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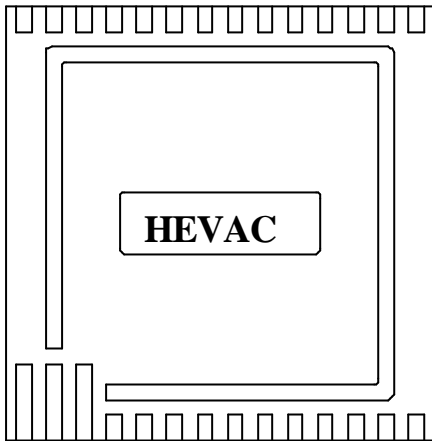
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HEVAC Control Agencies Short Form Catalogue

SRT-H

Wall Mount Room Temperature Sensor (Non-Adjustable)

HEVAC CONTROLS



The **SRT-H** is a wall mount room temperature sensor and is suitable for use with all the analogue **HTC** series range of temperature controllers. The sensor is non-adjustable, setpoint changes can only be made back at the **HTC** Controller.

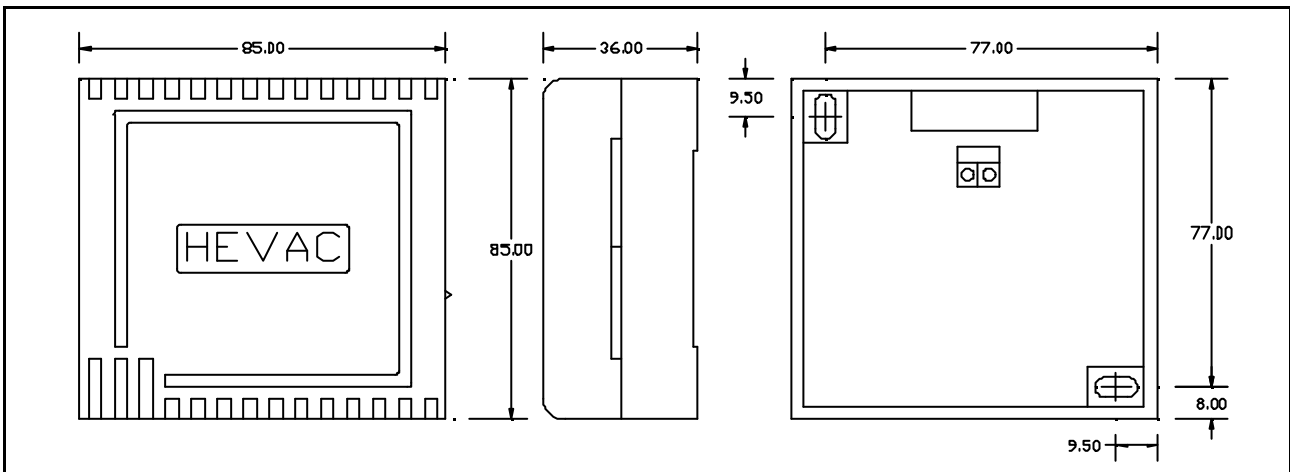
Constructed from high impact ABS plastic, the housing is specifically designed with sensor sensitivity in mind making the **SRT-H** very responsive even in low airflow situations.

Cable entry is available from the rear with side entry knockouts for cable duct on three sides.

Technical Specifications

Control range	16 to 28 Degrees Centigrade
Time constant	3 Minutes
Thermistor characteristics	PTC 2000 ohms at 25 Degrees Centigrade
Housing material	UV Stabilised ABS-Plastic
Housing Colour	Cream
Enclosure	IP 31
Measuring Accuracy	+/- One Degrees Centigrade

Dimensions



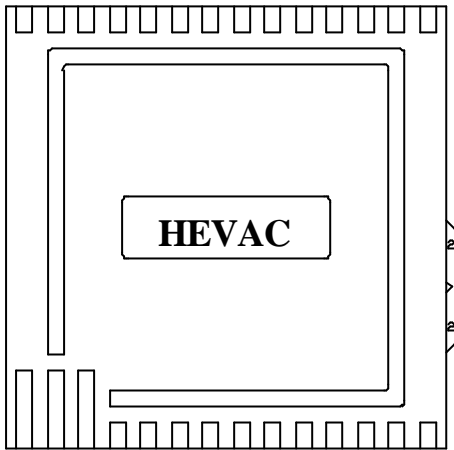
Thermistor Resistance Characteristics

Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms
13.00	1820	17.00	1879	19.00	1909	21.00	1939	23.00	1969	26.00	2015
14.00	1834	17.50	1886	19.50	1916	21.50	1946	23.50	1977	27.00	2031
15.00	1849	18.00	1894	20.00	1924	22.00	1954	24.00	1985	28.00	2047
16.00	1864	18.50	1901	20.50	1931	22.50	1962	25.00	2000	29.00	2062

SRT-HSP

Wall Mount Room Temperature Sensor (Adjustable Setpoint)

HEVAC CONTROLS

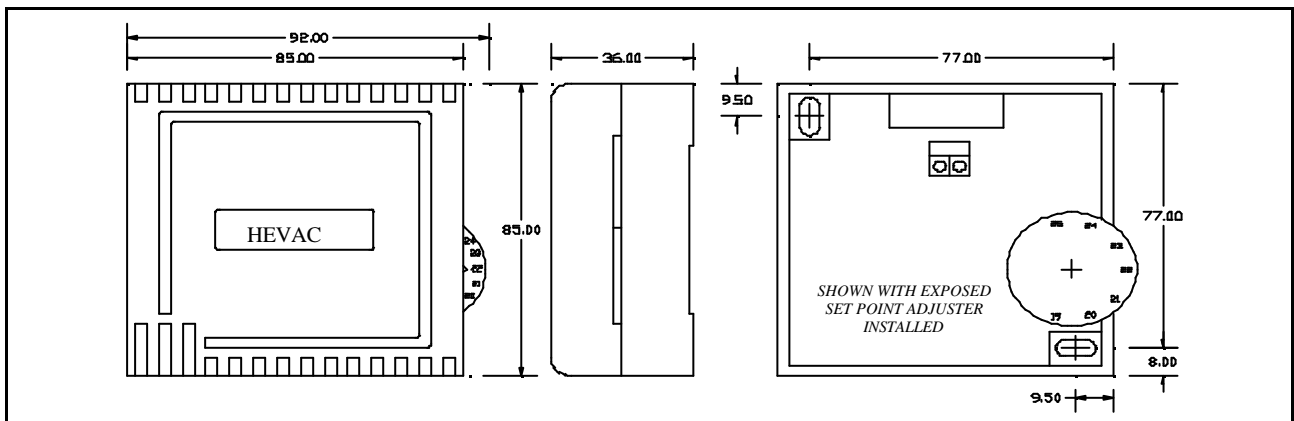


The **SRT-HSP** is an adjustable wall mount room temperature sensor.
 The setpoint knob can be configured for exposed or concealed temperature adjustment.
 It is suitable for use with all the analogue **HTC** series temperature controllers.
 Constructed from high impact ABS plastic, the housing is specifically designed with sensor sensitivity in mind making the **SRT-HSP** very responsive even in low airflow situations.

Technical Specifications

Control range	16 to 28 Degrees Centigrade
Setpoint knob adjuster	Convertible to Exposed or Concealed
Time constant	3 Minutes
Thermistor characteristics	PTC 2000 Ohms at 25 Degrees Centigrade
Housing material	UV Stabilised ABS-Plastic
Housing Colour	Cream
Enclosure	IP 31
Measuring Accuracy	+/- One Degrees Centigrade

Dimensions



Thermistor Resistance Characteristics

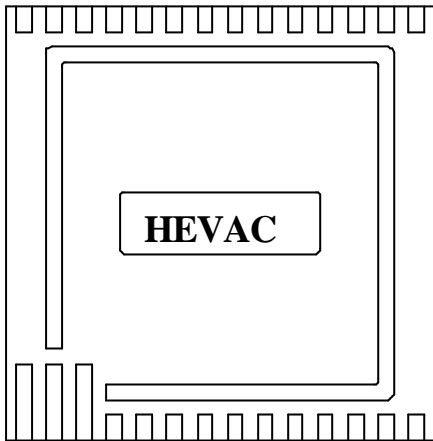
Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms
13.00	1820	17.00	1879	19.00	1909	21.00	1939	23.00	1969	26.00	2015
14.00	1834	17.50	1886	19.50	1916	21.50	1946	23.50	1977	27.00	2031
15.00	1849	18.00	1894	20.00	1924	22.00	1954	24.00	1985	28.00	2047
16.00	1864	18.50	1901	20.50	1931	22.50	1962	25.00	2000	29.00	2062

This Chart is only valid when the SENSOR SETPOINT is set to 22.0 oC

SRT-D

Wall Mount Room Temperature Sensor (Non-Adjustable)

HEVAC CONTROLS



The **SRT-D** is a wall mount room temperature sensor and is suitable for use with all the **DIGITAL HTC** series range of temperature controllers. The sensor is non-adjustable, setpoint changes can only be made back at the **HTC** Controller.

