



## TEMPERATURE CONTROLLER 2 HEAT/ 2 COOL with Digital Room Temperature Display **HTC- 5**

### Features

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- Australian Made and designed
- Power Supply can be either 24V or 240V AC
- 10 Amp (Resistive) Potential free relay contacts
- Large LED Temperature Display
- Upgradeable via HAX Series Plug In Cards
- Random time delay for Fan Relay Start
- Mounts in most M.C.B din rail enclosures
- Compatibility to a vast range of AC Units & Heat Pumps

### Use

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The HTC-5 Temperature Controller is primarily designed for the control of 2 Stage Heat and 2 Stage Cool Air-conditioning units.

All output relays are voltage free permitting use on either 240 Volt or 24 Volt circuitry.

Stage switch on points are individually adjustable with their ON/OFF status displayed via LED indicators.

The HTC-5 also incorporates a random time delay on the fan relay output enabling multiple A/C Unit start-up's using only one Time Clock or System start switch.



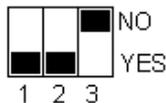
**Made in Australia**  
**100% Australian Owned Company**

### General Specifications

Operating Voltage	24 Volts AC or 240 Volts AC
Power Consumption	
At 240 Volts	7 VA
At 24 Volts	1 VA
Switching Capacity of Relays	
Voltage	AC 0...250 Volts
Current	10 (3) Amps
Set point Setting Range	16...28 oC
Stage Dead Zone	1.0o Celsius (Factory Set)
Stage Start Point Adjustment	0.5...2.5 oC (From Setpoint)
Switching Differential Stage 1	0.3 oC (NON Adjustable)
Switching Differential Stage 2	0.7 oC (NON Adjustable)
Output Indication	
Heating	2 x Red LED's
Cooling	2 x Green LED's
Room Temperature	10mm Red 7 Segment Display
Display Resolution	0.1o Celsius Increments
Fan Relay Output Random Time Delay	1 to 5 Seconds (Not User Adjustable)

### Dip Switch Configurations

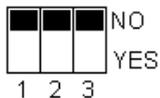
#### DIP SWITCH SETTINGS



#### Dip Switch Configurations (Option 1) **(Factory Default)** (DIP Option 1)

- Dip Switch 1 & 2 set to YES Controller is configured for Heat/Cool wiring
- Dip Switch 3 set to NO Remote Set Point feature is turned OFF

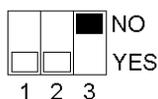
#### DIP SWITCH SETTINGS



#### Dip Switch Configurations (Option 2) (DIP Option 2)

- Dip Switch 1 & 2 set to NO Controller is configured for Compressor/Reversing Valve wiring
- Dip Switch 3 set to NO Remote Set Point feature is turned OFF

#### DIP SWITCH SETTINGS



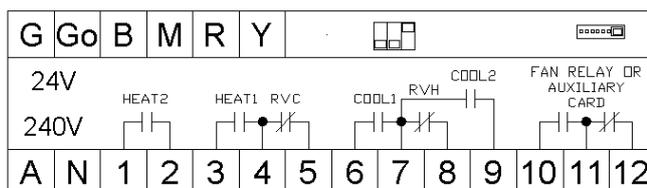
#### Dip Switch Configurations (Remote Set Point Option)

- Dip Switch 3 set to NO Remote Set Point feature is turned OFF
- Dip Switch 3 set to YES Remote Set Point feature is turned ON

