Honeywell Control Systems Ltd.
Arlington Business Park,
Bracknell
Berkshire
RG12 1EB
Technical Help Desk: 08457 678999
www.honeywelluk.com

Honeywell

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CM901 - User Guide

1 day Programmable
Room Thermostat

Description

The Honeywell CM901 is a 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. The following instructions explain how to program and use the CM901 to provide the most home comfort at the least cost.

Features

Ergonomic User Interface features an '**OK-button**' making the CM901 very easy to use so you always stay in control.

Dynamic Text Display 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 lets you set any 6 temperatures you require (from 5 to 35°C) so you can enjoy economical comfort throughout the 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'.

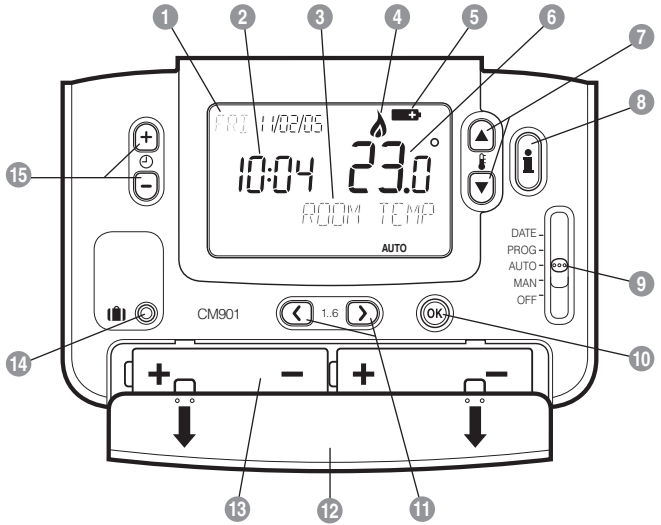
Built-in Memory holds the user program indefinitely so that it is never lost – even if you remove the batteries.

Outside Temperature Sensor (optional accessory) can be fitted to the CM901 to display the temperature outside your home.

Remote Temperature Sensor (optional accessory) can be fitted to the CM901 to control to the room temperature in another location, concealing the CM901.

Optimum Start option is an advanced feature which ensures that the optimum temperature conditions are achieved at the required times.

Controls Layout



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

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Manufactured for and on behalf of the Environment and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorised Representative Honeywell International Inc.

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:

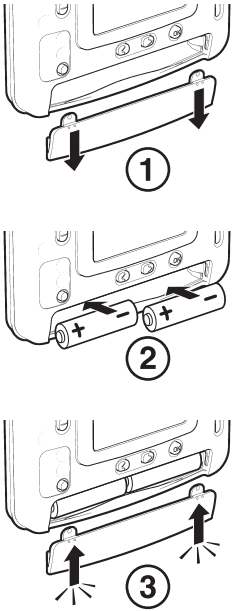
a. Lift up the front cover of the thermostat to reveal the battery cover and product controls.

b. Remove the battery cover by pressing down and sliding out.

c. Insert the 2 x AA LR6 Alkaline Batteries supplied with the thermostat, ensuring the correct orientation (see '**Controls Layout**' on page 2).

d. After a short pause the thermostat will display information on the screen and is now ready for use.

e. Replace the battery cover by sliding it firmly back into the front of the thermostat.

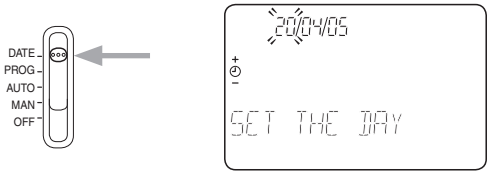


PLEASE RESPECT YOUR ENVIRONMENT!
Take care to dispose of used batteries carefully.

STEP 2: Setting the Date and Time

To set the Date and Time:

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



b. Use the ⊕ or ⊖ 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.

c. Now the month digits will start flashing and 'SET THE MONTH' will be displayed. Change the month and then the year using the ⊕ or ⊖ 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).

d. After setting a valid date, the time digits will begin flashing and 'SET THE TIME' will be displayed.

e. Use the ⊕ or ⊖ 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 CM901**'.

