



WHAT IS A PROGRAMMABLE ROOM THERMOSTAT?

...an explanation for householders

A programmable room thermostat is both a programmer and a room thermostat. A programmer allows you to set 'On' and 'Off' time periods to suit your own lifestyle. A room thermostat works by sensing the air temperature, switching on the heating when the air temperature falls below the thermostat setting, and switching it off once this set temperature has been reached.



So, a programmable room thermostat lets you choose what times you want the heating to be on, and what temperature it should reach while it is on. It will allow you to select different temperatures in your home at different times of the day (and days of the week) to meet your particular needs.

Turning a programmable room thermostat to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the design of the heating system, for example, the size of boiler and radiators.

Neither does the setting affect how quickly the room cools down. Turning a programmable room thermostat to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

The way to set and use your programmable room thermostat is to find the lowest temperature settings that you are comfortable with at the different times you have chosen, and then leave it alone to do its job. The best way to do this is to set low temperatures first, say 18°C, and then turn them up by one degree each day until you are comfortable with the temperatures. You won't have to adjust the thermostat further. Any adjustments above these settings will waste energy and cost you more money.

If your heating system is a boiler with radiators, there will usually be only one programmable room thermostat to control the whole house. But you can have different temperatures in individual rooms by installing thermostatic radiator valves (TRVs) on individual radiators. If you don't have TRVs, you should choose a temperature that is reasonable for the whole house. If you do have TRVs, you can choose a slightly higher setting to make sure that even the coldest room is comfortable, then prevent any overheating in other rooms by adjusting the TRVs.

The time on the programmer must be correct. Some types have to be adjusted in spring and autumn at the changes between Greenwich Mean Time and British Summer Time.

You may be able to temporarily adjust the heating programme, for example, 'Override', 'Advance' or 'Boost'. These are explained in the manufacturer's instructions.

Programmable room thermostats need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture. Nearby electric fires, televisions, wall or table lamps may prevent the thermostat from working properly.

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CM921 - User Guide

1 day Wireless Programmable Room Thermostat with LoT technology

Description

The Honeywell CM921 is a 'wireless' programmable room thermostat designed to control your heating system efficiently, providing comfortable temperatures when you are at home and energy savings when you are away. With 'wireless' communication there is no need to provide a wired connection between the thermostat and boiler.

The following instructions explain how to set up, program and operate your Honeywell CM921 Programmable Room Thermostat.

Features

Wireless connection to the boiler allows you to mount the Chronotherm in your room without decor disruption

Armchair programming feature lets you program your Chronotherm while resting comfortably in your armchair

Ergonomic User Interface features an **'OK-button'** making the CM921 very easy to use so you always stay in control.

LoT technology provides informative 'on-screen' feedback and operational assistance to the user.

Extra Large LCD (Liquid Crystal Display) Screen with Backlight provides added user friendliness and clearer viewing – even in the dark.

6 independent temperature levels per day lets you set any 6 temperatures you require (from 5 to 35°C) so you can enjoy economical comfort every day

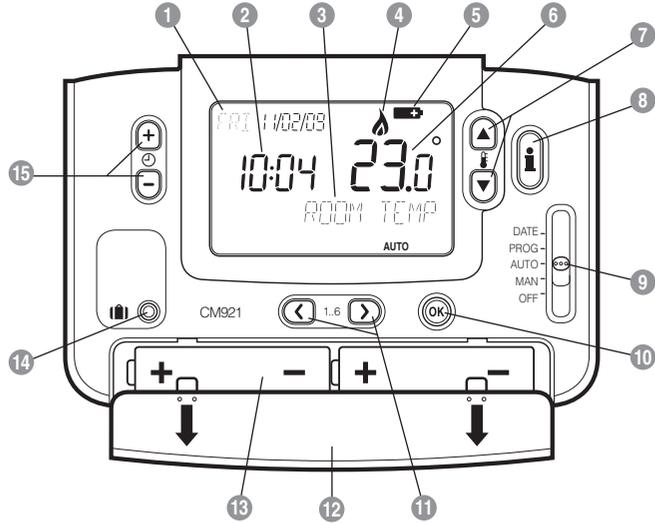
Holiday button saves energy by letting you reduce the temperature for 1 to 99 days while you are away from home, resuming normal operation on your return.