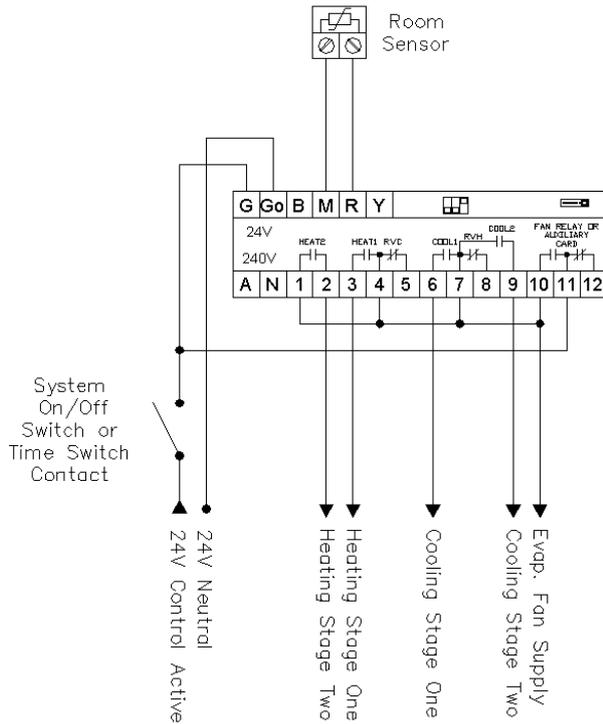
Environmental Conditions	Operation	
	Ambient Temperature	0...45oC
	Humidity	< 85 % RH (Non Condensing)
	Storage and Transport	
Product Standards	Ambient Temperature	-5...65oC
	Humidity	< 90 % RH (Non Condensing)
	C-tick	 N10842
	Weight	450 grams
Housing	Colour	Grey
	Material	ABS POLYCARB
	UV Stabilised	YES
	Fire Retardant	YES
	Size	L105mm x W105mm x D60mm
	Mounting Method	35mm Din Rail Mountable

### Terminal Designations

- G 24 Volt AC Supply Active
- Go 24 Volt AC Supply Ground Reference
- B Sensor Input
- M Sensor Input Common
- R Remote set Point Shift
- Y Y Signal Output (For HRC Slave Relay ONLY)
- A 240 Volt AC Supply Active
- N 240 Volt AC Supply Neutral
- 1 Heating Stage 2 Common
- 2 Heating Stage 2 Output
- 3 Heating Stage 1 Output (DIP Option 1) **OR** Reversing Valve for Heat Output (DIP Option 2)  
Refer to DIP Switch Configuration Options on Page 2
- 4 Heating Stage 1 **OR** Reversing Valve for Cool Common
- 5 Reversing Valve for Cooling Output
- 6 Cooling Stage 1 Output (DIP Option 1) **OR** Compressor 1 Output (DIP Option 2)  
Refer to DIP Switch Configuration Options on Page 2
- 7 Cooling Stage 1 & 2 Common **OR** Reversing Valve for Heat Common
- 8 Reversing Valve for Heating Output
- 9 Cooling Stage 2 Output
- 10 Fan Relay Output **OR** Auxiliary Card Normally Open
- 11 Fan Relay **OR** Auxiliary Card Common
- 12 Fan Relay Output **OR** Auxiliary Card Normally Closed



## Application Example (1)



### Technical Notes

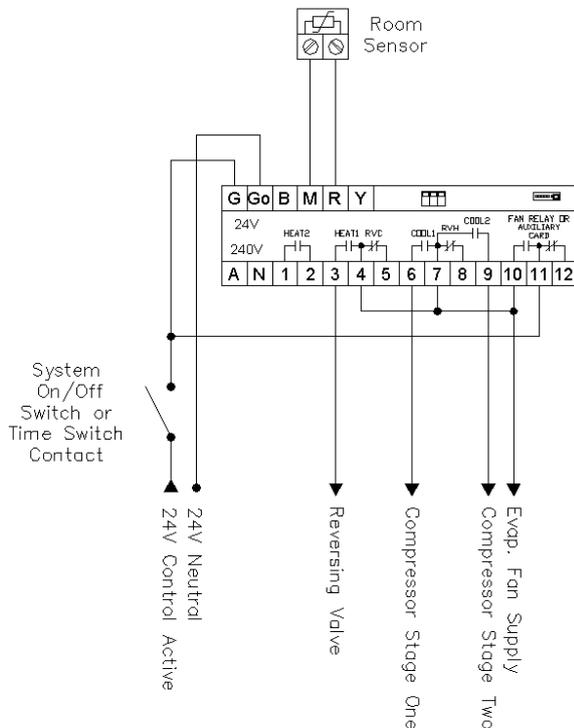
- Fan Relay Time Delay** Terminal 10 has a random time delay between 1 to 5 seconds on start-up
- DIP Switch Settings** Make sure DIP Switch Settings are as shown, this is the Factory Default Setting
- Supply Voltage** The Controller requires either a 240Volt AC or 24 Volt ACV Supply  
This diagram assumes a 24 Volt AC connection
- Warnings** Use ONE Supply Voltage Only either 240 or 24 Volts AC