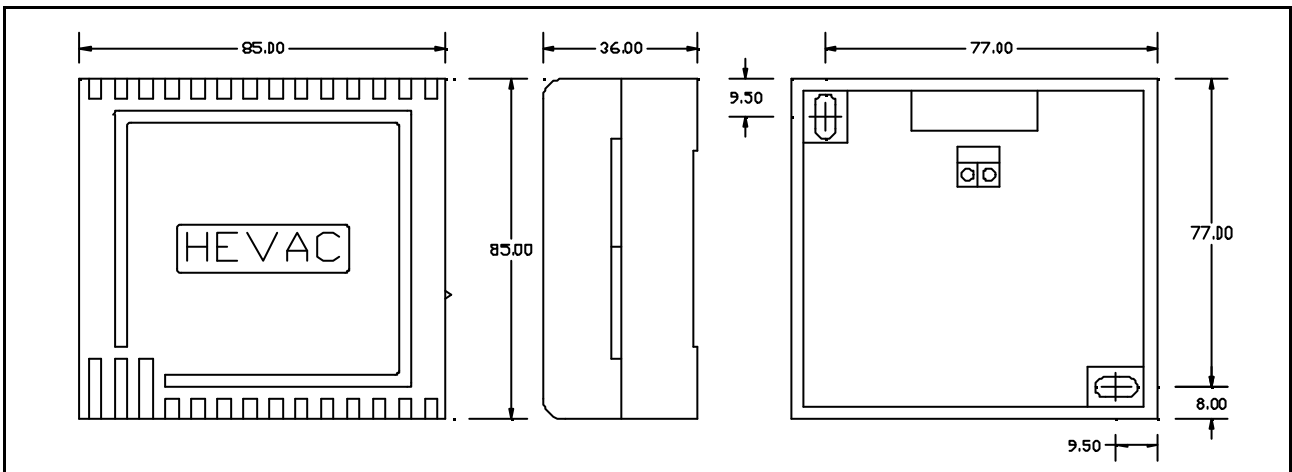
Constructed from high impact ABS plastic, the housing is specifically designed with sensor sensitivity in mind making the **SRT-D** very responsive even in low airflow situations.

Cable entry is available from the rear with side entry knockouts for cable duct on three sides.

Technical Specifications

Control range	8 to 33 Degrees Centigrade
Time constant	3 Minutes
Thermistor characteristics	NTC 4000 ohms at 25 Degrees Centigrade
Housing material	UV Stabilised ABS-Plastic
Housing Colour	Cream
Enclosure	IP 31
Measuring Accuracy	+/- 0.3 Degrees Centigrade

Dimensions



Thermistor Resistance Characteristics

Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms	Temp	Ohms
10.00	5454	14.00	4970	18.00	4565	22.00	4222	26.00	3932	30.00	3684
11.00	5324	15.00	4862	19.00	4474	23.00	4145	27.00	3866	31.00	3628
12.00	5201	16.00	4759	20.00	4387	24.00	4071	28.00	3803	32.00	3574
13.00	5083	17.00	4660	21.00	4303	25.00	4000	29.00	3742	33.00	3522

SDT-H

Duct Mount Temperature Sensor

HEVAC CONTROLS



The SDT-H is a DUCT mountable temperature sensor. It is suitable for use with all the analogue HTC series temperature controllers.

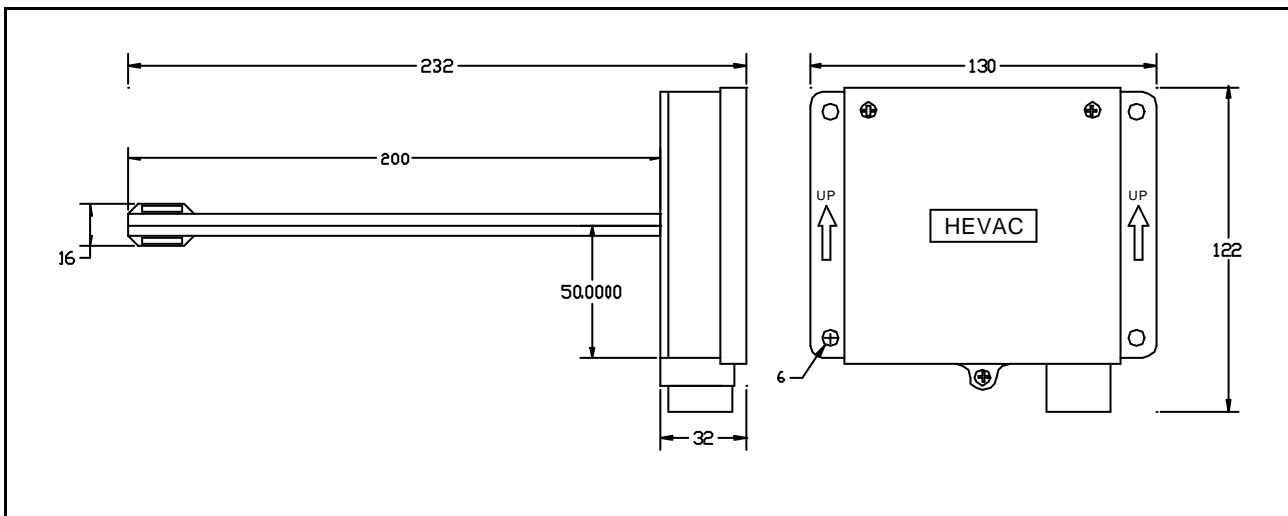
Constructed from high impact ABS plastic, the SDT-H can be used in all types of Ductwork.

A 20mm Conduit entry is available on the bottom of the Housing, allowing for easy electrical installation with either solid or flexible conduit.

Technical Specifications

<i>Probe Length</i>	<i>200 Millimetres</i>
<i>Duct Hole Size</i>	<i>20 Millimeters</i>
<i>Thermistor characteristics</i>	<i>PTC 2000 ohms at 25 Degrees Centigrade</i>
<i>Housing material</i>	<i>UV Stabilised ABS-Plastic</i>
<i>Housing Colour</i>	<i>Black</i>
<i>Enclosure Class Rating</i>	<i>IP 54</i>
<i>Cable Entry (Solid or Flexible Conduit)</i>	<i>20 Millimetre Conduit Entry</i>

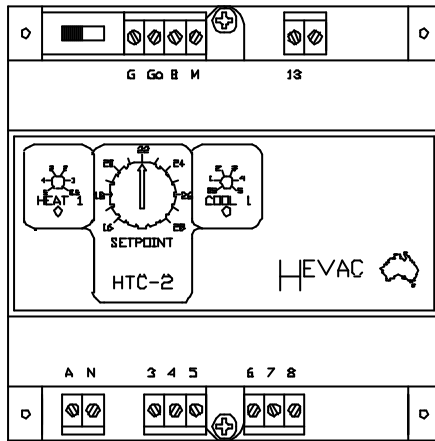
Dimensions



HTC-2

1 Stage Heat & 1 Stage Cool Analogue Temperature Controller

HEVAC CONTROLS



The **HTC-2** temperature controller is primarily designed for the control of 1 Heat and 1 Cool air-conditioning units.

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

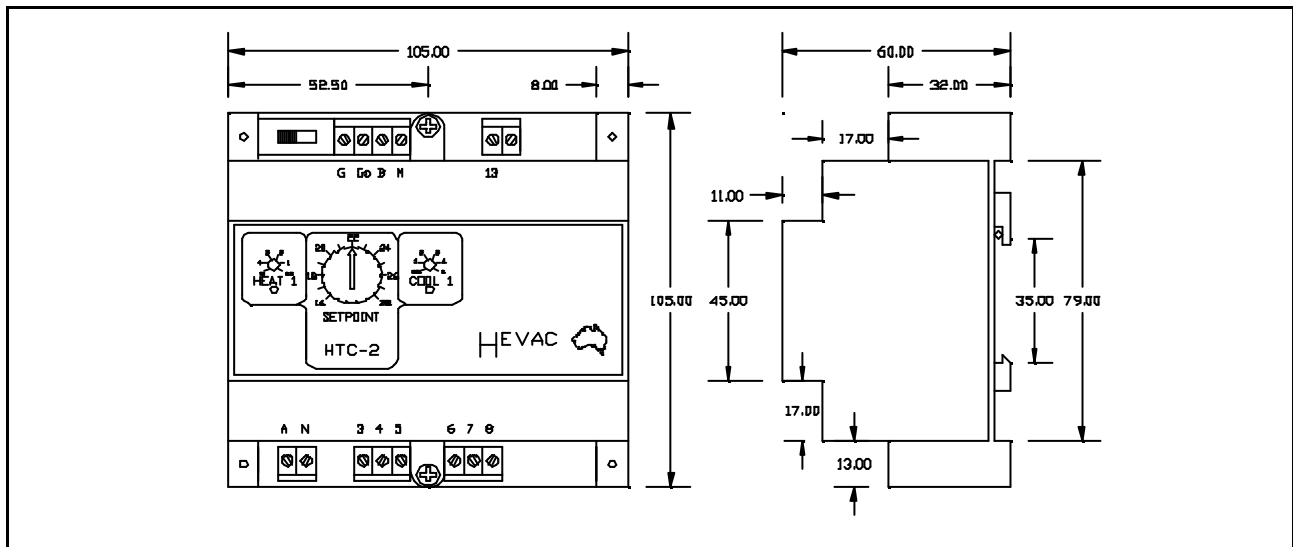
Stage switch on points are individually adjustable with their ON/OFF status displayed via LED indicators.

