D) Menu (Thermostat settings)

1.Temperature settings:

With this function you can change the programmed temperature (comfort or setback temperature)

2. Programming:

In this the Time and temperatures, the underfloor heating can be changed please see ref: 4A, for a guide on how to change the programming of the controller

3.Consumption:

The thermostat calculates the average time it's been on when using the underfloor heating. The total time it's been switched on is by the time of percentage shown over the last 30 Days and 365 Days.

4.Child Lock:

The thermostat buttons become locked and does not allow anyone to change any settings. To turn the child lock on, hold down the right-hand button for 3 seconds and this will activate the child lock and a padlock will show on the screen. To turn the child lock off, hold the right hand button for 3 seconds to deactivate the child lock.

5.Information:

Gives information, on how the thermostat is setup and shows the program that is programmed into the controller.

6.Settings:

With this function you can change settings related with the operating of the thermostat. The following options can be changed:

-Date and time: This allows you to change the date and the current time

-Language: For this the only language that can be selected is English

- Contrast: Allows you to change the colour difference on the screen of the colour
- Brightness: Allows you to make the screen brighter or dimmer when in use
- Backlight Delay: How long the screen will remain lit after a button has been pressed can be adjust from 0 seconds (Always on) to 250 seconds (4 minutes and 10 seconds)
- LED info: turns the LED info light on or off. When it is switched on, it indicates the current heating period.
- Temperature Unit: Always you to choose Celsius or Fahrenheit

7.Advanced Functions:

In this it allows you to make further adjustments on how the controller is setup and how it will perform. Please note that any adjustments made will have a big influence on how the controller will work, please contact our technical department before making these changes – [Tel:- 01887 822020](tel:01887822020)

The following options are:

Heating system:

- Type of heating system
- Installation depth of the heating system
- Floor covering: Wood or other
- Temperature to control
- Summary

Calibration: This allows you make a correction for the sensor temperature that is displayed on the controller.

Intelligent: Switch the intelligent function on or off. (Default is ON)

Difference: This is the difference between switch on and off period during the heating program. Consult out technical department before making any changes.

Pilot wire: It is used to operate the thermostat through an external source i.e. home management system. This can be turned on or off.

Sensor Type: Used to change the sensor value, the default is 12K ohms and does not need to be changed in a standard situation.

Open window: This function only works when room sensor or both sensors is selected. The thermostat with this function will shut off automatically for 15 min when the window opens, as it can detect that the room temp plummets.

Factory defaults: This performs a factory reset on the controller, to perform a factory reset hold down the right-hand button until the screen goes blank and release the right-hand button and follow section 1B.

2)General Information

2A) Explanation of LED Colours/Signals

LED Colours:

Amber/Red Light: System is currently heating

Green Light: Reached required temperature

Red Light flashing on and off: Sensor failure

2B) Explanation of text/symbols in main screen

	Comfort heating is active
	Limited floor temperature reached (28 °C)
	Child lock activated
	System is Heating Up
	Set back: standard set back temperature (pilot wire)
	Set back: anti frost + 7 degree Celsius (pilot wire)

Sensor error / fault:

Sensor may be wired incorrectly or loosely. Heating system will not work when there is a sensor fault. The red LED Will flash.
We recommend you check the wiring of the floor sensor and tighten the terminals. If the connection is good and the error still occurs, then contact our technical team.

Temperature on Display:

The temperature shown on the main screen is the current measured temperature and will be dependent on what sensor type is selected i.e. floor sensor or room sensor.

2C) Intelligent Function:

The thermostat has a self-learning and adaptive program. This function allows the thermostat to calculate when it needs to switch the underfloor heating on to reach the desired temperature at the set time. I.e. if you have set for your system to come on 0800 @ 23 degrees, the program will calculate what time it needs to turn on at to reach 23 degrees at 0800. This can be deactivated in advanced functions please refer to section 1D and sub section 7 for more info.

2D) standard automatic program:

Comfort heating from Monday till Sunday from 0600 till 0900 and from 1700 till 2200. Outside these hours the thermostat switches to setback mode.

2E) Setback Mode:

The setback mode is when the thermostats ‘sets back’ to a lower temperature during the off-time periods. This is the most economical and efficient way to achieve the best energy consumption. This function is part of the self-thinking adaptive system.

