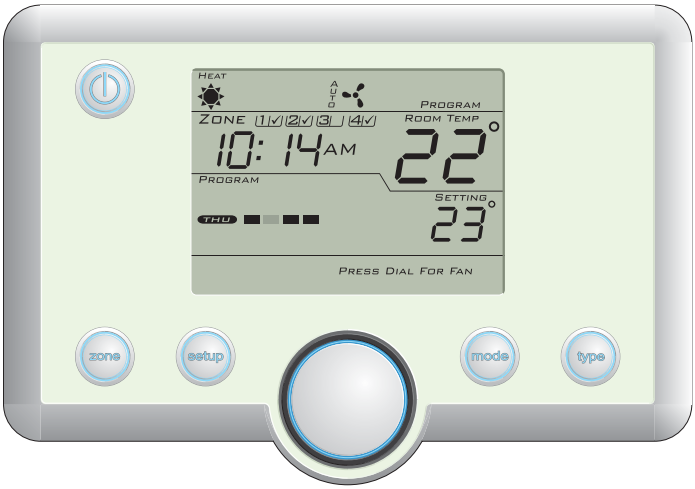
CLIPSAL
LIVING ELECTRICAL

C-Bus Programmable Four Zone Thermostat

User's Guide

5070THP Series

TWO YEAR WARRANTY 2



CLIPSAL C-Bus Control and Management System

FC CE

V1.0 Jul 2007

Contents

1.0 Description and Features

The 5070THP Series C-Bus Programmable Four Zone Thermostat is used to regulate the air temperature of a particular environment. The unit may be controlled via other C-Bus devices such as wall switches or a Touch Screen; it may operate independently or with other C-Bus Thermostats.

The air temperature is monitored by the unit's inbuilt temperature sensor or optionally via an external C-Bus temperature sensor. The unit includes the following special features:

- Scheduling. The unit is capable of scheduling up to four temperature setting events a day. A unique schedule can be programmed for each day of the week.
- Setback. This saves power by using a wider acceptable temperature range within which heating or cooling is not performed.
- Temperature guard. This ensures the temperature is maintained within a specified extreme temperature range (to protect against freezing or extremely hot conditions).

Depending on the installation, you can use the 5070THP Series unit to:

- set the required temperature or comfort level
- select the type of climate control (heating, cooling, ventilation)
- select the fan mode and speed
- enable and disable zones
- switch setback mode on or off
- activate program mode to enable scheduling
- program schedules
- change the temperature display format (Celsius or Fahrenheit).

2.0 Operating the Unit

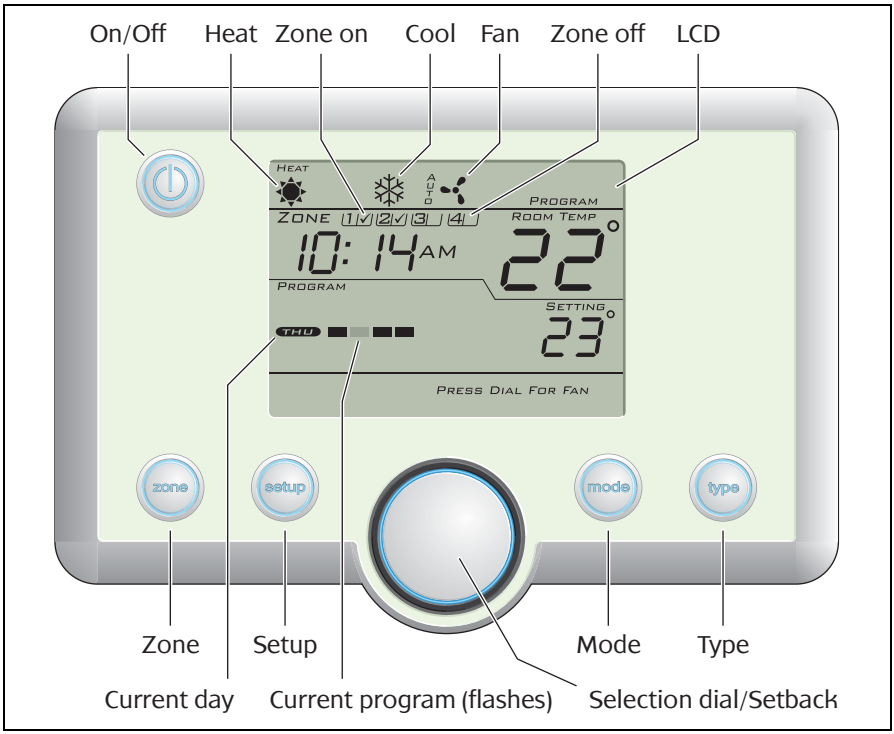


Figure 1 - C-Bus Programmable Four Zone Thermostat front panel

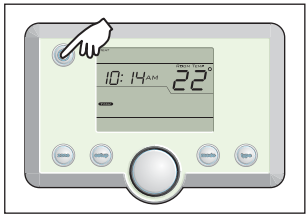
2.1 Button Identification

A climate control system connected to the C-Bus Programmable Four Zone Thermostat is controlled by the buttons on the front panel (Figure 1). Refer to Table 1 for a description of button functions.

Function	Description
On/Off	Switches the climate control system on or off. The Setup function may be accessed when the system is on or off.
Zone	Allows you to switch one or more zones on and off.
Setup	Accesses various sub-functions, to program schedules, set the time, change the temperature display format and adjust fan, temperature guard and setback settings.
Selection dial	When the Thermostat is switched on, rotate the dial to adjust the temperature setting; press and hold for 2 seconds to enable setback. When using Setup or adjusting Zone, Mode or Type, rotate the dial to increment or decrement a setting and press the dial to select a setting.
Mode	Selects PROGRAM (scheduling) or MANUAL mode.
Type	Sets the operating type of the heating/ventilation/air conditioning (HVAC) system. Options may include heating, cooling, heating & cooling and ventilation, depending on the installation.
Setback	Allows a wider temperature range, reducing overall energy consumption. The range may be customised using the Setup function. The function is enabled and disabled using the selection dial.

