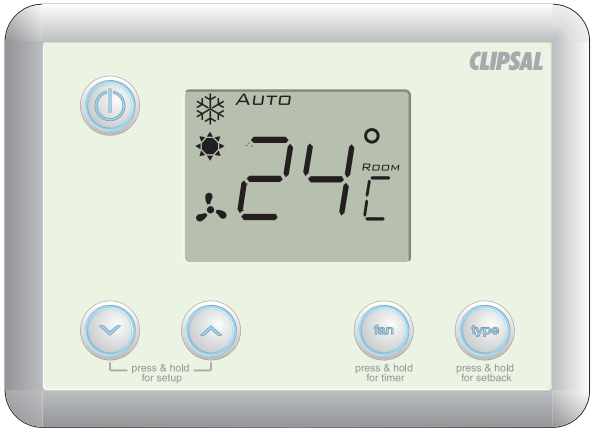
CLIPSAL
LIVING ELECTRICAL

C-Bus Single Zone Thermostat

User's Guide

5070THB Series

TWO YEAR WARRANTY 2



CLIPSAL C-Bus Control and Management System

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V1.0 May 2007

Contents

1.0 Description and Features

The 5070THB Series C-Bus Single 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, and it may operate independently.

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:

- 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 (see below).

From the 5070THB Series unit you can:

- set the required temperature
- select the type of air conditioning (heating, cooling, ventilation)
- select the fan mode and speed
- set a timer to switch the unit on or off
- switch setback mode on or off
- select the temperature to display in degrees Celsius or Fahrenheit.

1.1 Temperature Guard

The temperature guard ensures the temperature is maintained within a specified extreme temperature range regardless of any other Thermostat setting. The temperature guard range may be modified by the installer; it typically ensures the ambient temperature stays within the range of 5 to 37 °C. If the temperature moves outside this range, the unit heats or cools the environment as appropriate (if heating or cooling is available).

No visual indication is provided by the 5070THB Series Thermostat when the temperature guard is activated.

2.0 Operating the Unit

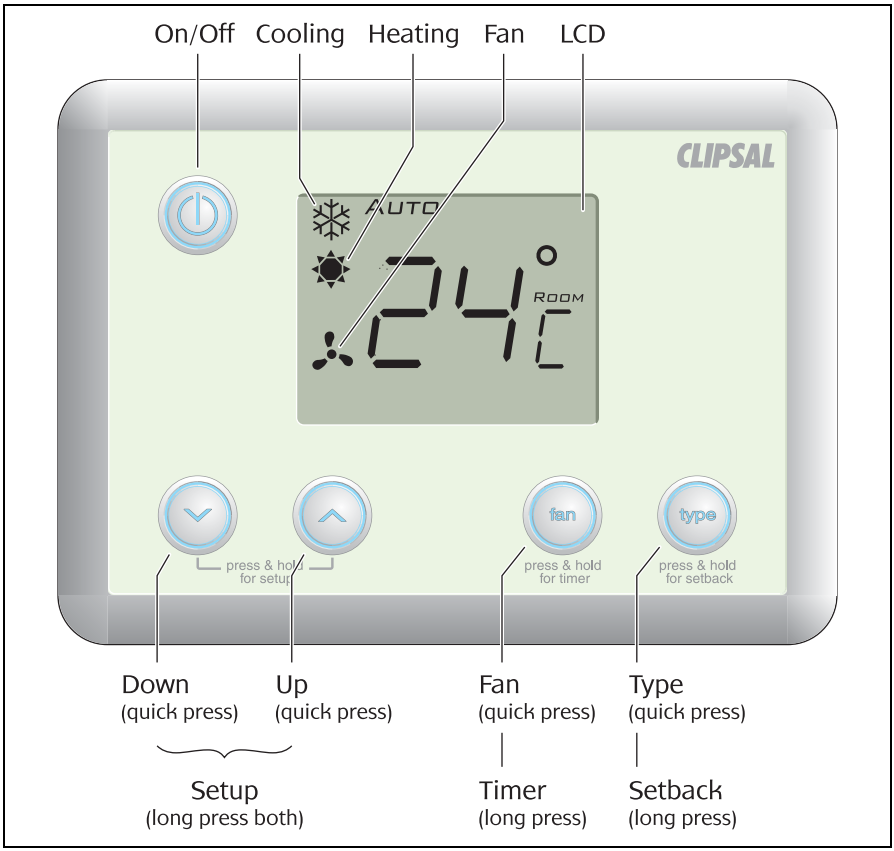


Figure 1 - C-Bus Single Zone Thermostat front panel

2.1 Button Identification

A heating, ventilation or air conditioning (HVAC) system connected to the C-Bus Single Zone Thermostat is controlled by the buttons on the front panel (Figure 1). Each button is capable of more than one function. Timer and Setback are accessed by holding the respective Fan or Type button down for 2 seconds. Setup is accessed by pressing the Down and Up buttons simultaneously for 2 seconds. Refer to Table 1.