Automatic Summer/Winter Time Change will adjust the clock automatically for 'Daylight Saving Time'.

Built-in Memory holds the user program indefinitely so that it is never lost – even if you remove the batteries.

Optimum Start option is an advanced feature which ensures that the optimum temperature conditions are achieved at the required times (option set by your installer).

Controls Layout



- | | |
|------------------------------|----------------------------|
| 1 Day / Date Display | 9 Slider Switch |
| 2 Time Display | 10 Green OK Button |
| 3 LoT technology Display | 11 Program Buttons |
| 4 Heating On Indicator | 12 Battery Compartment Lid |
| 5 Battery Low Indicator | 13 Battery Compartment |
| 6 Temperature Display | 14 Holiday Function Button |
| 7 Temperature Change Buttons | 15 Time Change Buttons |
| 8 Temperature Enquiry Button | |

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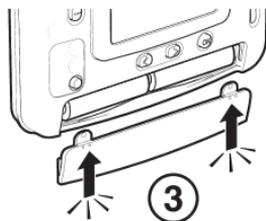
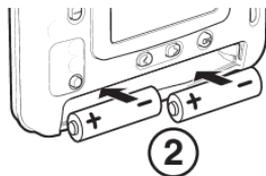
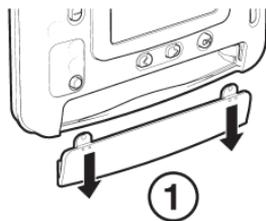
This section shows you how to setup and run the thermostat in 3 simple steps:

STEP 1: Installing the Batteries

Note: Please follow the instructions in this section only if the thermostat screen is blank (no symbols or digits are displayed). If the screen displays some information move on to **STEP 2: Setting the Date and Time.**

To install the Batteries:

- Lift up the front cover of the thermostat to reveal the battery cover and product controls.
- Remove the battery cover by pressing down and sliding out.
- Insert the 2 x AA LR6 Alkaline Batteries supplied with the thermostat, ensuring the correct orientation (see '**Controls Layout**' on page 2).
- After a short pause the thermostat will display information on the screen and is now ready for use.
- Replace the battery cover by sliding it firmly back into the front of the thermostat.



PLEASE RESPECT YOUR ENVIRONMENT!
Take care to dispose of used batteries carefully.

STEP 2: Setting the Date and Time

To set the Date and Time:

- Move the slider switch to the **DATE** position. 'SET THE DAY' will be displayed on the screen and the day digits will be flashing.



- Use the \ominus \oplus or \ominus buttons to set the correct day. When either of these buttons are pressed 'DAY OK?' will be displayed. Once the correct day is reached, press the green **OK** button to confirm.
- Now the month digits will start flashing and 'SET THE MONTH' will be displayed. Change the month and then the year using the \ominus \oplus or \ominus buttons, pressing the green **OK** button to save any changes made. (If an invalid date has been entered you will be returned to the start of the date setting mode).
- After setting a valid date, the time digits will begin flashing and 'SET THE TIME' will be displayed.
- Use the \ominus \oplus or \ominus buttons to set the correct time. Each press of the button will change the time by one minute and holding the button down will change the time slowly at first and get progressively quicker. Once the correct time is set, press the green **OK** button to confirm then 'CHANGES SAVED' will be displayed for a moment followed by 'DATE COMPLETE'.

Note: If the slider switch is moved at any time before 'DATE COMPLETE' is displayed the changes to the date and time will NOT be saved.

STEP 3: Running the Built-in Heating Program

The thermostat is now ready for operation. Move the slider switch to the **AUTO** position and the built-in heating program will start running. The built-in heating program has been designed to provide normal comfort requirements, but if you want to customise the default settings (as shown on the next page) please see the next section '**PROGRAMMING THE CM921**'.