Table 1 - Button functions

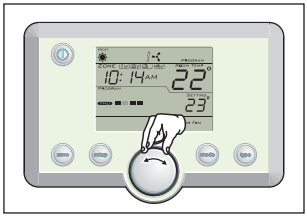
2.2 Switching On



When the C-Bus Programmable Four Zone Thermostat is off it displays the climate control type, current time, day and room temperature.

To switch the Thermostat and climate control system on, press the On/Off button. The temperature setting (or comfort level) is then displayed, together with the current program (if enabled).

2.3 Adjusting the Temperature



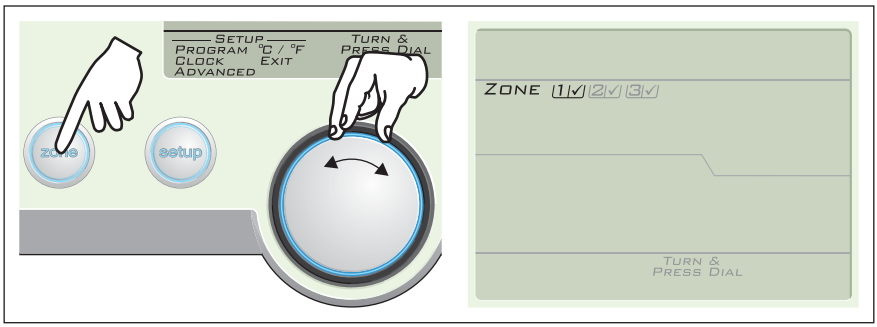
When the Thermostat is switched on, rotate the selection dial to adjust the temperature setting.

On evaporative cooling systems this is a comfort level (such as a number from 1 to 20).

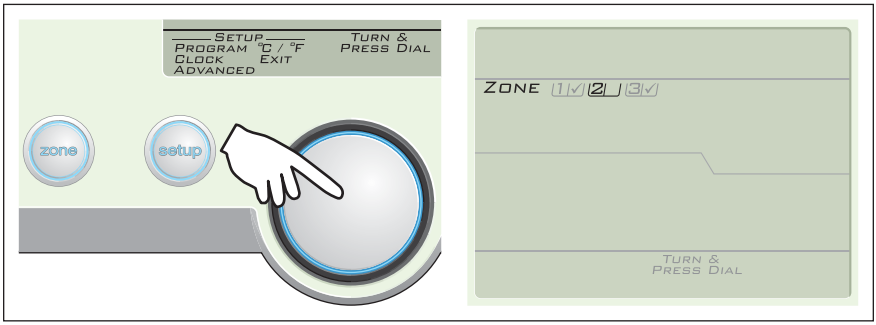
On other systems this is a temperature (such as 22 °C).

2.4 Zone Control

Your climate control system may be installed with multiple zones, each capable of being switched on and off independently. Depending on the installation, individual zones may be controlled by separate Thermostats, or a single Thermostat may control multiple zones. These zones may be switched on and off using the Zone button.



1) With the Thermostat switched on, press the Zone button. The first available zone is selected. Rotate the dial to select a zone.



2) Press the dial to toggle the selected zone on or off. The ZONE screen will exit after 5 seconds of inactivity, or press the Zone button again to exit immediately.

2.5 Operating Mode

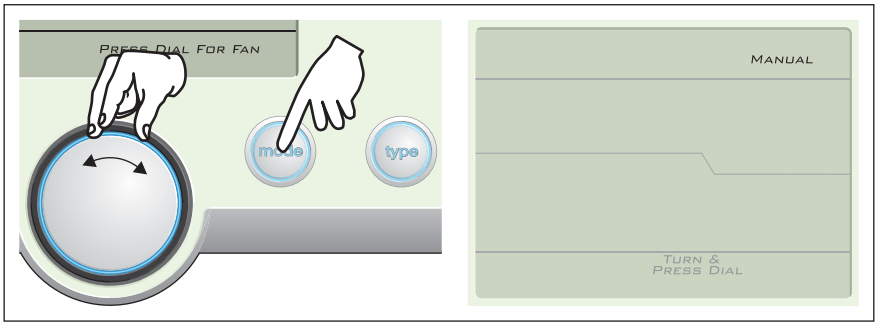
The Thermostat has up to three operating modes, depending on the installed heating/ventilation/air conditioning (HVAC) system and its configuration. These are described in Table 2.

Mode	Evaporative System	Other System Type
AUTO	The Thermostat controls the cooling plant to maintain a comfort level according to the selected comfort level setting.	N/A
MANUAL	The cooling plant is switched always on or always off when the Thermostat is switched on and off.	The climate is controlled according to the selected temperature setting.
PROGRAM	The cooling plant is controlled according to the comfort level events programmed in the schedule.	The climate is controlled according to the temperature setting events programmed in the schedule.

Table 2 - Operating mode types

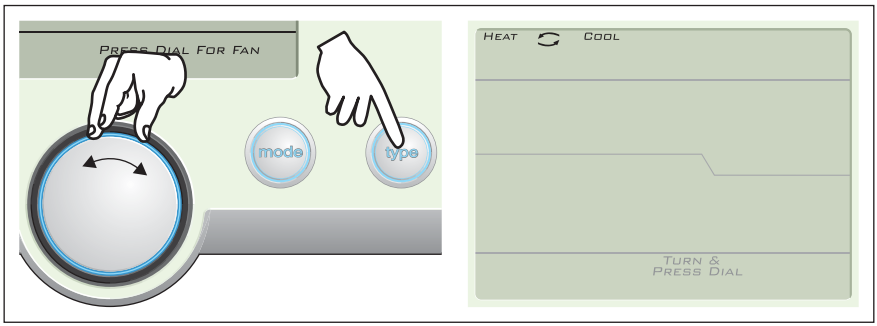
NOTE PROGRAM mode is only available if scheduling was enabled by the installer. Scheduling is often disabled in evaporative systems.

If you change the temperature/comfort level or setback setting in PROGRAM mode, OVERRIDE is displayed under the temperature setting. The Thermostat will use the override settings until the next scheduled program takes effect, the unit is switched on and off or the operating mode is changed.



With the Thermostat switched on, press the Mode button. The current mode flashes. Rotate the dial to select between AUTO, MANUAL and PROGRAM mode (depending on the installation). Wait 5 seconds or press the Mode button to exit.

