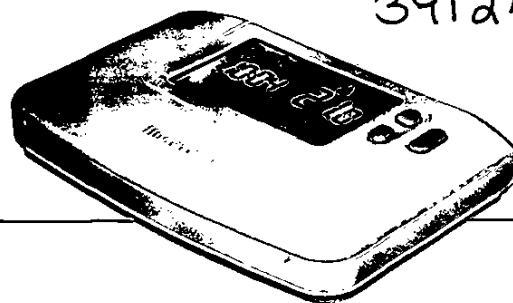


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## CM900 Installation Guide

### Programmable Room Thermostat

The Honeywell CM900 (CM907 or CM901) is a modern programmable room thermostat based on Honeywell's proven programming philosophy. To further improve the ease of use, this product includes a very large LCD display with backlighting and a Dynamic Text Display to assist customers during daily use.

### Installing the Thermostat

**1 Find a suitable location for mounting**

**2 Remove from packaging**

**3 Mount the backplate to wall**

**4 Typical wiring connections**

**a.** 24-230V~ 50-60Hz <8A. CM900 (A B C) connected to Combi Boiler (N L T1 T2).

**b.** 24-230V~ 50-60Hz <8A. CM900 (A B C) connected to Basic Boiler (N L).

**c.** 24-220V~ 50-60Hz <8A. CM900 (A B C) connected to Pump Only (N L PUMP).

**d.** 230V~ 50-60Hz <8A. CM900 (A B C) connected to Zone Valve (2 6 3 1 1 4) and PUMP (L N).

**e.** 230V~ 50-60Hz <8A. CM900 (A B C) connected to Zone Valve (GYBLRGR) and PUMP (L N).

**f.** 230V~ 50-60Hz <8A. CM900 (A B C) connected to Thermal Actuator (BRIBLGRGR MT4) and PUMP (L N). \*S-versions only.

**g.** 24-230V~ 50-60Hz <8A. CM900 (A B C) connected to Cooling System (N L).

**h.** 24-230V~ 50-60Hz <8A. CM900 (A B C) connected to Electric Actuator (1 2 3 M6...).

**5 Connect the wiring correctly**

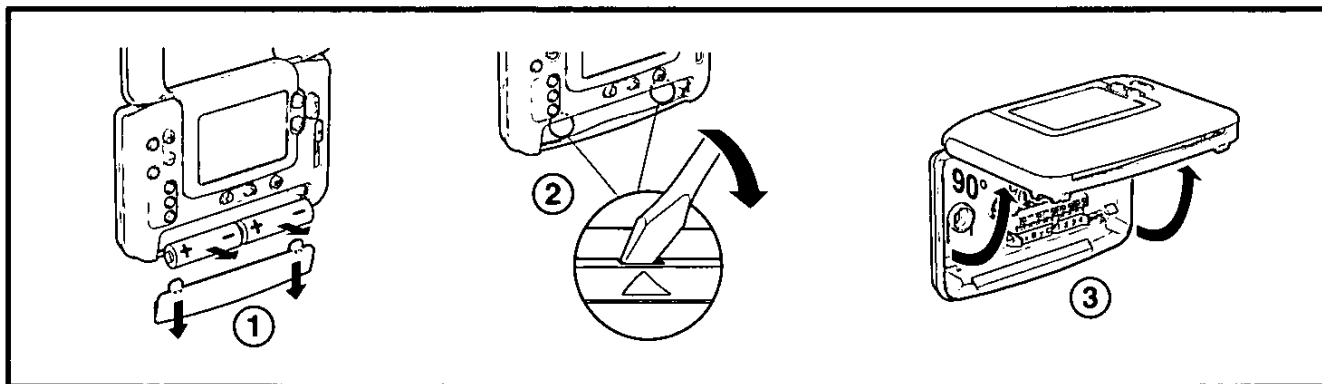
**6 Attach the cover to backplate**

**7 Install the batteries (included)**

**8 Attach the instruction label to flap**

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## Removing the Cover



## Setting-up the Thermostat

Please follow the illustrations detailed on page 1 in sequence to install the thermostat correctly, then refer to the steps below:

**NOTE:** For gas boiler applications, the factory system settings will not need to be changed (for other applications see section 'Using the Thermostat for Specific Applications' below).

### To set-up the thermostat:

1. Remove the battery cover and insert the batteries supplied with the unit (2 x AA LR6 Alkaline Batteries).
2. Move the slider switch to the **DATE** position.
3. Use the  $\ominus$   $\oplus$  or  $\odot$  buttons to set the correct day / month / year, pressing the green  $\odot$  button to confirm.
4. Use the  $\ominus$   $\oplus$  or  $\odot$  buttons to set the correct time, pressing the green  $\odot$  button to confirm.
5. Move the slider switch to the required operating mode (**AUTO**, **MAN** or **OFF**) to begin operating at the default factory settings, or move to **PROG** and modify the built-in heating program accordingly (see User Guide).

