

M6000/T/AN - 12 Vdc (24VAC) 6 Stages Electronic Thermostat

Owner's Manual - Installation and Operating Instructions

Installation Instructions

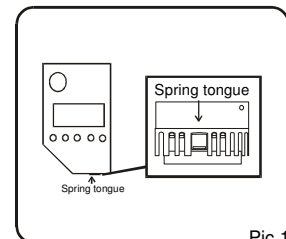
- Separate the base from the cover by pressing the tongue (pic.1).
- Gently disconnect the cover from the base with quick connector (pic.2)
- Line the back panel up against the wall or flat surface on which it is to be mounted and drill the appropriate fixing holes (pic.3).
- Insert screws so they extend approx. 3/16" (3 mm) from wall or surface. Align the back panel against these screws, pushing it forward, allowing it to slide downwards to lock into position.
- Make electrical connections to terminals on the back panel as shown on enclosed electrical wiring diagram
- Reconnect the quick connector.
- Adopt the cover to the base, first the two shafts and then the spring.
- Connect 24Vac to the thermostat, verify that LCD display is ON.

Do not enter battery before that!

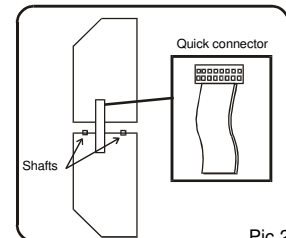
- Remove battery from back panel by sliding it to the left and out from its white retaining clip and mount it in black holder on front panel; insert it from the top, gently pressing downwards until it snaps into place and is held under the top clip of the holder.

The + engraved on battery should be visible (pic. 4).

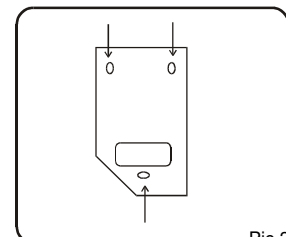
Be careful! When inserting the battery, the top clip of the holder is very fragile.



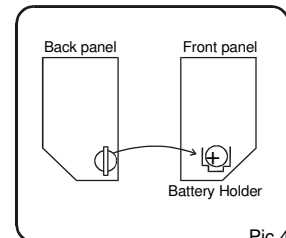
Pic.1



Pic.2



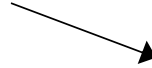
Pic.3



Pic.4

Operating Manual

SET BUTTONS



1. ON/OFF Selection:

ON: Press the ON/OFF button

Unit and green led will turn on.

The display will alternate between:

- a. Number of active an output & Ambient temperature.



- b. Number of active an output & Analog input values.



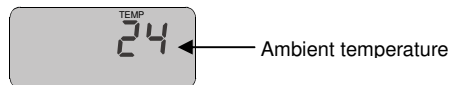
The number of an active output will keep changing between all the active outputs.

OFF: Press and hold (5 seconds) the ON/OFF button –

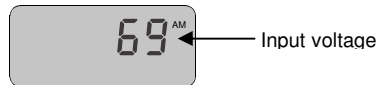
Unit and green led will turn off.

The display will alternate between:

- a. Ambient temperature.



- b. Analog input values.



1.1 Analog input adjustment:

The M6000 can control one analog input with voltage range of 1÷10Vdc.

To adjust the range of the analog input:

- a. Press and hold (3 seconds) the button “1”.
- b. Adjust the upper band using the (+) and (-) buttons. Multiply the real voltage value by 10.
Ex. If the range of the input device is 1÷6Vdc adjust the upper band to 60.
- c. To confirm settings: press and hold the “1” button.

The controller is now directly calibrated to transducer/transmitter used and consequential to the system it has been set - up to control in the relevant Engineering units.

2. Output Programming Procedure:

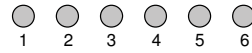
The M6000 can control up to 6 outputs (stages).

Buttons 1...6 refer directly to each of the 6 outputs. These outputs can be individually set up and are totally independent of each other.

Each of the outputs can be set to:

- T** Activate output according to temperature demand only (mode “/T”)
- A** Activate output according to 0÷10Vdc analogue input only (mode “/A”)
- AT** Both temperature output and 0÷10Vdc controlled output (mode “/AT”)

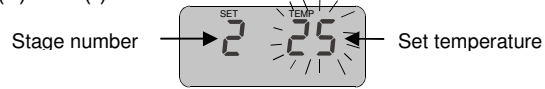
2.1 Setting temperature output only:



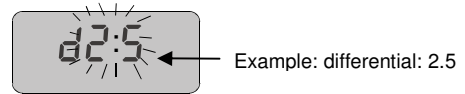
- 2.1.1 Press the button of the requested stage (1 to 6).
- 2.1.2 The number of the stage and "t1" (flashing) will appear on display.



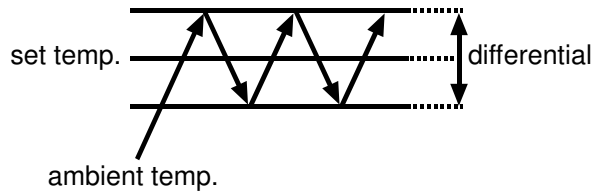
- 2.1.3 Press the button of the stage again.
- 2.1.4 The set temperature will flash on display.
- 2.1.5 Adjust the required temperature using the (+) and (-) buttons.