2.6 Climate Control Type



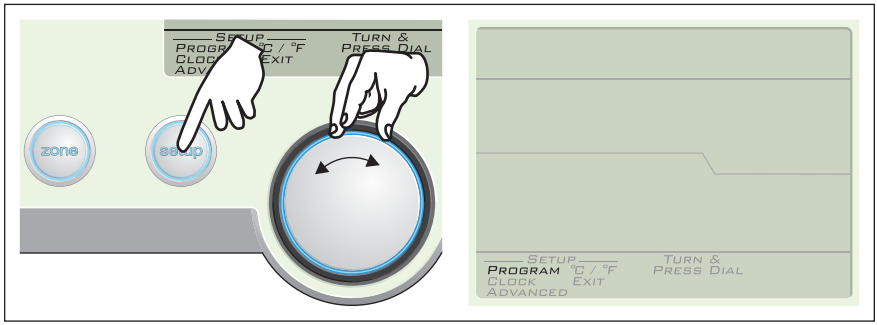
With the Thermostat switched on, press the Type button. The current climate control type flashes. Rotate the dial to change the type.

Available types vary depending on the installed climate control system. Types for a reverse cycle heat pump air conditioning system may include HEAT, COOL, HEAT/COOL and FAN.

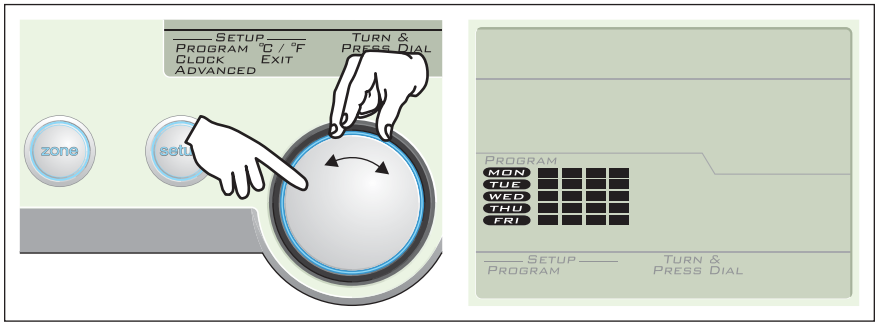
Wait 5 seconds or press the Type button to exit.

3.0 Setup

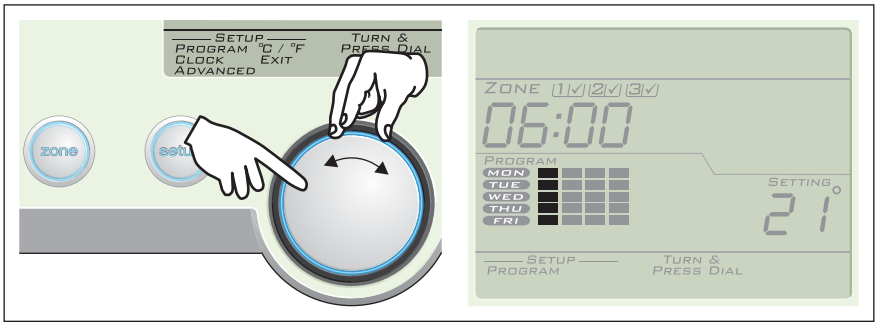
3.1 Programming Schedules



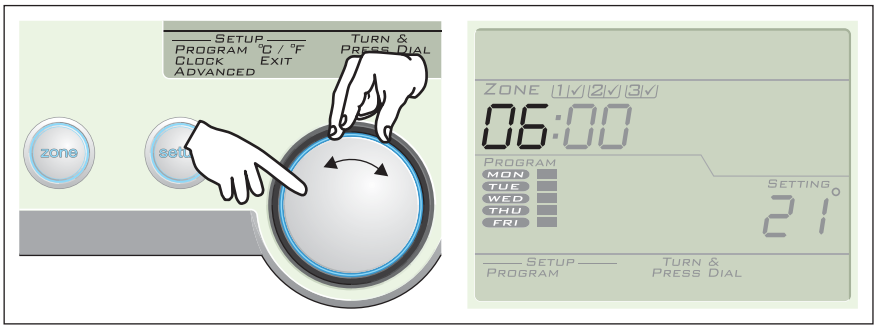
1) Press the Setup button. Rotate the dial until PROGRAM flashes.



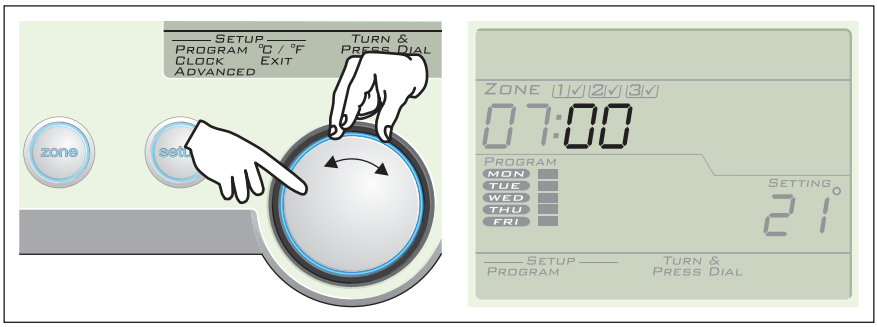
2) Press the dial. A day or group of days to program is selected. You can rotate the dial to select another day or group of days. You can select MON to FRI, SAT and SUN, MON to SUN or a specific day.



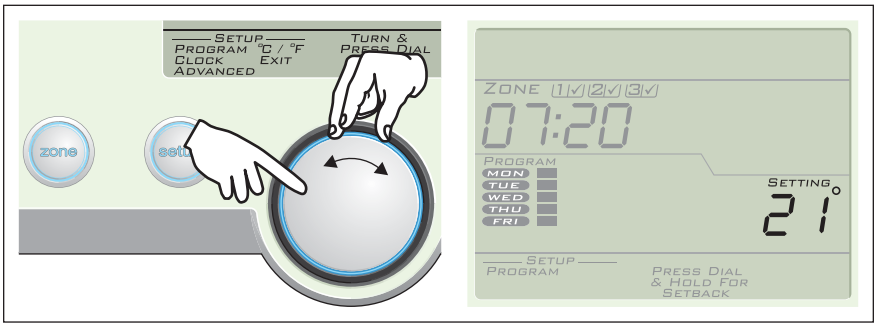
3) Press the dial. The first of four events is selected, and the event settings are displayed. You can rotate the dial to select an event (you can also select EXIT at this point).