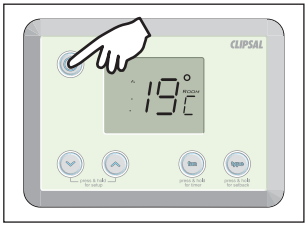
Function	Description
On/Off	Switches the heating/ventilation/air conditioning (HVAC) system on or off. The Setup and Timer functions may still be accessed when the system is off.
Down, Up	Increments or decrements the temperature or other setting.
Setup	Sets the temperature display format (°C or °F), and the fan mode (automatic or continuous/manual (always on)).
Fan	Selects the fan speed.
Timer	Switches the system on or off in a specified period of time.
Type	Sets the operating type of the 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 is configured by the installer.

Table 1 - Button functions

2.2 Switching On

When the C-Bus Single Zone Thermostat is off it displays the room temperature only.

To switch the HVAC system on, press the On/Off button. The set temperature (or comfort level) is displayed for a few seconds, together with the current operating type.

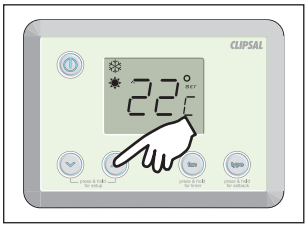


2.3 Adjusting the Temperature

Use the Down and Up buttons to adjust the air temperature (set point).

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 Adjusting the Operating Type

The cooling, heating and fan symbols indicate which type is currently selected. If necessary, press the Type button and use the Down or Up button to change the type. Figures 2 and 3 show typical types available for a heating and cooling, and evaporative cooling-only system respectively.

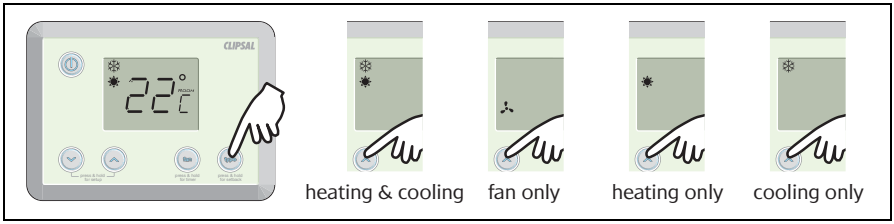


Figure 2 - Operating types for a reverse cycle or other heating & cooling system

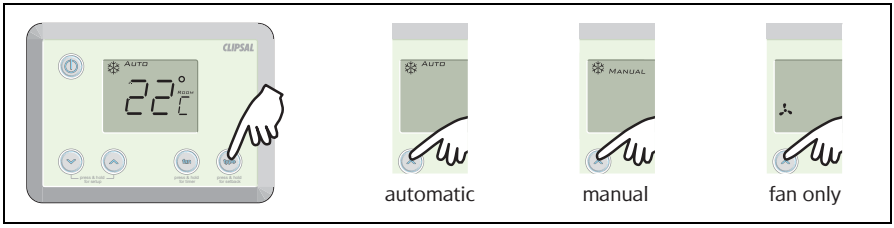


Figure 3 - Operating types for an evaporative cooling only system

2.5 Setup

Setup allows you to change the temperature display format and fan configuration. Setup is accessed when the unit is on or off, by pressing the Down and Up buttons simultaneously for 2 seconds.

Temperature Display Format

To change the temperature display format:

1) Enter setup (press the Down and Up buttons for 2 seconds).
2) Press the Down or Up button to alternate between °C and °F.
3) Press the Power button to exit setup mode.

Fan Configuration

To change the fan to automatic or continuous/manual (always on):

1) Enter setup (press the Down and Up buttons for 2 seconds).
2) Press the Type button.
3) Press the Down or Up button to alternate between AUTO and ON.
4) Press the Power button to exit setup mode.


NOTE The unit will exit setup mode if no button is pressed for 25 seconds.

2.6 Timer

The 5070THB Series C-Bus Single Zone Thermostat includes a timer which is used to switch the HVAC system on or off after a specified time period. The time period is specified in 0.5 hour increments, from 0.0 (no timer) to 23.5 hours.

Setting the timer when the unit is on will switch the unit and HVAC system off when the timer expires. Setting the timer when the unit is off will switch the unit and HVAC system on when the timer expires.

To set the timer:

1) Press the Fan button for 2 seconds.
2) Press the Up and Down buttons to increment and decrement the time period.
3) Wait 4 seconds without pressing a button. The unit will jump out of timer set mode, setting the timer to the specified time period.

Once the timer is set, an indicator is displayed on the LCD. The remaining time (rounded up to the nearest 0.5 hour) will display periodically. To cancel the timer, set the timer to a period of 0.0.

system is off and will switch on when the timer expires

system is on and will switch off when the timer expires

Figure 4 - The LCD indicates when the timer is set

2.7 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 by the installer.

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

3.0 Factory Default Settings

Parameter	Setting
Manual set temperature	22 °C (72 °F)
HVAC type	Heating & cooling
Operating state	Off
Setback value	+/– 5 °C (9 °F)
Fan configuration	AUTO
Temperature display format	°C

4.0 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 (5070THBR model)	Each relay rated at 2 A @ 24 V AC
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
Operating temperature	– 10 to 50 °C (14 to 122 °F)
Operating humidity	10 to 95% RH

5.0 Standards Complied

DECLARATIONS OF CONFORMITY

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

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

Other International Standards

Model 5070THB and 5070THBR 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

6.0 Warranty

5070THB Series C-Bus Single 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/

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