The **HTC-2** controller is ideally suited for DIN rail mounting in a switchboard, or directly inside the A/C unit if required.

Technical Specifications

Power supply (Factory Set to 240VAC)	24VAC or 240VAC (User Selectable)
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Heating and Cooling relay outputs	240VAC 10 amp resistive, 3 amp inductive
Temperature range (Factory Set to 22oC)	16 to 28 Degrees Centigrade
Switching differential for STAGE 1	0.3 Degrees Centigrade (NON Adjustable)
Stage start point adjustment range	0.5 to 5.0 Degrees Celsius (From Setpoint)
Stage start point (Factory Setting)	1.0 Degree Centigrade
Output indication	Green LED for Cooling Red LED for Heating
Mounting method	35mm DIN rail (Not supplied)

Dimensions



HTC-2 (Continued)

1 Stage Heat & 1 Stage Cool Analogue Temperature Controller

HEVAC CONTROLS

Electrical Schematics for Compressor Reversing Valve Type A/C Units

TECHNICAL NOTES
Select the option that suits the specific requirements of the Air Conditioning Unit.

Option 1
Reversing Valve Energises on a HEATING CALL.

Option 2
Reversing Valve Energises on a COOLING CALL.

Supply Voltage
The Controller requires either a 240 Volt AC or 24 Volt AC Supply.
(Use ONE Supply Voltage Only)

Electrical Schematic for Heat / Cool Type A/C Units

TECHNICAL NOTES

Typical for A/C Units Labeled HEAT / COOL

Supply Voltage
The Controller requires either a 240 Volt AC or 24 Volt AC Supply.
(Use ONE Supply Voltage Only)

Quick Test Information

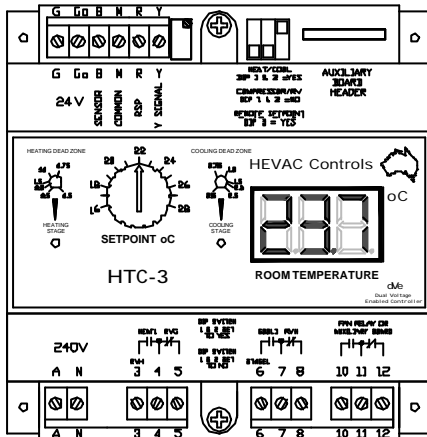
All HEVAC Controllers are Factory Calibrated and Pre-set to Industry Standard Defaults prior to dispatch. If you require further information on these Settings please Refer to the Technical Specifications Page.

To quickly confirm that a controller is wired to the correct sensor and to TEST for Heating & Cooling Changeover the following procedure can be carried out.

- STEP 1: Dial setpoint up or down until you do not have a Heating or Cooling call. (ie Deadband Position)
- STEP 2: Open circuit the sensor wires at the Sensor. The controller should go into full COOLING Mode.
- STEP 3: Short circuit the sensor wires at the Sensor. The controller should go into full HEATING Mode.

HTC-3

1 Stage Heat & 1 Stage Cool Analogue Controller with Digital Display HEVAC CONTROLS



The **HTC-3** temperature controller is primarily designed for the control of 1 Stage Heat and 1 Stage Cool Air-conditioning units.

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

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

The **HTC-3** also incorporates a random time delay on the fan relay output enabling multiple A/C Unit startups using only one Time Clock or System Start Switch.

Technical Specifications

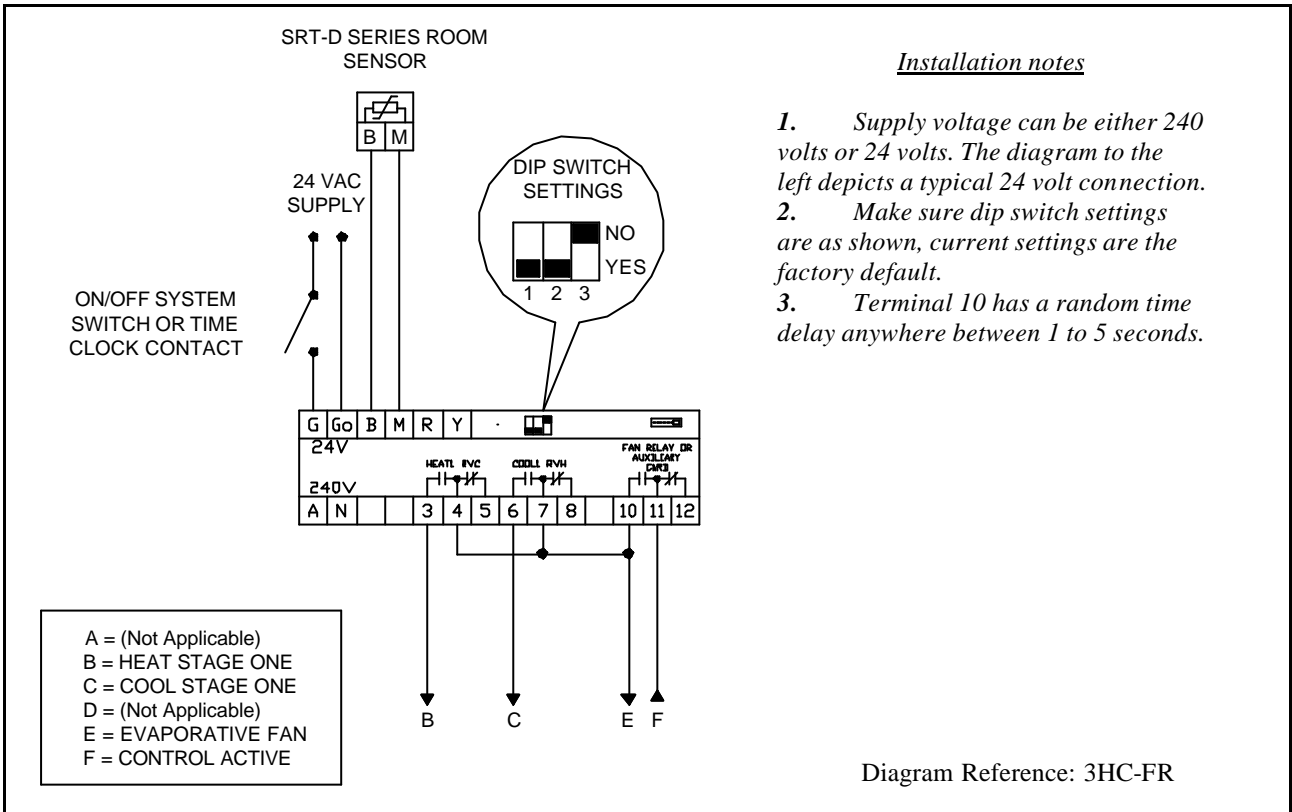
Power supply requirements	24VAC or 240VAC
Power consumption on 240 volts	7 VA
Power consumption on 24 volts	1 VA
Sensor Input	NTC 4000 Ohms at 25 Degrees Centigrade
Relay outputs	240VAC 10 amp resistive or 3 amp inductive
Temperature range (Factory Set to 22oC)	16 to 28 Degrees Centigrade
Switching differential (Switching Span)	0.3 Degrees Centigrade (NON-Adjustable)
Stage dead zone adjustment range	0.5 to 2.5 Degrees Celsius
Stage dead zone (Factory Settings)	1.0 oC per Stage
Relay Output indication	Green LED for Cooling Red LED for Heating
Room temperature LED Indication	10mm High RED 3 digit 7 segment display
Room temperature LED Display Resolution	0.1 Degrees Centigrade Increments
Plug in Auxiliary Card Options	Refer to data sheet HTC53 for specific details
Dip Switch Configurations (Factory Default)	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 Configurations (Option 2)	Dip Switch 1 & 2 set to NO = Controller is configured for COMPRESSOR/RV wiring
Dip Switch Configurations (Option 3)	Dip Switch 3 set to YES = Remote Set point Feature is turned ON
Fan Relay random time delay (Factory Preset)	1 to 5 seconds (Not user adjustable)
Mounting method	35mm DIN rail (Not supplied)

HTC-3 (Continued)