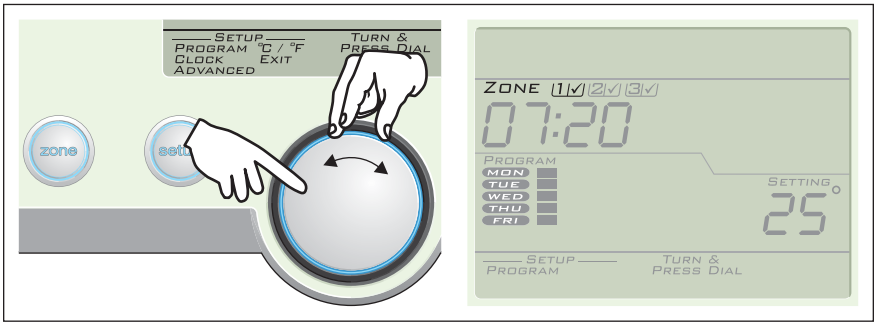
4) Press the dial. The hour is selected. Rotate the dial to change the hour (you can also select OFF to disable the event).



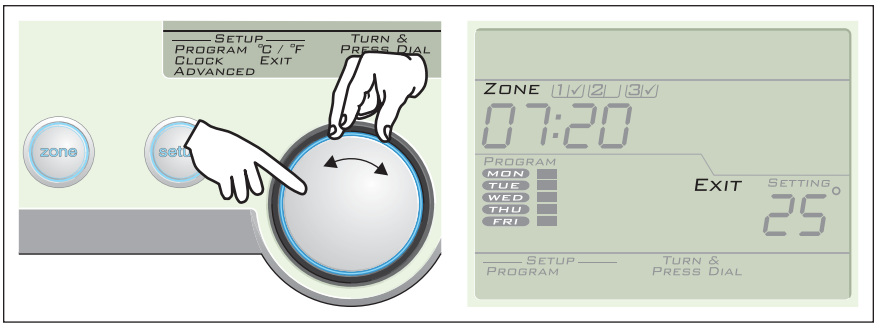
5) Press the dial. The minute is selected. Rotate the dial to change the minute.



6) Press the dial. The temperature set point is selected. Rotate the dial to change the temperature or comfort level (you can also select -- - to switch the system off for this event). At this point you can press and hold the dial for 2 seconds if you want to enable setback for this event.



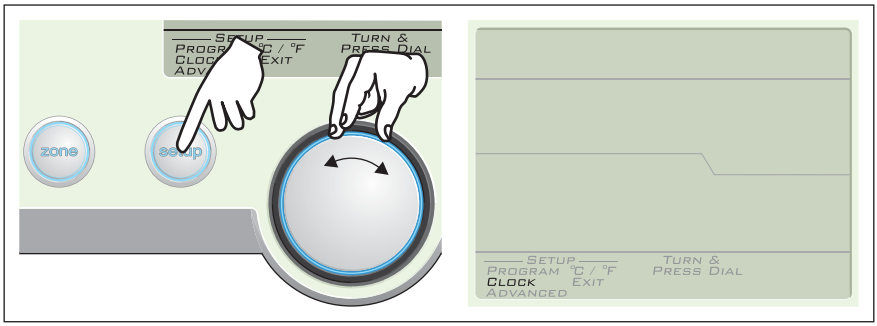
7) Press the dial. If zones were enabled by the installer, the first zone is selected. Rotate the dial to select a zone. Press the dial to toggle it on and off.



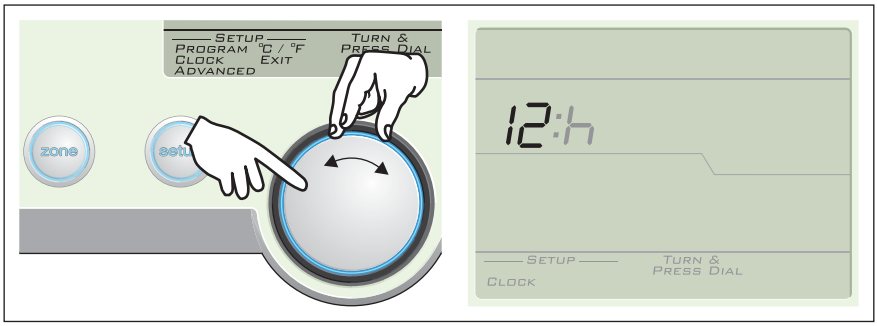
8) Rotate the dial to select EXIT. Press the dial.

3.2 Clock

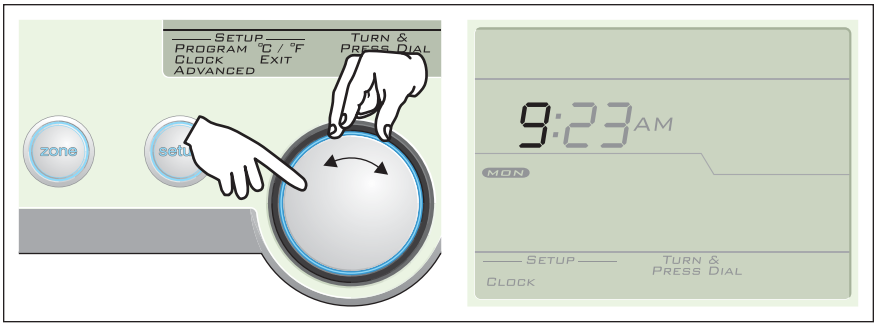
The clock can be set to use 12 or 24 hour time format. The CLOCK setup function is used to set the format, time and day of the week.