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

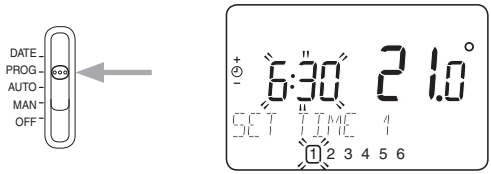
Reviewing the Heating Program

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:

a. 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 CM901

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 OK 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 OK button to move on to step '**d.**'.*

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

e. Press the green OK 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 6 '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 OK 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:

  a. Move the slider switch to the **AUTO** or **MAN** position.

  b. Press the 🧳 button to display the holiday days counter and temperature setting, along with the holiday indicator 🧳.

  c. 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).*

  d. Press the green OK button to confirm the setting.

  e. '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)

  f. Press the green OK 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.

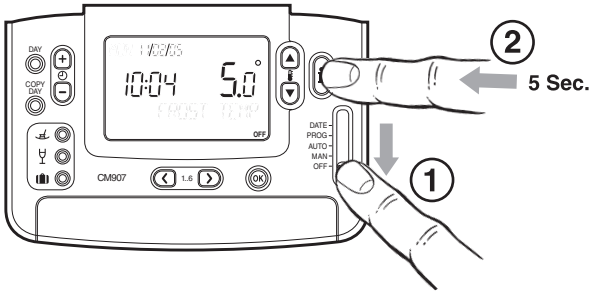
The thermostat will now control to the new temperature for the set number of days that your home is vacant. At midnight the holiday counter will be reduced by one until the selected number of days have passed. The thermostat will then return to normal operation as set by the slider switch position (**AUTO** 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

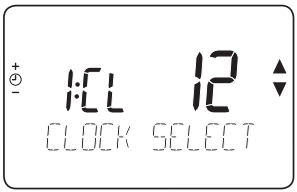
The user mode allows you to modify some basic settings of the thermostat to meet your personal preferences. You can change the time display format (24hr or AM/PM), reset the heating program to the built-in settings and disable or enable the summer/ winter time change feature.

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. 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 OK 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 OK 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 OK button.

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

FAQ's & TROUBLESHOOTING

How do I change the batteries on the CM901 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.

Can I use my CM901 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 ▲ or ▼ 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

If something happens to my heating system how can I check that the thermostat is working?

Refer to the Troubleshooting Guide on page 15. If you still need assistance after this call your installer. The thermostat should only be opened or removed by a qualified professional to prevent possible injury from electric shock and/or damage to the product.

FAQ's & TROUBLESHOOTING

What other accessories can I buy that work with the CM901?

1. **Outside Temperature Sensor Accessory**

   The Outside Temperature Sensor accessory can be fitted to your thermostat to display the outside temperature. By pressing the button twice, the thermostat displays the external temperature.

2. **Remote Temperature Sensor Accessory**

   The Remote Temperature Sensor accessory can be fitted to your thermostat to control the temperature of another room where it is inconvenient to locate the thermostat e.g. commercial premises where the public may tamper with the buttons.

Note: *For more information on the above accessories please contact your installer.*

Troubleshooting Guide

Symptom	Possible Cause	Remedy
CM901 has a blank LCD screen	Batteries not installed	Check to see if there are batteries in the battery compartment and the paper tab has been removed
	Incorrect battery orientation	Check that the batteries have been installed in the correctorientation
	Exhausted batteries	Replace with new batteries
CM901 shows a flashing symbol on the LCD screen	Batteries are exhausted and need replacing	Replace with new batteries
The CM901's LCD screen works but the heating does not switch on	No power to heating system	Check that there is power to the heating system.
	Program does not call for heat	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.
	CM901 not connected to boiler properly	Call installer to check electrical connection between the CM901and the boiler.
Heating switches ON or OFF too slowly or quickly	CM901 not set correctly for your system	Call Installer
Temperature swings between too hot and too cold.	CM901 not set correctly for your system	Call Installer
CM901 shows a flashing symbol on the LCD screen	Fault in CM901	Remove and re-insert the batteries in the CM901. If the symbol does not clear itself in a few minutes call the installer

...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.