1 Stage Heat & 1 Stage Cool Analogue Controller with Digital Display **HEVAC CONTROLS**

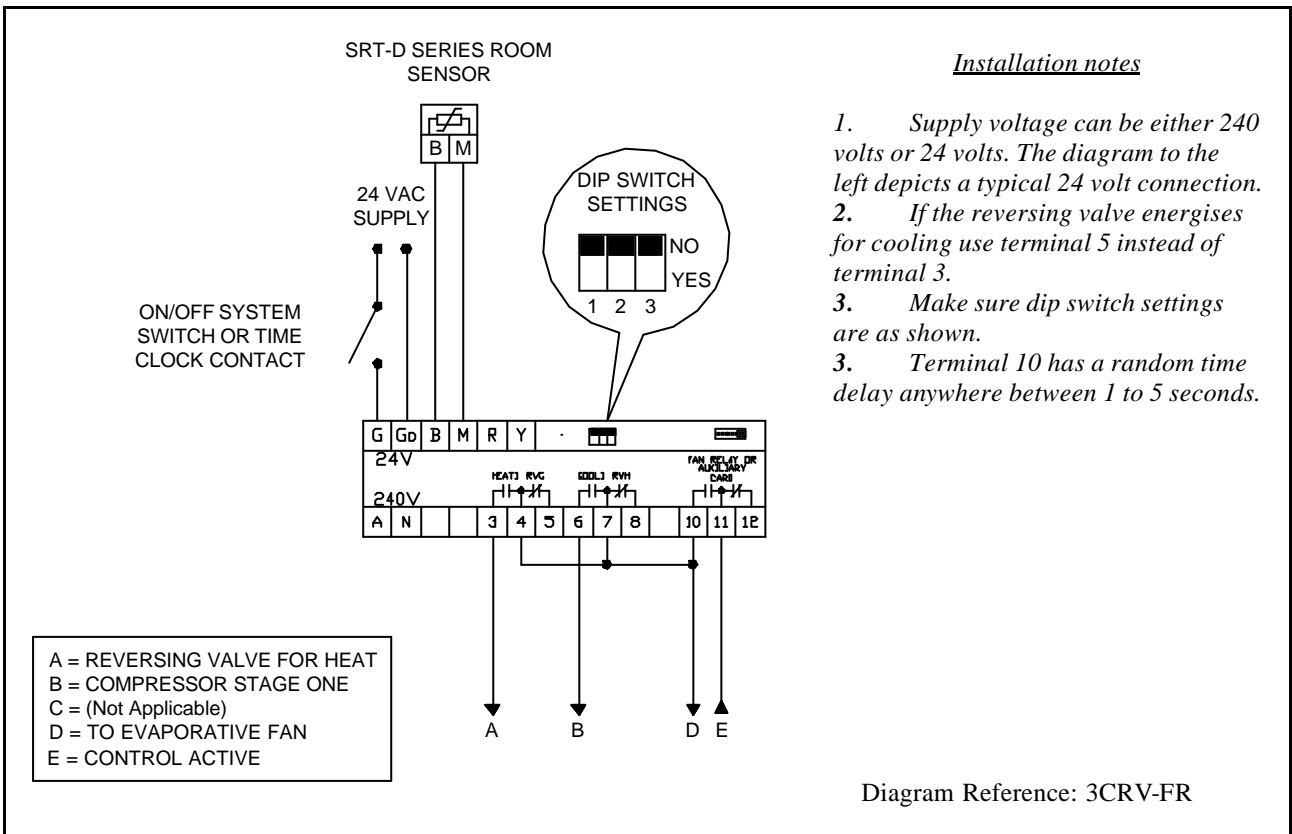
Heat/Cool Type A/C Units utilizing the Internal Fan Relay

DEFAULT DRAWING



Compressor Reversing Valve Type A/C Units utilizing the Internal Fan Relay

OPTION ONE

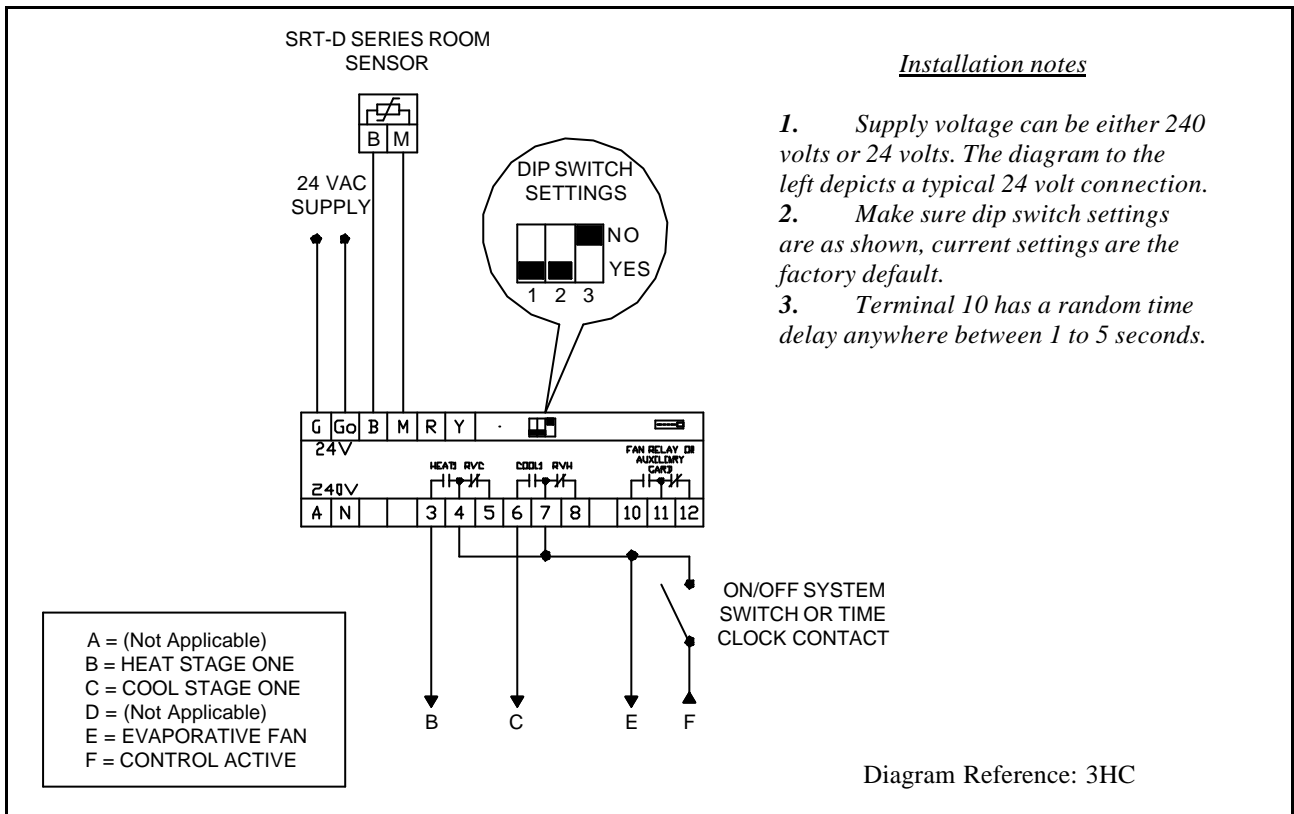


HTC-3 (Continued)

1 Stage Heat & 1 Stage Cool Analogue Controller with Digital Display HEVAC CONTROLS

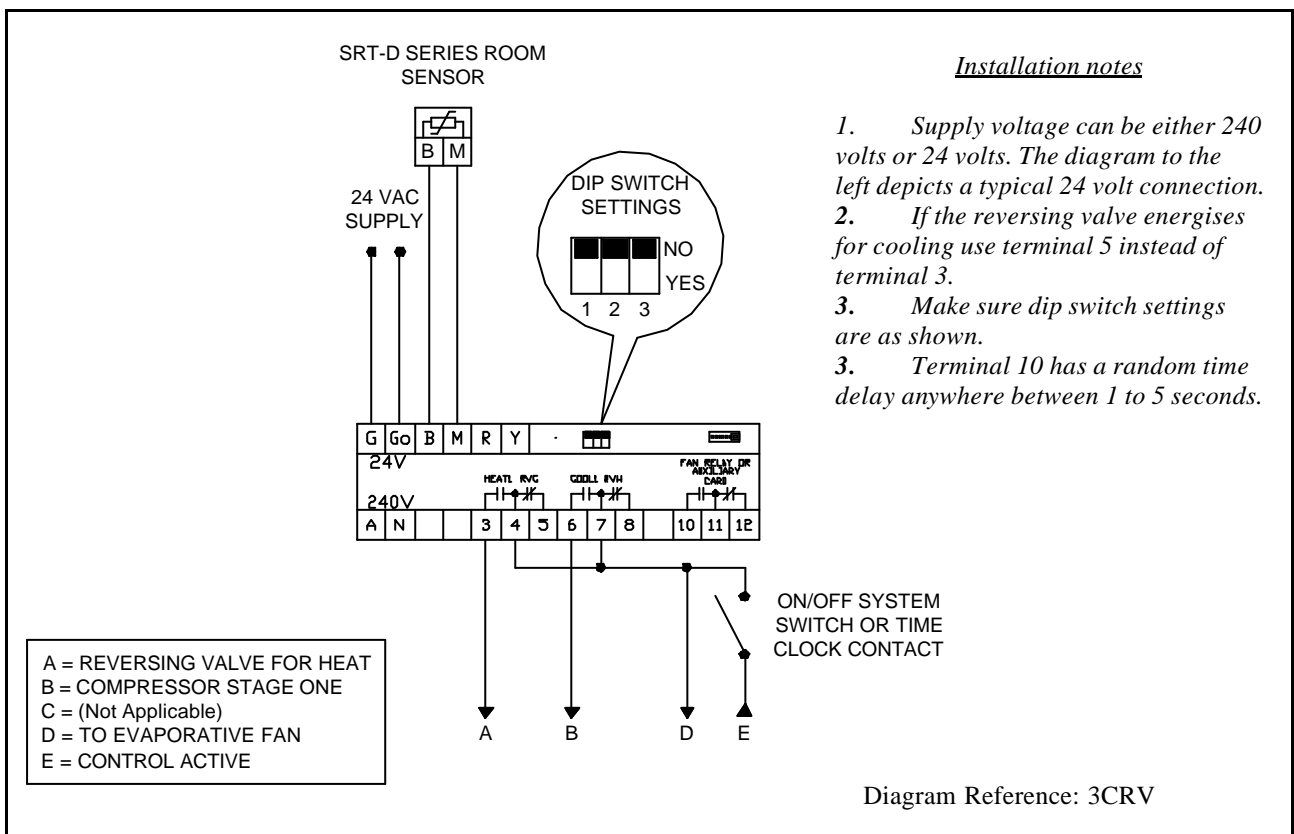
Heat/Cool Type A/C Units without using Internal Fan Relay