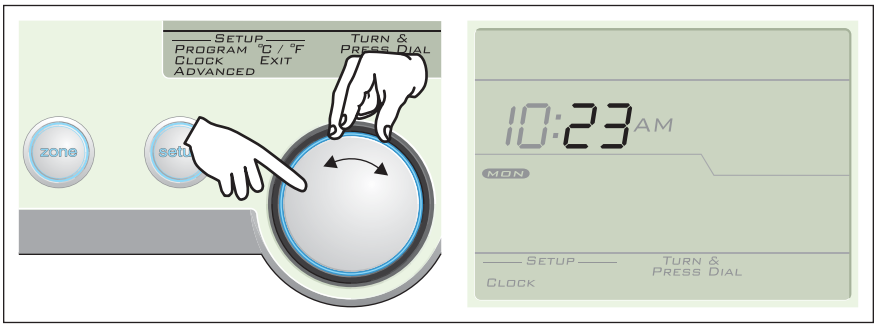
1) Press the Setup button. Rotate the dial until CLOCK flashes.



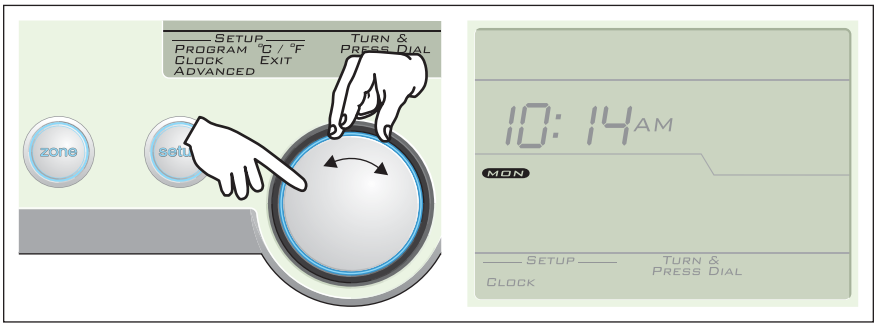
2) Press the dial. The time format is displayed. Rotate the dial to select either 12 or 24 hour format.



3) Press the dial. The time is displayed with the hour selected. Rotate the dial to change the hour.



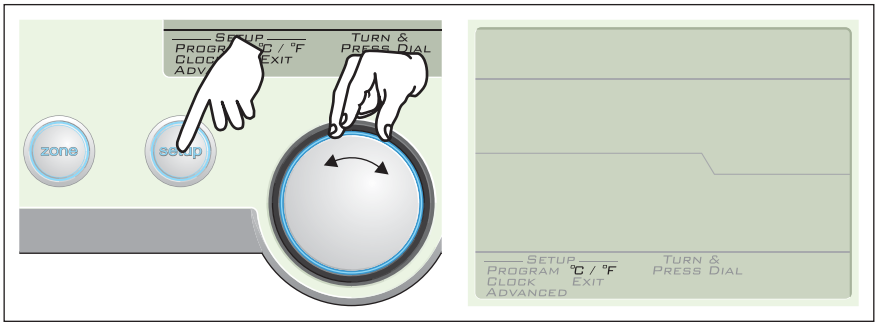
4) Press the dial. The minute is selected. Rotate the dial to change the minute.



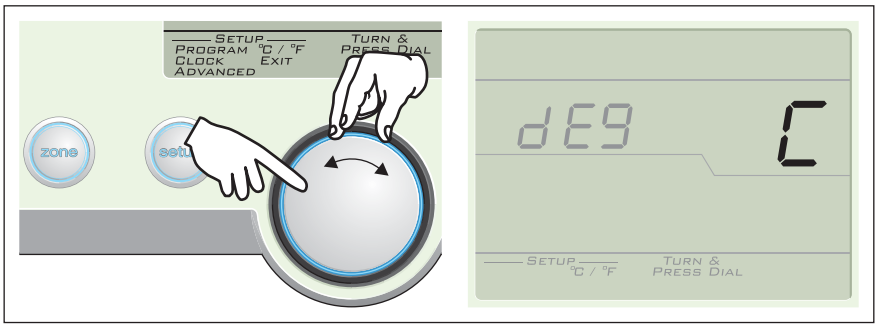
5) Press the dial. The day is selected. Rotate the dial to change the day. Press the dial again.

3.3 Temperature Display Format

The temperature can be displayed in either degrees Celsius or Fahrenheit.



1) Press the Setup button. Rotate the dial until °C / °F flashes.



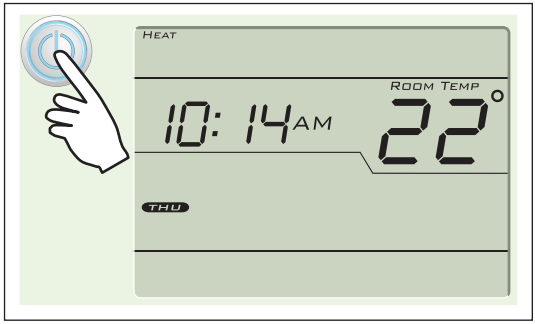
2) Press the dial. *dEG* is displayed. Rotate the dial to select either C or F. Press the dial again.

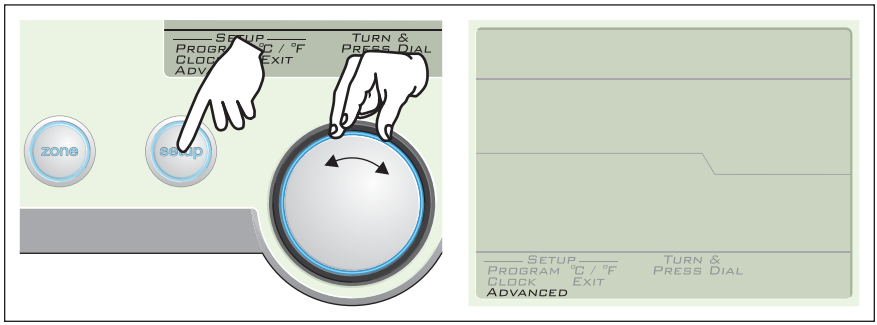
4.0 Advanced Setup

4.1 Fan

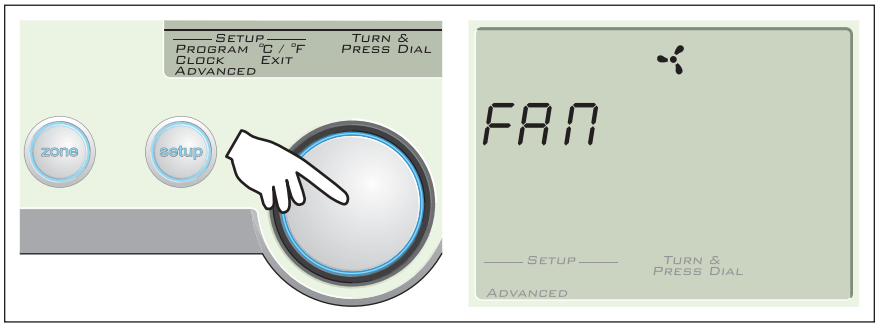
1) Ensure the Thermostat is switched off.