2F) Heating new floors:

Allow the floor sufficient drying time before you turn on the floor heating. For tiled floors a drying time of 3-4 weeks after installation should generally be observed. Consult the supplier/manufacturer regarding the applicable drying time for the product. For sand/cement screed floors a drying time of 1 week per applied cm with a minimum of 4-5 weeks is generally observed.

2G) Energy consumption:

The energy consumption depends on a lot factors. The important factors are individual preference (which temperature you feel is comfortable), insulation, settings of the thermostat, humidity in the room, separate rooms, location, etc. In the chapter “energy and consumption” on our website, you will find more specified information. The thermostat registers the energy consumptions and can easily be read in the screen “energy consumption”. You will see the percentile energy consumption over the last 30 and 365 days.
How to calculate your energy consumption:
30 days: 24 hours x 30 days x total installed power (kW) x % = energy consumption
365 days: 24 hours x 365 days x total installed power x % = energy consumption
Example:
The thermostat gives a percentage of 26% over 30days.
The power installed in the floor is 700 Watt
24 hours x 30 days = 720 hours.
720 hours x 0.7 kW = 504 kWh
26% of 504 kWh = 131 kWh.
The heating system has used 131 kWh the last 30 days.

2H) Back-up battery:

The thermostat has a back-up battery. When the power of the thermostat is switched off (for example a power cut), the time and date and programming will be retained for 24 hours after this the back up battery will not be able to retain the information anymore.

2i) Floor temperature limiter:

Some floor coverings must be limited at a certain maximum temperature (for example wooden floors). When the option ‘Wooden’ is selected (in the start-up wizard), the floor will not exceed 28°C.

When using this option, a floor sensor needs to be installed. In case of doubt please check with the supplier of your floor covering if there are limits for maximum temperature.

3)Electrical Installation Manual

3A) Attention:

Before installation or re-installation of the thermostat always isolate the power to the thermostat. Installation needs to be done by a qualified electrician in accordance with all current wiring and building regulations. The MIC 2 Digital thermostat is provided with an intelligent help function which guides the user through the program and is very user friendly.

3B) Installer Instructions:

Check if the power is off. Remove the display frame by pushing a non-sharp instrument (for example the point of a ballpoint pen) carefully in the square hole underneath the thermostat. The display frame and the cover frame can be removed. Position the thermostat and install onto the back box (not supplied). Place the display frame back into position by pushing it softly. Attention: When the power is put on for the first time it takes 5 minutes before the first question of the startup menu (Ref 1B) Start up Wizard) appears. Follow the start-up menu carefully.

3C) Connection Schedule:

The thermostat should be connected as follows:

- Heating N1 and Heating L1 are used for connecting the heating cables
- N and L are used for the power connection from the mains
- Floor sensor terminal is used for the floor sensor connection
- Pilot is the direction connection for the home automation system