OPTION TWO



Compressor Reversing Valve Type A/C Units without using the Internal Fan Relay

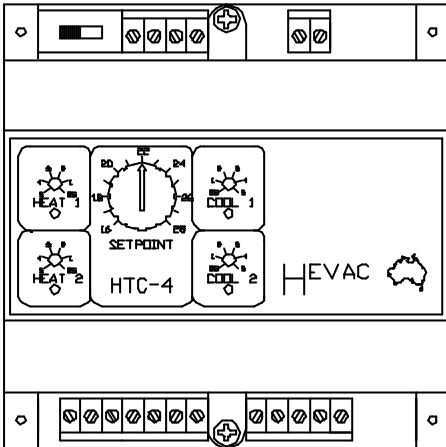
OPTION THREE



HTC-4

2 Stage Heat & 2 Stage Cool Analogue Temperature Controller

HEVAC CONTROLS



The **HTC-4** temperature controller is primarily designed for the control of 2 Heat and 2 Cool air-conditioning units.

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

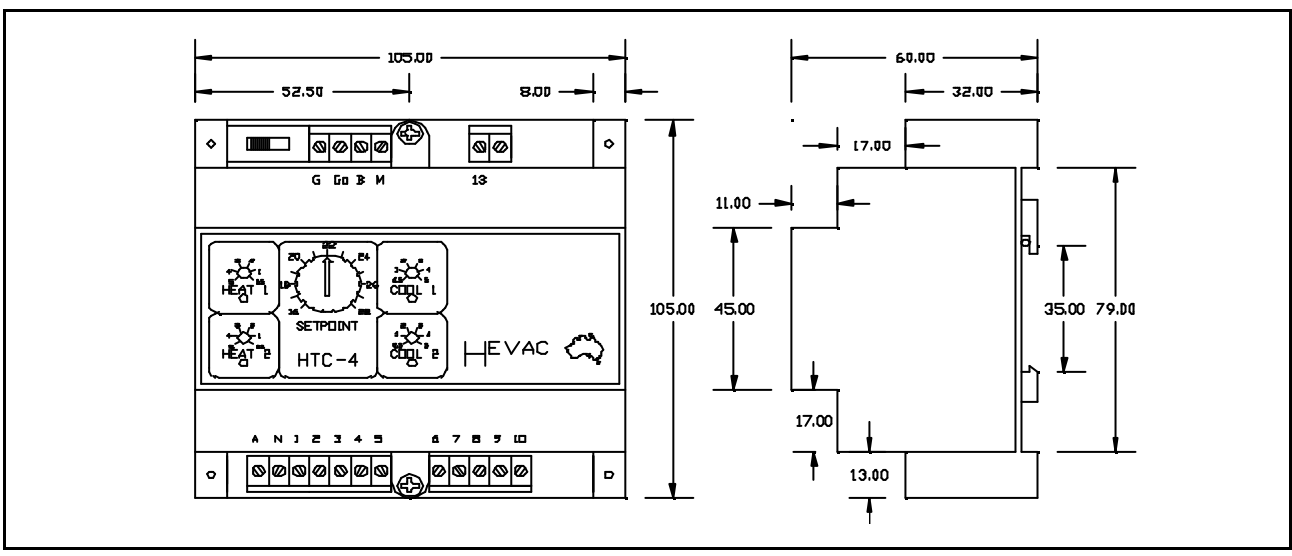
Stage switch on points are individually adjustable with their ON/OFF status displayed via LED indicators.

The **HTC-4** controller is ideally suited for DIN rail mounting in a switchboard, or directly inside the A/C unit if required.

Technical Specifications

Power supply (Factory Set to 240VAC)	24VAC or 240VAC (User Selectable)
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Heating and Cooling relay outputs	240VAC 10 amp resistive, 3 amp inductive
Temperature range (Factory Set to 22oC)	16 to 28 Degrees Centigrade
Switching differential for STAGE 1	0.3 Degrees Centigrade (NON-Adjustable)
Switching differential for STAGE 2	0.7 Degrees Centigrade (NON-Adjustable)
Stage start point adjustment range	0.5 to 5.0 Degrees Celsius (From Setpoint)
Stage start point (Factory Settings)	Stage 1= 1.0 oC Stage 2= 2.0 oC
Output indication	Green LED for Cooling Red LED for Heating
Mounting method	35mm DIN rail (Not supplied)

Dimensions



HEVAC Control Agencies Pty Ltd

54 Howleys Road, Nottinghill, Victoria, 3168

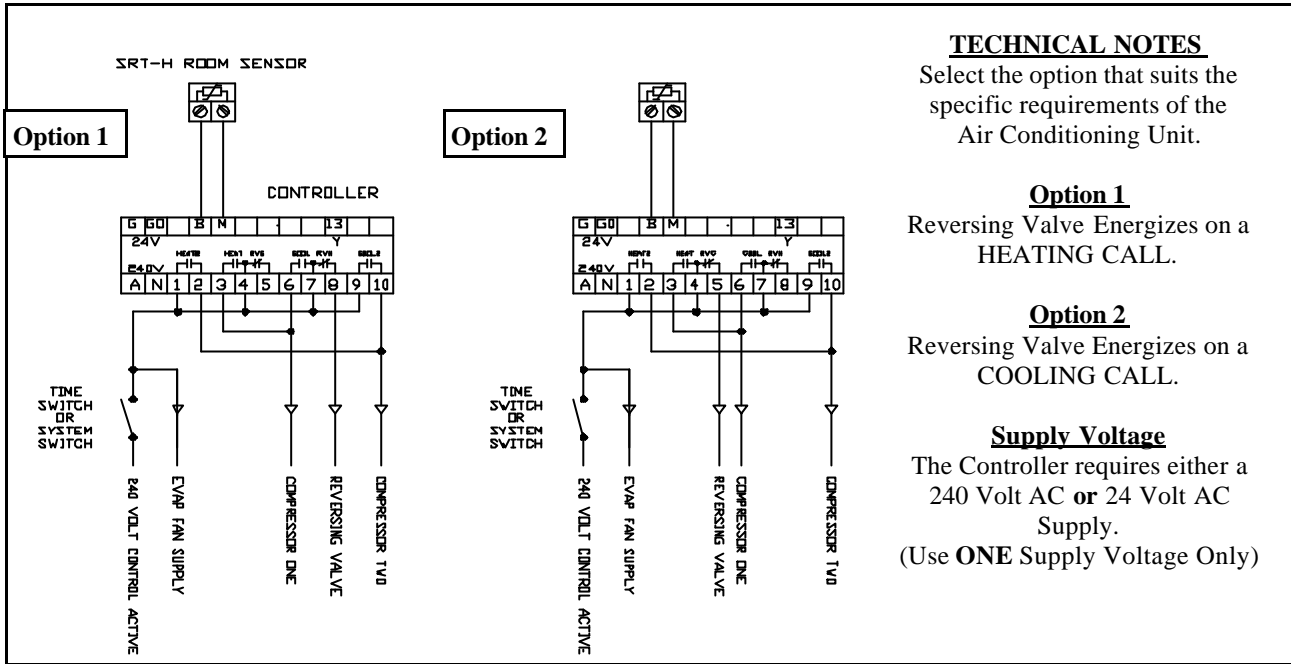
(03) 9562 7888 Fax:(03) 9562 7835 Web: www.hevac.com.au

HTC-4 (Continued)

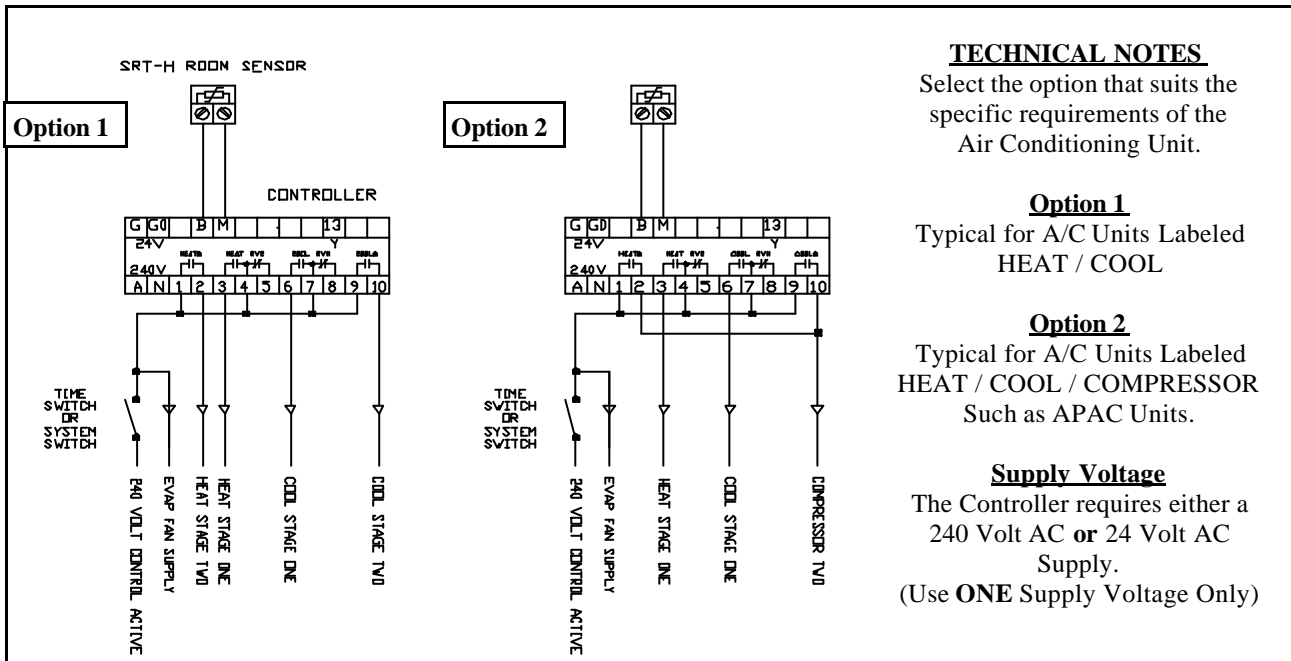
2 Stage Heat & 2 Stage Cool Analogue Temperature Controller