   The temperature or comfort level setting is not displayed in the off state.

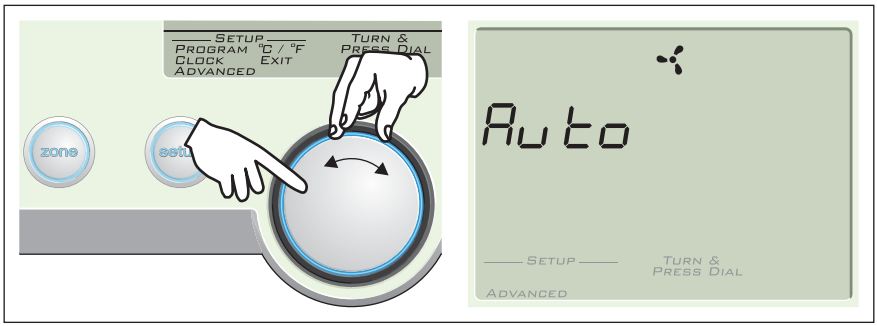




2) Press the Setup button. Rotate the dial until ADVANCED flashes.



3) Press the dial. *FAN* is selected.



4) Press the dial. Rotate the dial to select a fan mode. Press the dial again. Valid fan modes are Auto, Cont and SEtb.

Fan Mode	Description
Automatic	Fan operates when the system actively heats or cools
Continuous	Fan operates whenever the system is switched on
Setback	Fan operates in Automatic mode when setback is active, and Continuous mode otherwise

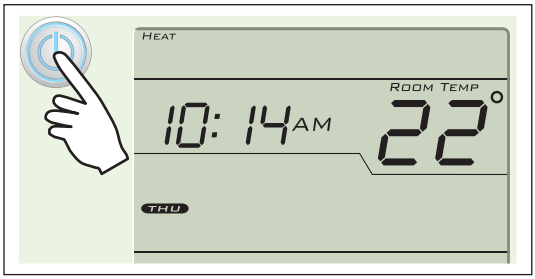
4.2 Temperature Guard

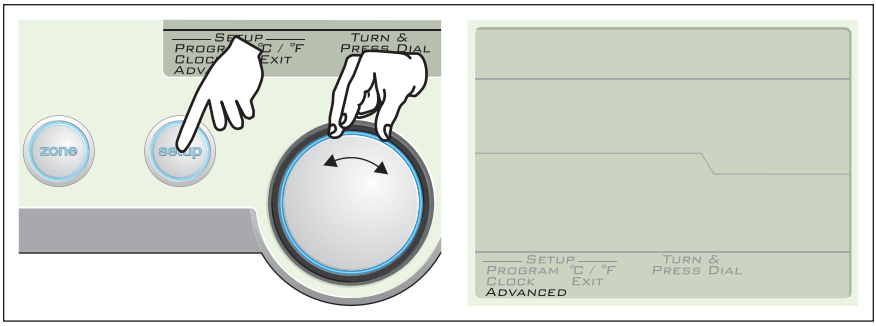
The temperature guard (if enabled by the installer) ensures the temperature is maintained within a specified extreme temperature range regardless of any other Thermostat setting. For example, in a reverse cycle system the Thermostat can be used to maintain the temperature between 5 and 42 °C even if the Thermostat is switched off. If the temperature moves outside this range, the unit heats or cools the environment as appropriate.

The temperature guard may be enabled and disabled, and its activation threshold adjusted using Setup.

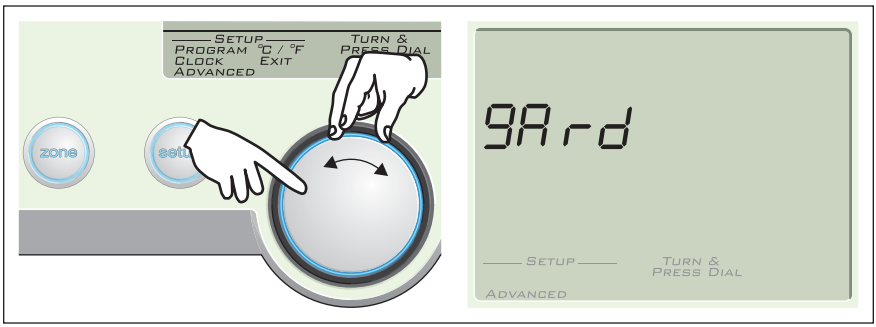
1) Ensure the Thermostat is switched off.

   The temperature or comfort level setting is not displayed in the off state.