### DIP SWITCH SETTINGS



Typical for Heat/Cool type Air-conditioning Units utilising Internal Fan Relay

## Application Example (2)



### Technical Notes

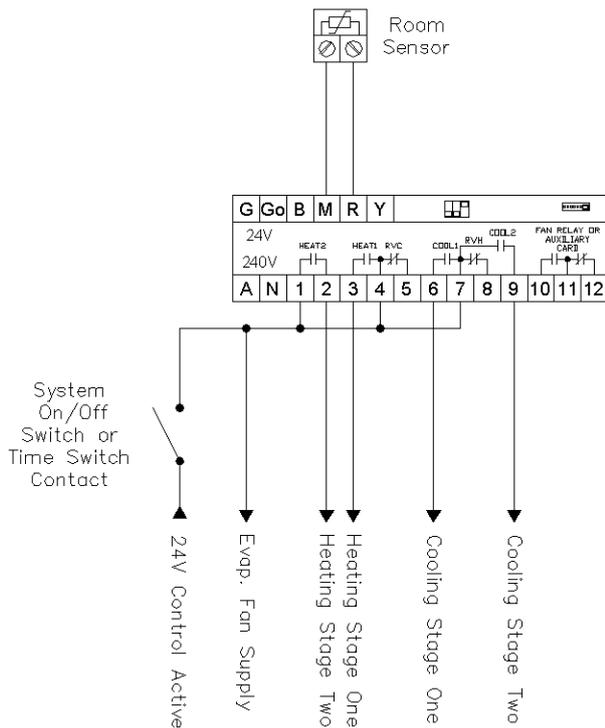
- Fan Relay Time Delay** Terminal 10 has a random time delay between 1 to 5 seconds on start-up
- Reversing Valve Mode** Reversing Valve Energises for Heating  
If the Reversing Valve energises for cooling use Terminal 5 instead of Terminal 3
- DIP Switch Settings** Make sure DIP Switch Settings are as shown
- Supply Voltage** The Controller requires either a 240Volt AC or 24 Volt ACV Supply  
This diagram assumes a 24 Volt AC connection
- Warnings** Use ONE Supply Voltage Only either 240 or 24 Volts AC

### DIP SWITCH SETTINGS



Typical for Compressor Reversing Valve type Air-conditioning Units utilising Internal Fan Relay

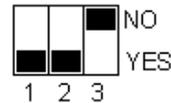
## Application Example (3)



### Technical Notes

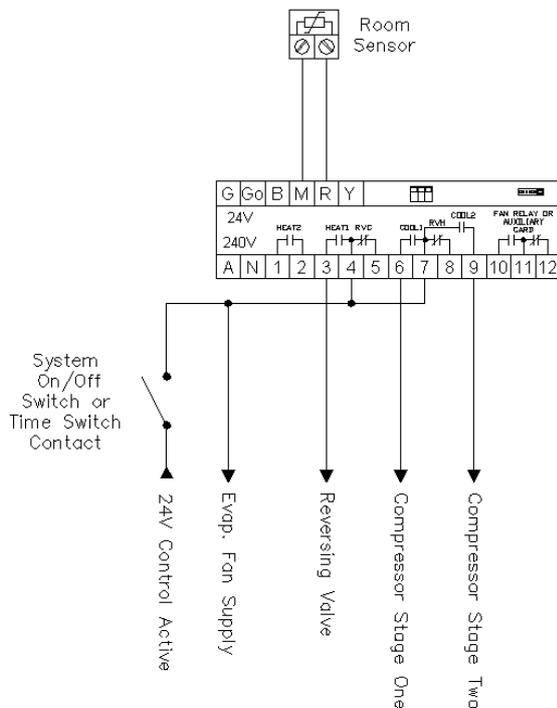
- DIP Switch Settings** Make sure DIP Switch Settings are as shown, this is the Factory Default Setting
- Supply Voltage** The Controller requires either a 240Volt AC or 24 Volt ACV Supply
- Warnings** Use ONE Supply Voltage Only either 240 or 24 Volts AC