HEVAC CONTROLS

Electrical Schematics for Compressor Reversing Valve Type A/C Units



Electrical Schematics for Heat / Cool Type A/C Units



Quick Test Information

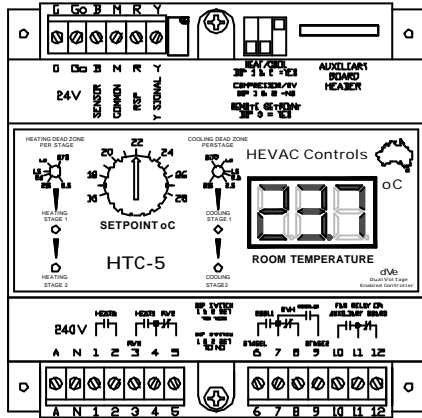
All HEVAC Controllers are Factory Calibrated and Pre-set to Industry Standard Defaults prior to dispatch. If you require further information on these Settings please Refer to the Technical Specifications Page.

To quickly confirm that a controller is wired to the correct sensor and to TEST for Heating & Cooling Changeover the following procedure can be carried out.

- STEP 1: Dial setpoint up or down until you do not have a Heating or Cooling call. (ie Dead band Position)
- STEP 2: Open circuit the sensor wires at the Sensor. The controller should go into full COOLING Mode.
- STEP 3: Short circuit the sensor wires at the Sensor. The controller should go into full HEATING Mode.

HTC-5

2 Stage Heat & 2 Stage Cool Analogue Controller with Digital Display HEVAC CONTROLS



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 V or 24 Volt circuitry.

Stage switch on points are 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 startups using only one Time Clock or System Start Switch.

Technical Specifications

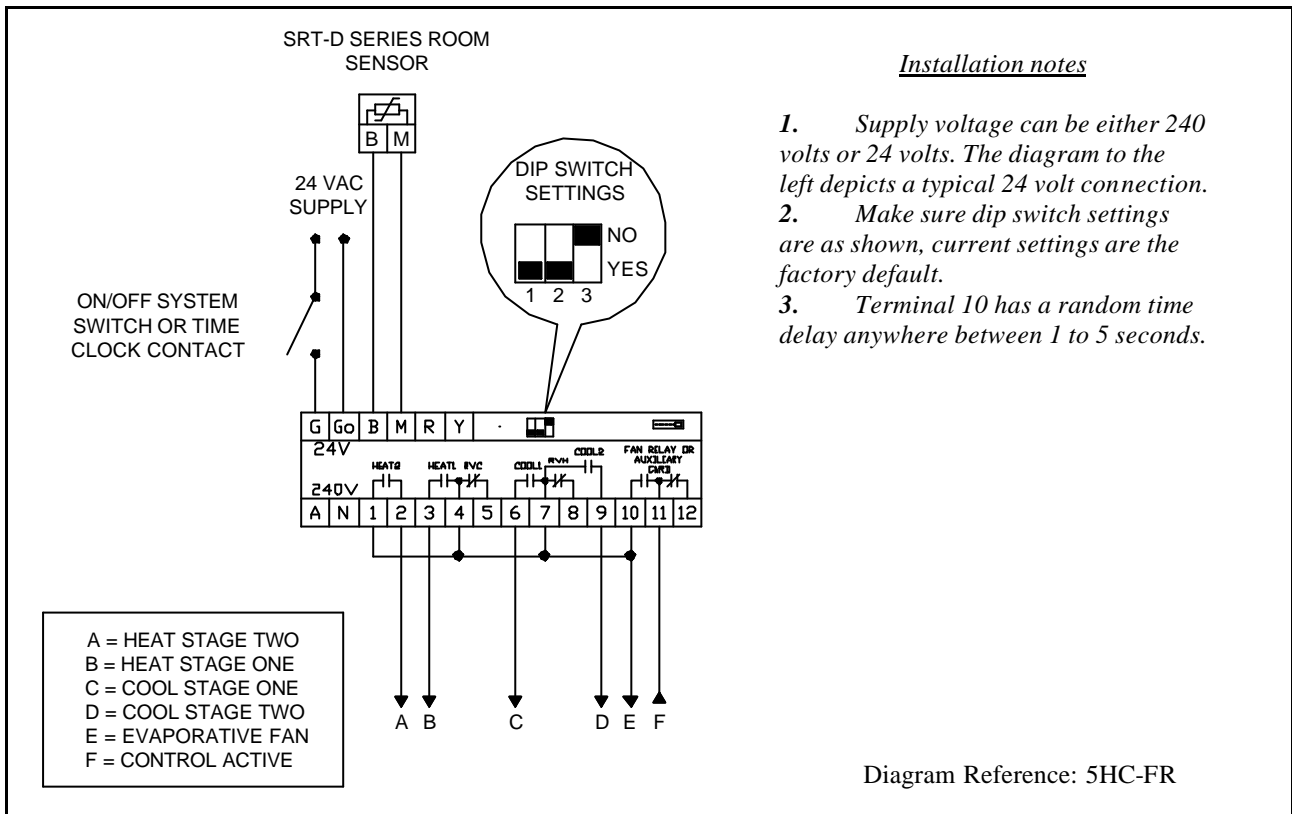
Power supply requirements	24VAC or 240VAC
Power consumption on 240 volts	7 VA
Power consumption on 24 volts	1 VA
Sensor Input	NTC 4000 Ohms at 25 Degrees Centigrade
Relay outputs	240VAC 10 amp resistive or 3 amp inductive
Temperature range (Factory Set to 22oC)	16 to 28 Degrees Centigrade
Switching differential for STAGE 1 (Switching Span)	0.3 Degrees Centigrade (NON-Adjustable)
Switching differential for STAGE 2	0.7 Degrees Centigrade (NON-Adjustable)
Stage dead zone adjustment range	0.5 to 2.5 Degrees Celsius per Stage
Stage dead zone (Factory Settings)	1.0 oC per Stage
Relay Output indication	Green LED for Cooling (2 Off) Red LED for Heating (2 Off)
Room temperature LED Indication	10mm High RED 3 digit 7 segment display
Room temperature LED Display Resolution	0.1 Degrees Centigrade Increments
Plug in Auxiliary Card Options	Refer to data sheet HTC53 for specific details
Dip Switch Configurations (Factory Default)	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 Configurations (Option 2)	Dip Switch 1 & 2 set to NO = Controller is configured for COMPRESSOR/RV wiring
Dip Switch Configurations (Option 3)	Dip Switch 3 set to YES = Remote Set point Feature is turned ON
Fan Relay random time delay (Factory Preset)	1 to 5 seconds (Not user adjustable)
Mounting method	35mm DIN rail (Not supplied)

HTC-5 (Continued)