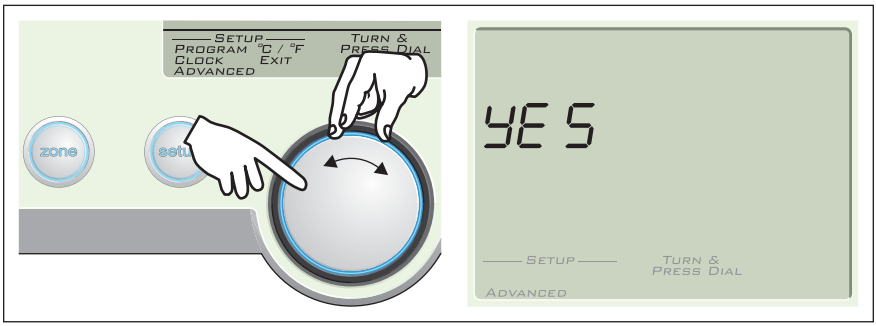




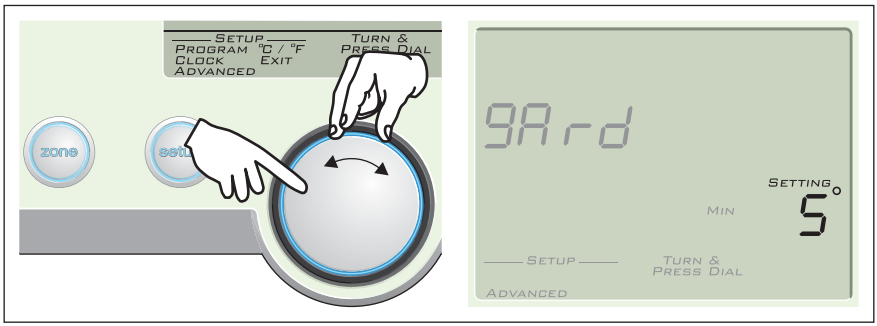
2) Press the Setup button. Rotate the dial until ADVANCED flashes.



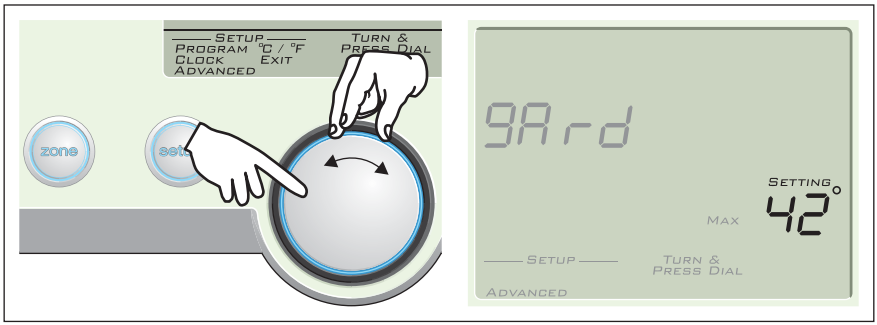
3) Press the dial. FAN is selected. Rotate the dial clockwise to select 9Ard.



4) Press the dial. Rotate the dial to select YES or NO. Press the dial again.



5) If you selected YE S, rotate the dial to select the minimum temperature setting. This is the temperature below which the system will start heating (if available). Press the dial.



6) If you selected YE S in Step 4, rotate the dial to select the maximum temperature setting. This is the temperature above which the system will start cooling (if available). Press the dial.

4.3 Setback

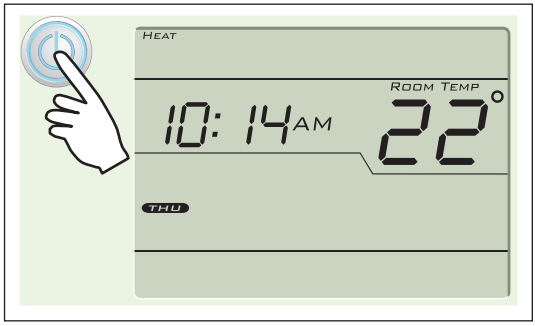
The setback option reduces energy consumption by widening the acceptable temperature range. This is useful when you leave the premises and want to save energy whilst maintaining a degree of comfort. The allowable temperature variation is typically +/– 5 °C of the set temperature, but this may be adjusted using Setup.

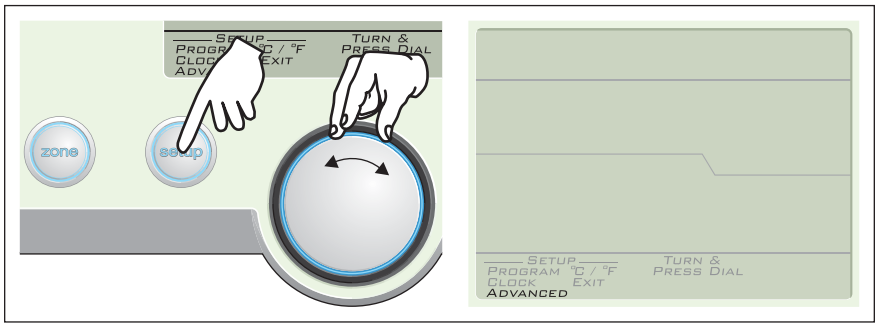
To activate or deactivate setback, press the selection dial for 2 seconds until the SETBACK indicator appears/disappears. The setback option can only be toggled when the unit is switched on.

To adjust the temperature variation which setback allows, follow the steps below.

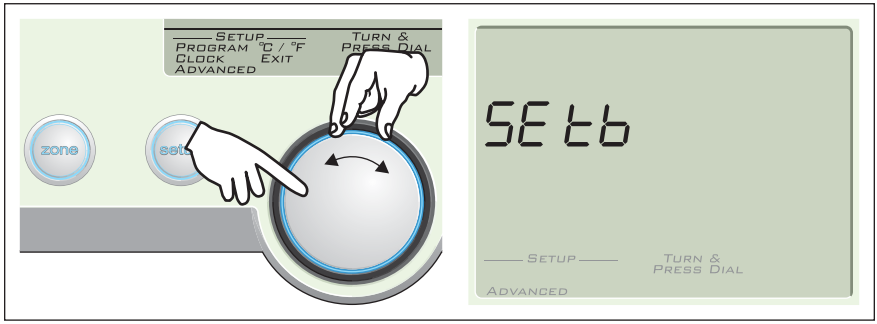
1) Ensure the Thermostat is switched off.

   The temperature or comfort level setting is not displayed in the off state.

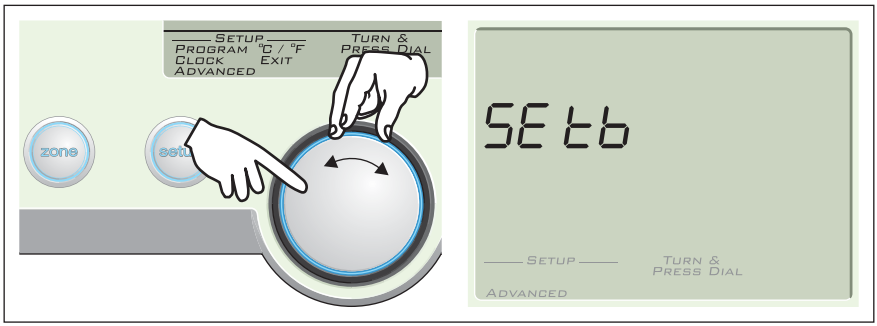




2) Press the Setup button. Rotate the dial until ADVANCED flashes.