You can now use the 'User Guide' supplied with the thermostat to demonstrate how it works to the home owner.

## Using the Thermostat for Specific Applications

The CM900 thermostat is a versatile controller that can be used to control many different applications. For most typical applications, like 'wall-hung gas fired combination boiler control' or 'zone valve control', no adjustments from the factory settings are required.

For other applications, like controlling an oil burner, the best system performance can be achieved by modifying selected parameters of the thermostat in installer's mode. The table below lists the most common settings used for a specific application:

Specific Application:		Setting:		What to change:
		Cycle/Hour	Minimum ON Time	
<b>Note:</b> All parameters listed below belong to category 2 - System Parameters (see <i>Installer Parameters Table</i> )				
<b>HEATING</b>	Gas Boiler (<30kW)	6	1	No changes required
	Oil Boiler	3	4	Set 1:Ot parameter to 4 Set 2:Cr parameter to 3
	Thermal Actuator	12	1	Set 2:Cr parameter to 12
	Zone Valve	6	1	No changes required
	Electric Heating (resistive load <8A)	12	1	Set 2:Cr parameter to 12 Set 3:EH parameter to 1
<b>AIR-CONDITIONING</b>				To enable switching between cooling and heating modes adjust parameter 4:HC in category 2 (0 = disabled, 1 = enabled). Now you can switch between these modes by pressing the $\uparrow$ $\odot$ and $\downarrow$ $\odot$ buttons together for 5 seconds in any of the product operating modes ( <b>AUTO</b> , <b>MAN</b> or <b>OFF</b> ). Explain to the end user how to switch between these modes using the $\uparrow$ $\odot$ and $\downarrow$ $\odot$ buttons and ensure the cooling program is modified as required.
	Heat Pump / Air-Conditioner	3	4	Set 1:Ot parameter to 4 Set 2:Cr parameter to 3
	Fan Coil	6	1	No changes required

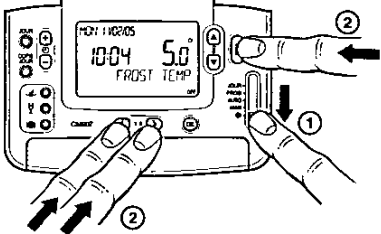
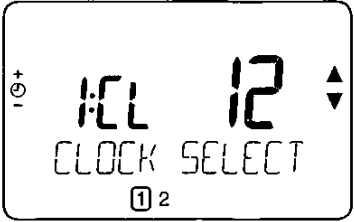
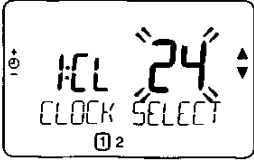
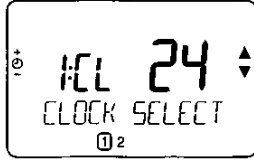

## Using the Special Features of the Thermostat

Special Feature:	Description:	To Enable/Disable This Feature:
Optimisation (Variable Start Time)	The thermostat will adjust the start time in the morning/afternoon so the desired temperature is reached by the start of the program period. The system will restrict the start time to a max of 2 hours.	To enable: Set parameter 8:OP (category 1) to 1.
Heating or Cooling Operation	This product can be used for heating or cooling applications. If you select cooling mode the control algorithm and factory default program will be modified. You can independently modify the heating and cooling profile.	To enable: Set parameter 4:HC (category 2) to 1.
Summer/Winter Auto time change	This feature moves time automatically on the last Sunday of March and the last Sunday of October. The feature is factory enabled.	To enable: Set parameter 3:tC (category 1) to 1.
Temperature Offset	If the thermostat is located in a particularly hot/cold location and cannot be moved because of wiring restrictions then the measured/displayed temperature can be adjusted by +/- 3°C. This is useful if the homeowner wants the reading to match another appliance temperature display.	Set parameter 12:tO (category 1) to the required offset value.
Upper/Lower Temperature Limit	The normal upper temperature limit of 35°C can be reduced to 21°C to save the homeowner energy. The normal lower limit of 5°C can be increased up to 21°C to protect inhabitants from cold.	Set parameter 6:uL (category 1) to the desired upper limit. Set parameter 7:lL (category 1) to the desired lower limit.

## Optional Accessories

Accessory:	Description:	To Enable/Disable This Feature:
Outside Temperature Sensor	An Outside Temperature Sensor can be fitted to the thermostat, allowing the homeowner to display the outside temperature on the display by pressing the  button.	1. Fit the sensor (instructions are included in the sensor package). 2. Set 10:SS parameter (category 1) to 1.
Remote Temperature Sensor	A Remote Temperature Sensor can be fitted to the thermostat, allowing it to control the temperature from another room e.g. in commercial premises where the public may adjust keys.	1. Fit the sensor (instructions included in the sensor package) 2. Set 10:SS parameter (category 1) to 2.