2 Stage Heat & 2 Stage Cool Analogue Controller with Digital Display HEVAC CONTROLS

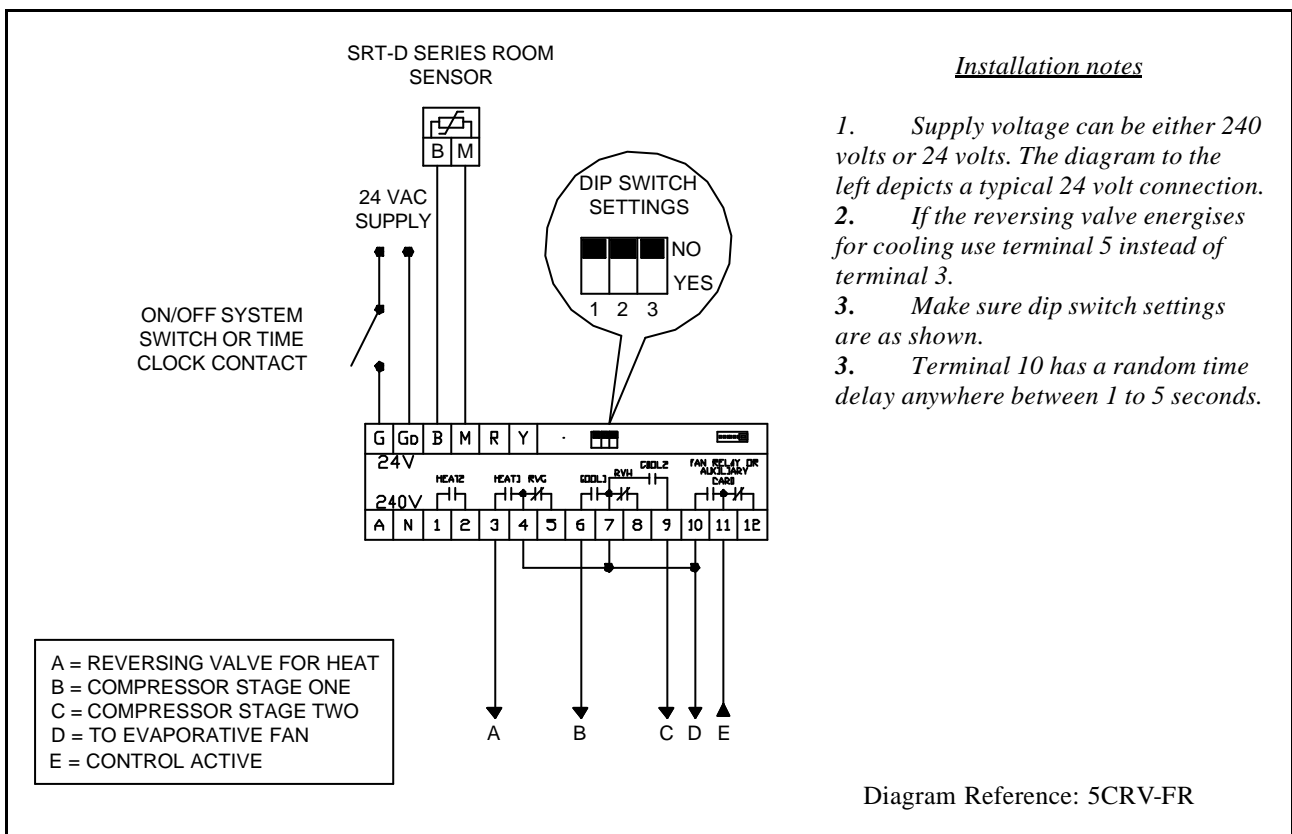
Heat/Cool Type A/C Units utilizing the Internal Fan Relay

DEFAULT DRAWING



Compressor Reversing Valve Type A/C Units utilizing the Internal Fan Relay

OPTION ONE

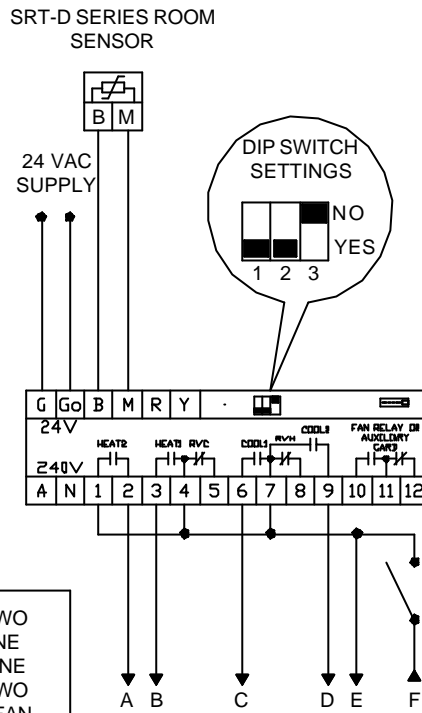


HTC-5 (Continued)

2 Stage Heat & 2 Stage Cool Analogue Controller with Digital Display HEVAC CONTROLS

Heat/Cool Type A/C Units without using Internal Fan Relay

OPTION TWO



Installation notes

1. Supply voltage can be either 240 volts or 24 volts. The diagram to the left depicts a typical 24 volt connection.
2. Make sure dip switch settings are as shown, current settings are the factory default.
3. Terminal 10 has a random time delay anywhere between 1 to 5 seconds.

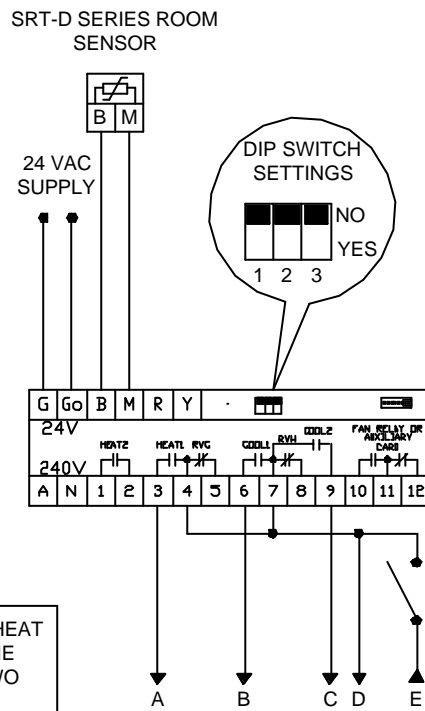
A = HEAT STAGE TWO
 B = HEAT STAGE ONE
 C = COOL STAGE ONE
 D = COOL STAGE TWO
 E = EVAPORATIVE FAN
 F = CONTROL ACTIVE

ON/OFF SYSTEM SWITCH OR TIME CLOCK CONTACT

Diagram Reference: 5HC

Compressor Reversing Valve Type A/C Units without using the Internal Fan Relay

OPTION THREE



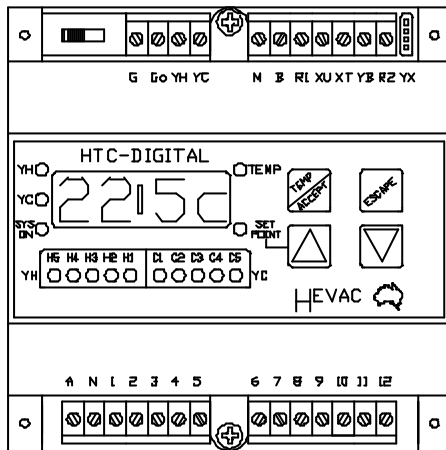
Installation notes

1. Supply voltage can be either 240 volts or 24 volts. The diagram to the left depicts a typical 24 volt connection.
2. If the reversing valve energises for cooling use terminal 5 instead of terminal 3.
3. Make sure dip switch settings are as shown.
3. Terminal 10 has a random time delay anywhere between 1 to 5 seconds.

A = REVERSING VALVE FOR HEAT
 B = COMPRESSOR STAGE ONE
 C = COMPRESSOR STAGE TWO
 D = TO EVAPORATIVE FAN
 E = CONTROL ACTIVE

ON/OFF SYSTEM SWITCH OR TIME CLOCK CONTACT

Diagram Reference: 5CRV



The **HTC-DIGITAL** is a fully programmable microprocessor based temperature controller.

This controller is intended for use in air-conditioning applications where the control of ON/OFF stages of heating and cooling and/or sequencing of modulating actuators is required.

The controllers five relays can each be assigned individual functions and characteristics, and the two analogue output signals can also be programmed individually for start and range.