The Built-in Heating Program

The built-in heating program has 6 temperature level changes that can be set between 3.00am and 2.50am - allowing you to maintain the evening temperature after midnight. Each temperature level can be set between 5°C and 35°C, and adjusted in 0.5°C increments. The factory default program for heating is as follows:

Period	1	2	3	4	5	6
Time	6:30	8:00	12:00	14:00	18:00	22:30
Temperature	21°C	18°C	21°C	18°C	21°C	16°C

Reviewing the Heating Program

To review or edit the heating program move the slider switch to the **PROG** position then use the **◀** or **▶** buttons to navigate between the 6 individual programming periods.

Modifying the Heating Program

To change the heating program:

- Set the slider switch to the **PROG** position, entering programming mode. 'SET TIME 1' will be displayed and the time settings for period **1** will be flashing. The active period is highlighted by a flashing square symbol around the numbers at the bottom of the screen.



PROGRAMMING THE CM921

- b. To adjust the period start time press the   or  buttons and 'TIME 1 OK?' will be displayed. Holding the button down will change the time quickly.

Note: If you are pressing the   or  buttons and the display flashes the next change period, it means the next change will be pushed forward if you continue to press   or  buttons).

- c. Press the green  button to confirm the setting. 'CHANGES SAVED' is displayed for 1.5 seconds then 'SET TEMP 1' will be shown.

Note: If the original time setting did not require adjustment press the green  button to move on to step 'd'.

- d. The temperature setting for period  will now be flashing. To adjust this press the  or  buttons and 'TEMP 1 OK?' will be displayed.

- e. Press the green  button to confirm the setting. 'CHANGES SAVED' will be displayed for a moment followed by 'SET TIME 2'.

- f. The next time and temperature period will now be active. Adjust this by repeating steps **b - e** above until all 6 periods are set or move the slider switch to the **AUTO** position to run the program as set, at any time.

- g. After setting period  'CHANGES SAVED' will be displayed as before.

- i. To exit the programming mode move the slider switch to the desired operating mode - **AUTO**, **MAN** or **OFF**. **Note:** To run the adjusted program select the **AUTO** mode.

Note: If the unit is left in programming mode for more than 10 minutes without the slider being moved or any buttons pressed, 'MOVE THE SLIDER' will be displayed. Press a button to finish programming the thermostat or move the slider to select the desired operating mode.

Disabling / Enabling Time Periods

The thermostat has 6 periods that can be programmed, but you may not need all of these switch points for your heating requirements. Therefore, any period from 2 to 6 can be disabled or enabled as follows:

To disable time periods:

Go to the desired period (2 to 6) by moving the slider switch to the **PROG** position, then using the  and  buttons to navigate, ensuring the correct period is highlighted with the flashing square symbol. Press and hold the  button for at least 2 seconds and the display will indicate the period has been removed from the program.

To enable time periods:

Navigate to the disabled period by moving the slider switch to the **PROG** position, then using the  and  buttons. Once selected 'DISABLED' will be displayed. Press and hold the  button for at least 2 seconds and 'ENABLED' will be displayed for a moment before returning to normal programming mode.

Choosing the Operating Mode

The thermostat can operate in three different modes: Automatic, Manual or Off. To set the operating mode move the slider switch to the desired position. The screen indicates which mode is currently active by displaying **AUTO**, **MAN** or **OFF**.

- **AUTO (automatic) mode**

Automatic mode sets the thermostat to follow the temperature program (default or personalised). Operating the thermostat in this mode is the best way to maintain a high level of temperature comfort whilst maximising your energy savings.

- **MAN (manual) mode**

Manual mode sets the thermostat to act as a simple thermostat with a fixed setpoint throughout the day. The setpoint can be adjusted from 5°C to 35°C by using the  or  buttons. The thermostat will continue to maintain this temperature until another operating mode or temperature is selected.

- **OFF mode**

Off mode sets the thermostat to control to a minimum temperature setting of 5°C (default) that acts as a frost protection measure for your home. This value can be adjusted by calling your installer.