### DIP SWITCH SETTINGS



Typical for Heat/Cool type Air-conditioning Units **without using** Internal Fan Relay

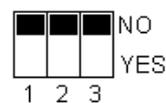
## Application Example (4)



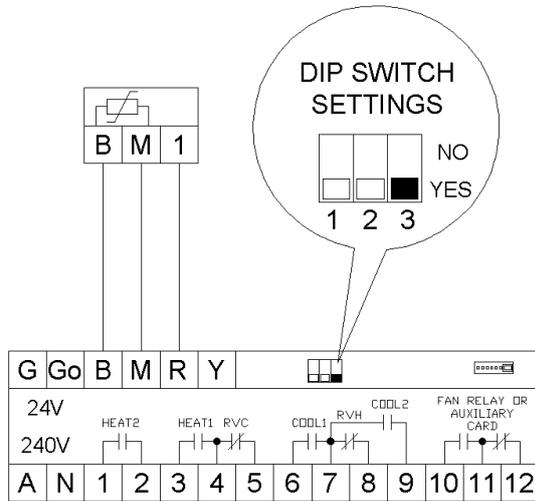
### Technical Notes

- Reversing Valve** Reversing Valve Energises for Heating. If the Reversing Valve energises for cooling mode use Terminal 5 instead of Terminal 3
- DIP Switch Settings** Make sure DIP Switch Settings are as shown
- Supply Voltage** The Controller requires either a 240Volt AC or 24 Volt ACV Supply
- Warnings** Use ONE Supply Voltage Only either 240 or 24 Volts C

### DIP SWITCH SETTINGS



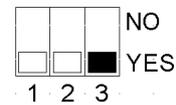
Typical for Compressor Reversing Valve type Air-conditioning Units **without using** Internal Fan Relay



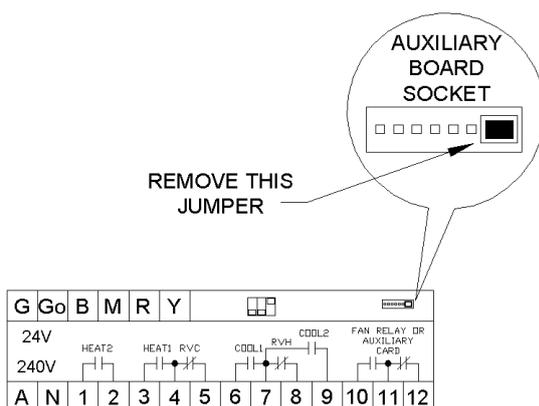
### Technical Notes

- DIP Switch Settings** Make sure DIP Switch Settings are as shown  
 DIP Switch 3 must be set to YES  
 The remaining DIP Switches do not need to be altered
- Controller Set Point** The Controller Set Point must be set to 22.0 Celsius

### DIP SWITCH SETTINGS



## Connecting a Plug In HAX Series Auxiliary Card



### Installation Notes

1. Remove power from the controller before connecting the HAX Auxiliary Card
2. Remove the Shorting Jumper as shown in the diagram
3. Plug in the new HAX Auxiliary Card and secure with the screw provided
4. Follow the Instructions provided with the HAX Auxiliary card for further information
5. When using an ON/OFF type HAX Auxiliary card such as a HAX53R the fan relay terminals 10, 11 & 12 are now used by the card.