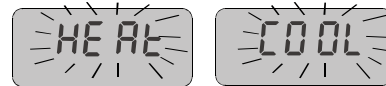
- 2.1.6 Press the button of the stage again.
- 2.1.7 Select set temperature differential. The a/c unit (cooler or heater) will keep the ambient temperature in the range of the set temperature according to the differential.



Ex.



- 2.1.8 Press the button of the stage again.
- 2.1.9 Using the (+) and (-) button select "HEAT" or "COOL".



- 2.1.10 Press the button of the stage again.
- 2.1.11 Using the (+) and (-) buttons select /cancel integral 4 minute anti-cycling time delay function. ("td:1" – time delay active; "td:0" – time delay not active)



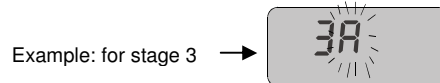
This Fixed Time Delay operates in either heating or cooling mode to prevent any stage being switched ON again before 4 minutes have elapsed since it was last switched OFF. The main application for this is where limitation of short cycling of refrigeration compressors is necessary in the cool mode.

- 2.1.12 Press the button of the stage again to confirm the program.

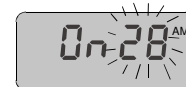
2.2 Setting 0÷10Vdc output only:



- 2.2.1 Press the button of the requested stage (1 to 6).
- 2.2.2 Press the (+) or (-) button until the number of the stage and "A" appear on display.



- 2.2.3 Press the button of the stage again.
- 2.2.4 Using the (+) and (-) buttons select the required voltage which will activate the output (note: The 0÷10Vdc is represented by 0-100 in display. I.e. 2.5V = 25 in display). The voltage range reflects the analogue input range set in #1.1-Analog input adjustment.



- 2.2.5 Press the button of the stage again.
- 2.2.6 Using the (+) and (-) buttons select the required voltage which will deactivate the output.



- 2.2.7 Press the button of the stage again.

- 2.2.8 Using the (+) and (-) buttons select /cancel integral 4 minute anti-cycling time delay function. ("td:1" – time delay active; "td:0" – time delay not active)

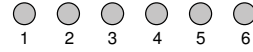


This Fixed Time Delay operates in either heating or cooling mode to prevent any stage being switched ON again before 4 minutes have elapsed since it was last switched OFF. The main application for this is where limitation of short cycling of refrigeration compressors is necessary in the cool mode.

- 2.2.9 Press the button of the stage again to confirm the program.

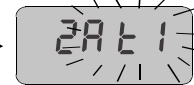
2.3 Setting temperature and 0÷10Vdc outputs:

- 2.3.1 Press the button of the requested stage (1 to 6).



- 2.3.2 Press the (+) or (-) button until the number of the stage and "At1" appear on display.

Example: for stage 2 →



- 2.3.3 Press the button of the stage again.

- 2.3.4 Using the (+) and (-) buttons select the required voltage which will activate the output (note: The 0÷10Vdc is represented by 0-100 in display. I.e. 2.5V = 25 in display). The voltage range reflects the analogue input range set in #1.1-Analog input adjustment.



- 2.3.5 Press the button of the stage again.

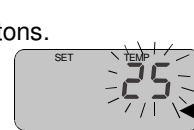
- 2.3.6 Using the (+) and (-) buttons select the required voltage which will deactivate the output.



- 2.3.7 Press the button of the stage again.

- 2.3.8 The set temperature will flash on display.

- 2.3.9 Adjust the required temperature using the (+) and (-) buttons.



Set temperature

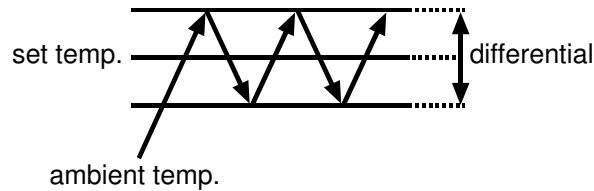
- 2.3.10 Press the button of the stage again.

- 2.3.11 Select set temperature differential. The a/c unit (cooler or heater) will keep the ambient temperature in the range of the set temperature according to the differential.



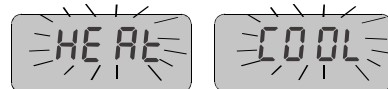
Example: differential: 2.5

Ex.



- 2.3.12 Press the button of the stage again.

- 2.3.13 Using the (+) and (-) button select "HEAT" or "COOL".



- 2.3.14 Press the button of the stage again.

- 2.3.15 Using the (+) and (-) buttons select /cancel integral 4 minute anti-cycling time delay function. ("td:1" – time delay active; "td:0" – time delay not active)



This Fixed Time Delay operates in either heating or cooling mode to prevent any stage being switched ON again before 4 minutes have elapsed since it was last switched OFF. The main application for this is where limitation of short cycling of refrigeration compressors is necessary in the cool mode.

- 2.3.16 Press the button of the stage again to confirm the program.