Adjusting the Time

To adjust only the time during normal operation use the  or  buttons to adjust the time and press the green  button again to confirm any changes.

During Normal Operation

- **Temperature Enquiry**

In **AUTO** and **MAN** operating modes the thermostat will display the current room temperature, which is indicated by the text 'ROOM TEMP' displayed on the screen. To review the programmed 'target' temperature (the temperature which the thermostat is trying to maintain) press the  button. This 'target' temperature value will be displayed flashing and the text 'TARGET TEMP' will be shown for 5 seconds before returning to the current room temperature value.

In **OFF** operating mode the thermostat again displays the current room temperature, as above, but when the  button is pressed the text 'FROST TEMP' is displayed indicating the set value to protect your home. To modify this value please contact your installer.

- **Temperature Override**

During normal operation (**AUTO** mode) the programmed temperature can be adjusted manually by pressing the  or  buttons. The 'target' temperature will be displayed and flash for 5 seconds – during this time the  or  buttons can be used to modify the set value.

Note: *This temperature override is cancelled at the next programmed temperature change.*

Using the Special Functions

- **HOLIDAY Function**

The holiday function allows you to set a constant temperature (default = 10°C) for a specified number of days (from 1 - 99 days). This lets you save energy and related costs when you are away from home, but resumes normal operation on the day of your return.

To set the Holiday function:

- Move the slider switch to the **AUTO** or **MAN** position.
- Press the  button to display the holiday days counter and temperature setting, along with the holiday indicator .
- The day after the current day will be selected and 'RETURN DATE OK?' will be displayed. Press the  or  time buttons to set the holiday time (1 – 99 days).
Note: *(The day and date will update according to the number of days selected).*
- Press the green  button to confirm the setting.
- 'CHANGES SAVED' will be displayed for a moment followed by 'TEMP OK?'. Press the  or  buttons to set the holiday temperature (5°C - 35°C)
- Press the green  button to confirm the setting. 'HOLIDAY MODE' will now be displayed on the screen until the return date is reached or the holiday mode is cancelled.

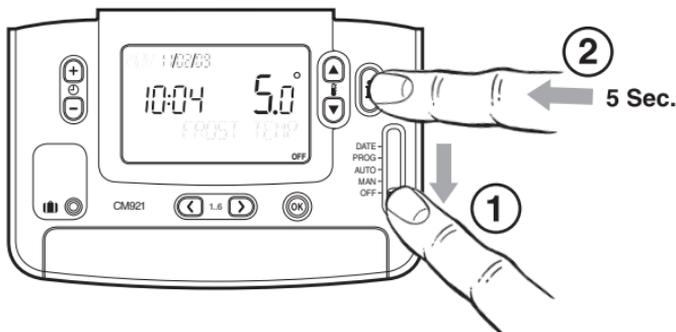
The thermostat will now control to the new temperature for the set number of days that your home is vacant. At midnight the holiday counter will be reduced by one until the selected number of days have passed. The thermostat will then return to normal operation as set by the slider switch position (**AUTO** or **MAN** position). To cancel the HOLIDAY setting or to exit the function at any time press the  button a second time or move the slider switch to a different position.

Changing the User Parameters

The user mode allows you to modify some basic settings of the thermostat to meet your personal preferences. You can change the time display format (24hr or AM/PM), reset the heating program to the built-in settings and disable or enable the summer/winter time change feature.

To change any of these user's parameters:

- a. Move the slider switch to the **OFF** position, then press and hold the  button for approximately 5 seconds.



- b. Once entered the following information will be shown on the screen:



- c. Now choose which one of the following parameters you would like to change:

i) Change the time format

'CLOCK SELECT' should be displayed on the screen - press the  or  buttons to select the preferred time format (12=AM/PM format, 24=24hr format) and the display will flash, indicating a change has been made. To confirm this change press the green  button.

ii) Reset the built-in program to the factory default

Press the   time button once. The display will show 'RESET PROGRAM'. Press the  or  buttons to select the preferred setting (0=user program, 1=factory program) and the display will flash, indicating a change has been made. To confirm this change press the green  button.

iii) Enable or disable summer/winter time change

Press the   time button twice. The display will show 'AUTO CHANGE'. Press the  or  buttons to select the preferred setting (0=disabled/Off, 1=enabled/On) and the display will flash, indicating a change has been made. To confirm this change press the green  button.