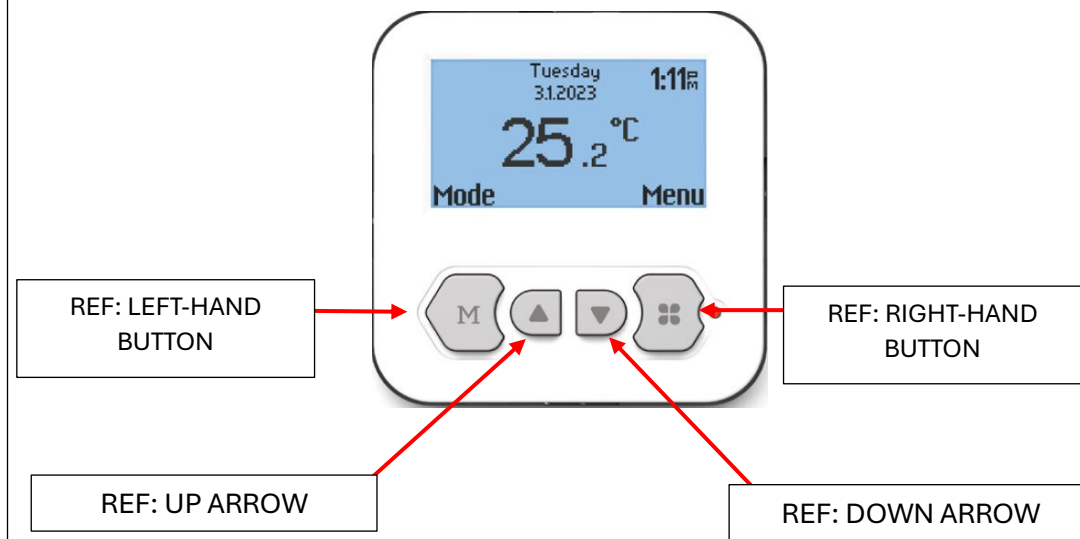
3D) Technical data

Voltage :	85-265 VAC 50/60 Hz
Load :	Max 16A
Setpoint Range :	+5 to +40°C / +41 to +104°F
Temperature Range :	+5 to +45°C / +41 to +113°F
Covers :	IP21
Floor sensor type :	NTC 12K Ohm

4) Technical Support

For any further assistance or questions, you have about the controller then you can call our technical support on **01887 822020** or send us an email to Technical@klima.co.uk

4a) Programming guide



HOW TO PROGRAM CONTROLLER FOR 1 DAY A WEEK

- 1) When the temperature is in the middle of the screen (like the photo above).
- 2) Press the RIGHT-HAND BUTTON once.
- 3) Press the DOWN ARROW until "PROGRAM" is highlighted.
- 4) Press the RIGHT-HAND BUTTON once.
- 5) Press the DOWN ARROW once.
- 6) "PROGRAM TYPE" will be at the top of the screen and "Standard" will be in the middle of the screen. Press the RIGHT BUTTON once and "Standard" will become highlighted.

- 7) Press the DOWN ARROW once and “Custom” will be in the middle of the screen and push the RIGHT-HAND BUTTON once and then press the UP ARROW once.
- 8) Now press the RIGHT-HAND BUTTON once and “Weekday” will be at the top of the screen.
- 9) When “Sunday” is highlighted press the RIGHT-HAND BUTTON once
- 10) Press the DOWN ARROW until “Set” is highlighted and press the RIGHT-HAND BUTTON once.
- 11) 1 Period basically means it turn ON and OFF 1 time and 2 Periods turns on and off TWICE choose which one you would like and highlight the one you want and then press the RIGHT-HAND BUTTON once.
- 12) “P1: Start time” will appear at the top of the screen and the Hour will be highlighted first press the UP ARROW or DOWN ARROW until you get to the desired hour of when the underfloor heating is to turn on and press the RIGHT-HAND BUTTON to confirm
- 13) The minutes will now be highlighted again repeat the same as done in part 12 and chose the selected minute and press the RIGHT-HAND BUTTON once to confirm.
- 14) “P1: END TIME” repeat the process in part 12 and 13.
- 15) “Temperature” will be at the top of the screen and “Comfort:23.0°C” will be in the middle of the screen press the UP ARROW or DOWN ARROW until it gets to the desired temperature and once you get to the wanted temperature and press the RIGHT-HAND BUTTON once to confirm
- 16) If “2 Periods” was selected repeat steps 12 – 15 and where “P1” Stated it will instead say “P2”.
- 17) This is how you can program each day of the week repeat steps 9 – 16 for each weekday.

HOW TO COPY AND SET EVERY DAY TO BE THE SAME TIME AND TEMPERATURE

- 1) If you want Sunday – Saturday to be the exact time and temperature that it turns on at then do the following.

- 2) When “Sunday” has been programmed, you should be in the part where “Weekday” is at the top of the screen, press the RIGHT-HAND BUTTON once when “Sunday” is highlighted
- 3) Press the DOWN ARROW until “Copy” is highlighted and then press the RIGHT-HAND BUTTON once.
- 4) It will take you back to the “Weekday” press the DOWN ARROW until “Monday” is selected or the day you want the program copied to and then press the RIGHT-HAND BUTTON once.
- 5) Then when the day is at the top (the day you have selected that you want to copy the program to) press the DOWN ARROW until “Paste” is highlighted and then press the RIGHT-HAND BUTTON once it will say “PASTED OK!”
- 6) Press the DOWN ARROW until “Back” is highlighted and press the RIGHT-HAND BUTTON once and “Weekday” will appear at the top of the screen.
- 7) Repeat steps 2 -6 for copying all the programs to all the other weekdays.