3) Press the dial. FAN is selected. Rotate the dial to select SEtb.



4) Press the dial. Rotate the dial to change the temperature variation which the Thermostat will allow when setback is enabled. Press the dial again.

   If the setback value is 4°, setback is enabled and the temperature setting is 24° (and the Thermostat is switched on and the type is Heating and Cooling), the Thermostat will maintain the environment between 20° and 28°.

4.4 Reset

The Reset function sets the Thermostat back to factory default settings. This function is intended to be used by an installer only.

WARNING If you use the Reset function the Thermostat will most likely need to be reconfigured by the installer, using special software. Do not use this function unless you have a good reason to do so.

5.0 Factory Default Settings

Parameter	Setting
Manual set temperature	22 °C (72 °F)
HVAC type	Heating & cooling
Operating mode	Program
Operating state	Off
Setback value	+/– 5 °C (9 °F)
Fan configuration	AUTO
Temperature display format	°C
Temperature guard	Enabled
Temperature guard min./max.	5 °C (41 °F), 37 °C (99 °F)

6.0 Electrical Specifications

Parameter	Description
C-Bus supply voltage	15 to 36 V DC, 40 mA Does not provide current to the C-Bus network
C-Bus AC input impedance	50 kΩ @ 1 kHz
Relays (5070THPR model)	Each relay rated at 2 A @ 24 V AC 3750 V isolation between terminals and C-Bus
C-Bus connection	One terminal block to accommodate 0.2 to 1.3 mm^2 (24 to 16 AWG)
Temperature sensor accuracy	+/– 0.5 °C
C-Bus system clock	Software selectable
Network burden	Software selectable
Operating temperature	– 10 to 50 °C (14 to 122 °F)
Operating humidity	10 to 95% RH

7.0 Standards Complied

DECLARATIONS OF CONFORMITY

Australian/New Zealand EMC & Electrical Safety Frameworks and Standards
Model 5070THP and 5070THPR products comply with the following:

Standard	Title
AS/NZS CISPR 14-1	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emissions
AS/NZS CISPR 15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
AS/NZS CISPR22	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement

European Standards
Model 5070THP and 5070THPR products comply with the following:

Standard	Title
BS EN 60669-2-1	Switches for household and similar fixed electrical installations – Part 2: Particular requirements – Section 1: Electronic switches
EN 55014-1	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Emissions
EN 55015	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
EN 55022	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement

USA Standards
Model 5070THP and 5070THPR products comply with the following:

Standard
FCC Part 15 Radio Frequency Devices, Subpart B for unintentional radiators.

Other International Standards

Model 5070THP and 5070THPR products comply with the following:

Standard	Title
IEC 60669-2-1	Switches for household and similar fixed electrical installations – Part 2: Particular requirements – section 1: Electronic switches
CISPR 14-1	Electromagnetic compatibility – Requirements for household appliances, electric tools and similar apparatus – Part 1: Emissions
CISPR 15	Limits and methods of measurement of radio disturbance characteristics of electrical lighting and similar equipment
CISPR 22	Information technology equipment – Radio disturbance characteristics – Limits and methods of measurement

8.0 Warranty

5070THP Series C-Bus Programmable Four Zone Thermostats carry a two year warranty against manufacturing defects.

Warranty Statement

1) The benefits conferred herein are in addition to, and in no way shall be deemed to derogate; either expressly or by implication, any or all other rights and remedies in respect to Clipsal Integrated Systems Product, which the consumer has under the Commonwealth Trade Practices Act or any other similar State or Territory Laws.
2) The warrantor is Clipsal Australia Pty Ltd of 12 Park Terrace, Bowden, South Australia, 5007. Telephone (08) 8345 9500. With registered offices in all Australian States.
3) This Clipsal Integrated Systems Product is guaranteed against faulty workmanship and materials for a period of two (2) years from the date of installation.
4) Clipsal Australia Pty Ltd reserves the right, at its discretion, to either repair free of parts and labour charges, replace or offer refund in respect to any article found to be faulty due to materials, parts or workmanship.
5) This warranty is expressly subject to the Clipsal Integrated Systems Product being installed, wired, tested, operated and used in accordance with the manufacturer's instructions.
6) All costs of a claim shall be met by Clipsal Australia Pty Ltd, however should the product that is the subject of the claim be found to be in good working order, all such costs shall be met by the claimant.
7) When making a claim, the consumer shall forward the Clipsal Integrated Systems Product to the nearest office of Clipsal Australia Pty Ltd with adequate particulars of the defect within 28 days of the fault occurring. The product should be returned securely packed, complete with details of the date and place of purchase, description of load, and circumstances of malfunction.

For all warranty enquiries, contact your local Clipsal sales representative. The address and contact number of your nearest Clipsal Australia office can be found at http://www.clipsal.com/locations or by telephoning Technical Support (refer to the back page).

Technical Support and Troubleshooting

For further assistance in using this product, consult your nearest Clipsal Integrated Systems (CIS) Sales Representative or Technical Support Officer.

Technical Support Contact Numbers	
Australia	1300 722 247 (CIS Technical Support Hotline)
New Zealand	0800 888 219 (CIS Technical Support Hotline)
Northern Asia	852 2484 4157 (Clipsal Hong Kong)
South Africa	(011) 314 5200 (C-Bus Technical Support)
Southern Asia	603 7665 3555 Ext. 236 or 242 (CIS Malaysia)
United Kingdom	0870 608 8 608 (Schneider Electric Support)

Technical Support email: techsupport.cis@clipsal.com.au
Sales support email: sales.cis@clipsal.com.au

Worldwide contacts are provided at http://www.clipsal.com/locations/
Information and resources are provided at http://www.clipsal.com/cis/

Product of Clipsal Integrated Systems
A Division of Clipsal Australia Pty Ltd
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