- d. To exit the user mode move the slider switch to the **AUTO**, **MAN** or **OFF** position.

12 Troubleshooting Guide

Symptom	Possible Cause	Remedy
The thermostat has a blank LCD screen.	Batteries not installed. Incorrect battery orientation.	Check to see if there are batteries in the battery compartment and the paper tab has been removed. Check that the batteries have been installed in the correct orientation.
	Exhausted batteries.	Replace with new batteries.
The thermostat shows a flashing  symbol on the LCD screen.	Batteries are exhausted and need replacing.	Replace with new batteries.
The thermostat's LCD display shows a  symbol but the heating does not switch on.	The heating is not required at this moment.	The heat demand is sent to the BDR91 as a value between 0-100%. The BDR91 will adjust the boiler on time to meet this requirement. That is why the heating will be off sometimes even if the  symbol is displayed. To check if RF system is communicating properly, press the  button to increase the set temperature a few degrees above the current temperature. The heating should come on after a few seconds.
The thermostat shows a flashing  symbol on the LCD screen.	Fault in thermostat	Remove and re-insert the batteries in the thermostat. If the  symbol does not clear itself in a few minutes call the installer.

Symptom	Possible Cause	Remedy
The thermostat's LCD display works but the heating does not switch on (BDR91 LEDs are off or green one is on).	No power to heating system. Program does not call for heat.	Check that there is power to the heating system. Move the slider switch to MAN and press  or to increase the temperature a few degrees above the current room temperature. The heating should come on after a few seconds.
	Wrong electrical connection.	Call electrical installer to check the boiler and BDR91 power supply as well as the connection between the boiler and the BDR91.
The red LED on the BDR91 is constantly on or flashing.	RF communication lost due to the wrong location of the thermostat. RF communication fault.	Hook the thermostat back on the wall bracket or replace the thermostat on the table stand in the position where RF communication was reliable. Call installer.
		NOTE: You can control the boiler manually when the RF communication is lost: Press the BDR91 push button to switch the boiler on and off. When the green LED is on – the boiler is on.
Heating switches ON or OFF too slowly or quickly.	The thermostat not set correctly for your system.	Call Installer.
Temperature swings between too hot and too cold.	The thermostat not set correctly for your system.	Call Installer.

How do I change the batteries on the CM921 when they run out?

The thermostat constantly monitors the battery power level, which typically last for about 2 years before needing replaced. When the power is running low a flashing symbol will be displayed on the screen. To change the batteries follow the steps in the above section ('**STEP 1: Installing the Batteries**' on page 3), replacing the used batteries with new ones in step **c**.

Note: While changing the batteries your program settings will be stored but you may need to adjust the time and date settings to be correct.

How do I set one temperature for the whole day?

To operate as a simple thermostat with one temperature for a period of time, move the slider switch to the **MAN** position. Adjust the manual temperature by pressing the  or  buttons. This can be set anywhere from 5°C to 35°C in 0.5°C steps. The thermostat will continue to maintain this temperature until another operating mode is selected or the temperature is adjusted.

What is Optimum Start?

Optimum Start is a program which ensures that the optimum temperature conditions are achieved at the required times. This is an Energy Efficiency feature that adjusts the start time of your heating system depending upon how cold it is. For example, on cold days your heating system will be started earlier to ensure that your home is warm when you get up (at the target temperature) and on warmer days the heating system will be started later to save energy. So, if the Optimum Start Feature is used, then the time / temperature settings which are entered into the thermostat should be set to when you want to be warm by and not when you want the heating system to start.