## Entering the Installer Mode

<p><b>1</b> Move the slider to the <b>OFF</b> position.</p> <p>Press and hold the  button and the two <b>PROGRAM</b>  &amp;  buttons together.</p> 	<p><b>2</b> The unit will display the first parameter of installer parameter group <b>category 1</b> (from Parameter n.1 to n.19) as shown</p> 
<p><b>3</b> Press the  or  to change factory setting.</p> <p>The display will flash indicating that a change has been made.</p> 	<p><b>4</b> Press the green  button to confirm the change.</p> <p>The display will stop flashing.</p> 
<p><b>5</b> Press  button to go to the next parameter.</p> 	<p><b>6</b> Press <b>PROGRAM</b>  button to go to Installer parameter group <b>category 2</b> () (from Parameter n.1 to n.5).</p> <p><b>7</b> To exit the installer mode, move the slider switch to the <b>AUTO</b> or <b>MAN</b> positions.</p>






## Installer Parameters Table:

Parameter	Parameter No.	Factory Default Setting	Optional Setting
<b>Category 1 Parameters - Programmable Thermostat Settings</b>			
		<b>Display</b>	<b>Description</b>
AM-PM / 24hr Display	1:CL	12	12 hr - AM/PM clock display format
Reset Time/ Temp Program	2:rP	1	Time / Temperature profile set to factory default. <i>Changes to 0 when one of the time/temp profiles are changed.</i>
			24
			24 hr clock display format
			0
			Factory Time / Temperature profile has been modified <i>To restore the factory profile set to 1</i>
Auto Summer/Winter Time Change	3:tC	1	Auto Summer/Winter Time Change Enabled
			0
			Auto Summer/Winter Time Change Disabled
LCD Backlighting	5:bL	1	Backlighting Enabled
			0
			Backlighting Disabled
Upper Temp Limit	6:uL	35	35°C Upper Temp. Limit
			21 to 34
			21°C to 34°C adjustment in 1°C steps
Lower Temp Limit	7:lL	5	5°C Lower Temp. Limit
			5 to 21
			5°C to 21°C adjustment in 1°C steps
Optimisation	8:OP	0	Optimisation Disabled
			1
			Optimisation Enabled
Telephone Override	9:tS	0	Telephone Override Disabled
			1
			Telephone Override Enabled
Second Sensor	10:SS	0	Second Sensor Disabled
			1 or 2
			Second Sensor Enabled: 1 = Outside Sensor 2 = Remote Room Sensor
Temperature Offset	12:tO	0.0	No temperature offset
			-3 to +3
			-3°C to +3°C adjustment in 0.1°C steps
Proportional Band Width	13:Pb	1.5	Proportional band of 1.5 degree
			1.6 to 3.0
			1.6°C to 3.0°C adjustment in 0.1°C steps
Reset Parameters to Factory Defaults	19:FS	1	All settings at factory defaults <i>Changes to 0 when one of the parameter is changed</i>
			0
			Settings are as modified above <i>To restore the factory parameters set to 1</i>
<b>Category 2 Parameters - System Settings (press PROGRAM to access this category)</b>			
		<b>Display</b>	<b>Description</b>
Minimum boiler ON time	1:Ot	1	1 minute minimum ON time
			2 to 5
			Selection of 2, 3, 4 or 5 minutes minimum ON time
Cycle Rate	2:Cr	6	6 cycles per hour (cph)
			3, 9 or 12
			Selection of 3, 9 or 12 cph
Electric Heat	3:EH	0	Resistive Loads <3 A
			1
			Resistive loads 3 to 8 A
Heat/Cool Change	4:HC	0	Disabled
			1
			Enabled
Pump Exercise	5:PE	0	Pump exercise disabled
			1
			Pump exercise enabled

### Notes:

Remember to always press the green  button to confirm that you want to store your new Installer Set-Up setting. To exit the **Installer Mode** move the slider switch to the **AUTO** or **MAN** positions.

## System Commissioning

To enter the diagnostic mode move the slider switch to the **OFF** position then press and hold the  button for 5 sec. The unit will enter the user settings mode. Next press and hold the  and  buttons together. The unit will hold the relay on for 5 minutes and the following information can be viewed on the display by pressing the  or  buttons: model ID, date code (WWYY) and checksum.

### Honeywell Control Systems Ltd.

Arlington Business Park,

Bracknell

Berkshire

RG12 1EB

Technical Help Desk: 08457 678999

www.honeywelluk.com



# Honeywell

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