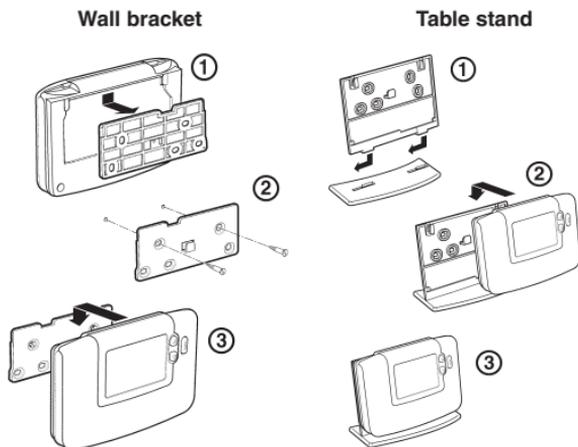
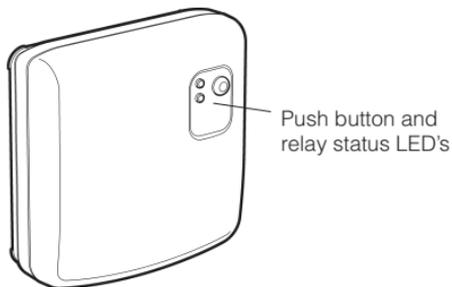
I want to use the table stand instead of wall mounted bracket. Where can I position the room unit?

It is important to keep the room unit in a location where reliable RF communication was proven. Advise your installer where would you like to position the room unit and he will check if the RF communication is reliable in the selected location(s).

Important: The Room Unit measures the temperature of the room where it is located. It is important that the placement of the Room Unit within the room is away from; draughts, direct sunlight and other heat sources. As this is a wireless device certain objects could interfere with the RF signal - Leave at least 30cm distance from any metal objects (including wall boxes) and at least 1 metre from any other electrical equipment eg. radio, TV, PC, etc.

How do I remove the thermostat from the table stand or wall bracket?

After programming is finished always replace the thermostat back on the wall holder or table stand.

**BDR91 Relay Box Controls Layout****What does it mean when the BDR91 relay box green LED is ON?**

Green LED indicates normal operation of the radio frequency system. When the green LED is ON the boiler is also ON. When the LED is OFF the boiler is OFF.

FAQ's & TROUBLESHOOTING

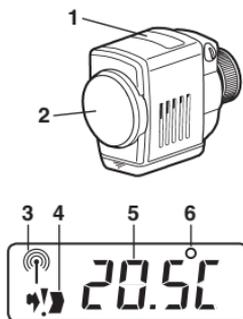
Can I use my CM921 to control my air-conditioning system?

Yes, if your system has been set up correctly you can use your thermostat to control the cooling. To switch the thermostat between heating and cooling modes press the  and  buttons together for 5 seconds in any of the product operating modes (**AUTO**, **MAN** or **OFF**). The text 'COOLING' will be displayed for a moment on the screen to indicate the cooling operation is now active. The factory default program for cooling is specified in the table below, but this can be modified in the same way as the default heating program:

Period	1	2	3	4	5	6
Time	6:30	8:00	12:00	14:00	18:00	22:30
Temperature	24°C	28°C	24°C	28°C	24°C	24°C

How do I operate an HR 80 radiator controller with my CM921?

1. Display: Shows current set temperature and device information.
2. Adjustment dial on the operating unit: Allows manual temperature adjustment.
3. Symbol for the RF connection to the command centre.
4. Symbol for separating the operating unit and coupling module.
5. Set temperature.
6. Symbol for actual value coming from the room thermostat (see installation manual 4.5.2).



Changing the set temperature with adjustment dial

The setpoint is normally defined and controlled at the room thermostat. To override the local setpoint, turn the adjustment dial of the radiator controller unit until the desired set temperature (between 5 - 30 °C) is displayed. This local setpoint override remains valid until a time program from the room thermostats overwrites it automatically.

In order to open or close the radiator valve completely turn the adjustment dial until "OFF" (closed) or "ON" (opened) is displayed. (If temperature limits are set, "ON"/"OFF" is not displayed - see installation manual 4.5.1).