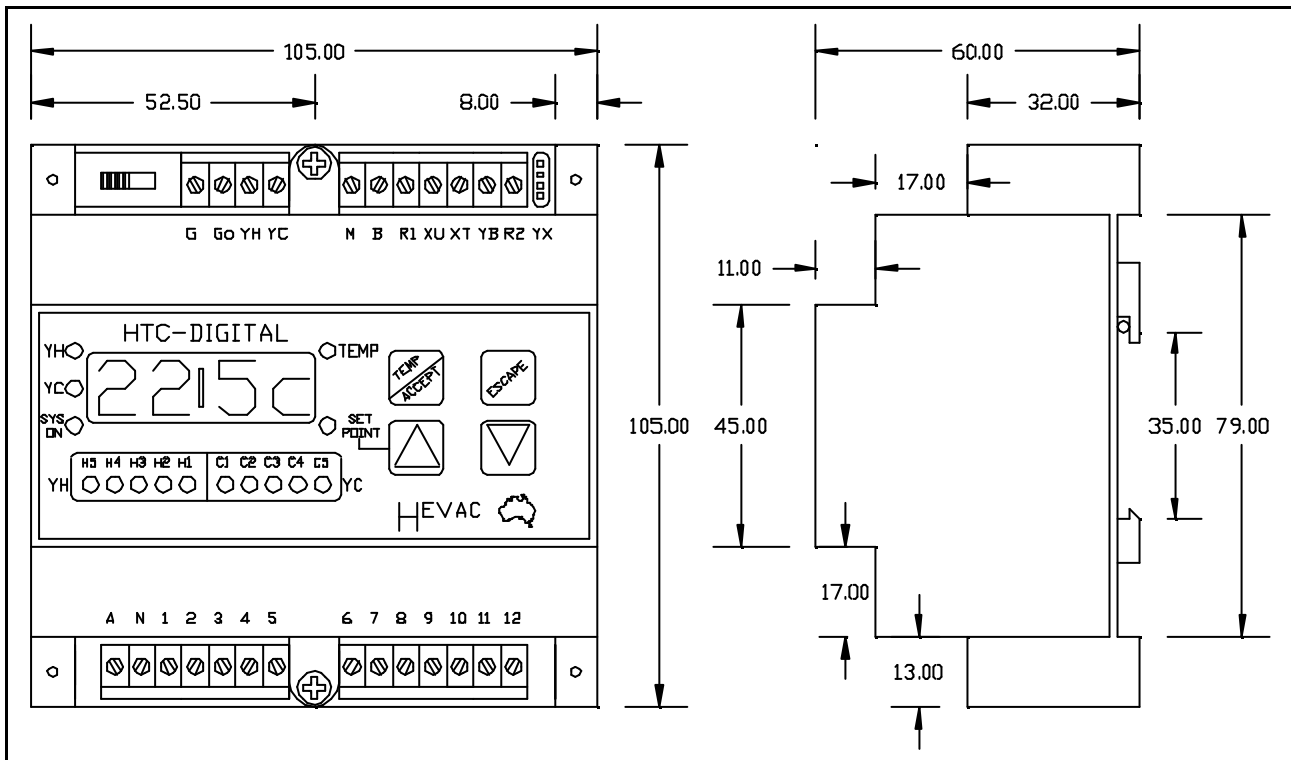
Technical Specifications

Power supply (User Selectable)	24VAC or 240VAC
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Relay 1 to 5 power ratings	240VAC 2 amp resistive, 0.75 amp inductive
Temperature setpoint range	8 to 33 Degrees Celsius in 0.1 increments
Memory back-up	Replaceable 5 year 3volt Lithium battery CR1220
Relay switch ON points (deadband) from setpoint	0.1 to 9.9 Degrees Celsius
Relay Hysterisis (switching differential)	0.3 to 9.9 Degrees Celsius
Relay energise time delay	0.1 to 9.9 Minutes
YH / YC output voltage	0-10 VDC
YH / YC start point (deadband)	0.1 to 9.9 Degrees Celsius
YH / YC range (proportional band)	0.1 to 9.9 Degrees Celsius
Remote set point shift input on Terminal R1 (Potentiometric)	10 k Pot. Programmable authority of 0 to +/- 9 Degrees Celsius
Remote set point shift input on Terminal R2 (Voltage)	0-10 VDC. Programmable authority of 0 to +/- 9 Degrees Celsius
Unoccupied Economy mode added Deadband	1 to 9 Degrees Celsius added to both the Heat & Cool Deadband settings
Terminal YB slave output	0 to 5 VDC over programmable temperature deviation from setpoint -9.9 to + 9.9 degrees Celsius
Relay status by RED/GREEN LED bar graph	RED Heating stage on GREEN Cooling Stage on
Terminal YX output	RS485 output to PC for remote monitoring and programming use
SYSTEM ON indication	YELLOW sys on LED

Technical Designations

G	24 VOLT AC SUPPLY ACTIVE	A & N	240 VOLT AC SUPPLY
Go	24 VOLT AC SUPPLY GROUND REFERENCE	1	RELAY ONE COMMON INPUT
YH	0-10VDC HEATING OUTPUT	2	RELAY ONE NORMALLY OPEN OUTPUT
YC	0-10VDC COOLING OUTPUT	3	RELAY TWO NORMALLY OPEN OUTPUT
M	COMMON FOR ALL MEASUREMENT AND CONTROL INPUTS	4	RELAY TWO COMMON INPUT
B	ROOM SENSOR INPUT	5	RELAY TWO NORMALLY CLOSED OUTPUT
R1	10 K OHMS REMOTE SETPOINT SHIFT INPUT	6	RELAY THREE NORMALLY OPEN OUTPUT
XU	UNOCCUPIED ECONOMY MODE INPUT	7	RELAY THREE COMMON INPUT
XT	NOT USED (HTC-DIGITAL-TC MODEL ONLY)	8	RELAY THREE NORMALLY CLOSED OUTPUT
YB	AUXILIARY OUTPUT	9	RELAY FOUR COMMON INPUT
R2	0-10VDC REMOTE SETPOINT SHIFT INPUT	10	RELAY FOUR NORMALLY OPEN OUTPUT
YX	RS485 COMMUNICATIONS OUTPUT	11	RELAY FIVE COMMON INPUT
		12	RELAY FIVE NORMALLY OPEN OUTPUT

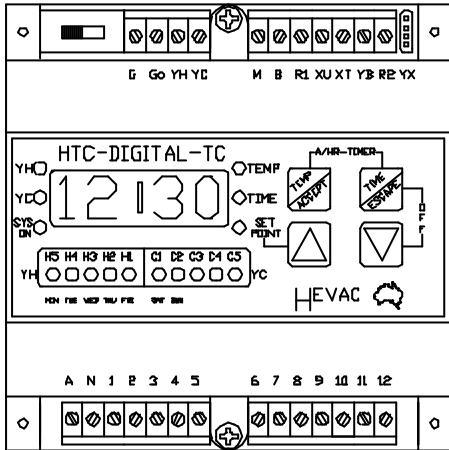
Dimensions



HTC-DIGITAL-TC

Microprocessor Based Temperature Controller/Time Switch

HEVAC CONTROLS

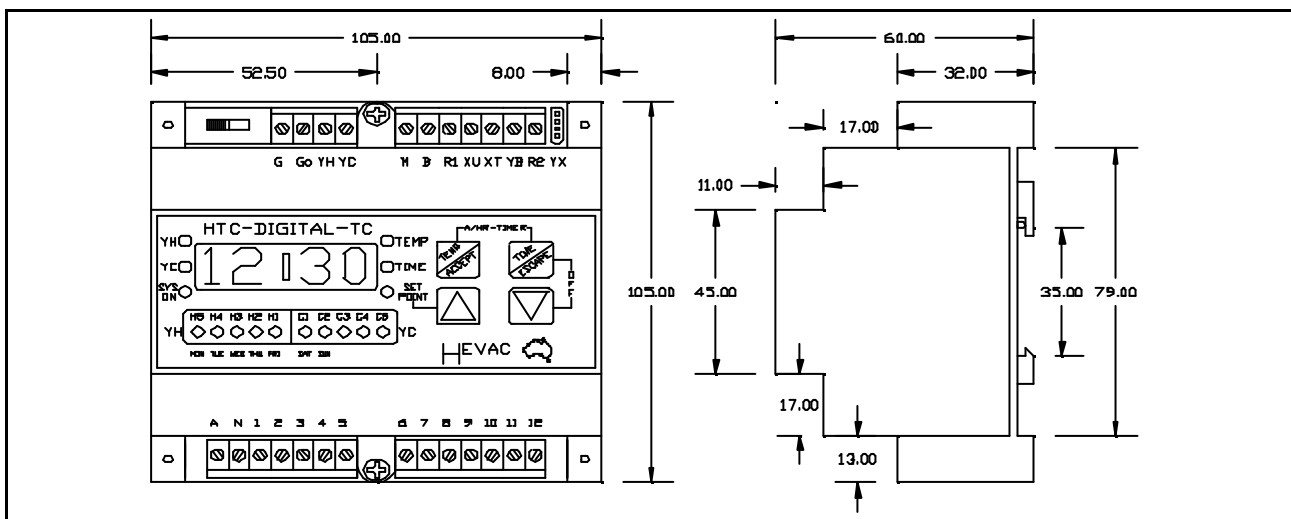


The **HTC-DIGITAL-TC** is a fully programmable microprocessor based temperature controller and two channel 365 day time clock with optimiser function. This controller is intended for use in air-conditioning applications where the control of ON/OFF stages of heating and cooling and/or sequencing of modulating actuators is required. The **HTC-DIGITAL-TC** also incorporates an after hours run on timer function, and a temperature optimiser function.

Terminal Designations

G	24 VOLT AC SUPPLY ACTIVE	A & N	240 VOLT AC SUPPLY
Go	24 VOLT AC SUPPLY GROUND REFERENCE	1	RELAY ONE COMMON INPUT
YH	0-10VDC HEATING OUTPUT	2	RELAY ONE NORMALLY OPEN OUTPUT
YC	0-10VDC COOLING OUTPUT	3	RELAY TWO NORMALLY OPEN OUTPUT
M	COMMON FOR ALL MEASUREMENT AND CONTROL INPUTS	4	RELAY TWO COMMON INPUT
B	ROOM SENSOR INPUT	5	RELAY TWO NORMALLY CLOSED OUTPUT
R1	10 K OHMS REMOTE SETPOINT SHIFT INPUT	6	RELAY THREE NORMALLY OPEN OUTPUT
XU	UNOCCUPIED ECONOMY MODE INPUT	7	RELAY THREE COMMON INPUT
XT	AFTER HOURS RUN ON INPUT	8	RELAY THREE NORMALLY CLOSED OUTPUT
YB	AUXILIARY OUTPUT	9	RELAY FOUR COMMON INPUT
R2	0-10VDC REMOTE SETPOINT SHIFT INPUT	10	RELAY FOUR NORMALLY OPEN OUTPUT
YX	RS485 COMMUNICATIONS OUTPUT	11	RELAY FIVE COMMON INPUT
		12	RELAY FIVE NORMALLY OPEN OUTPUT

Dimensions



HEVAC Control Agencies Pty Ltd

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HTCDIGITALTC 01102001

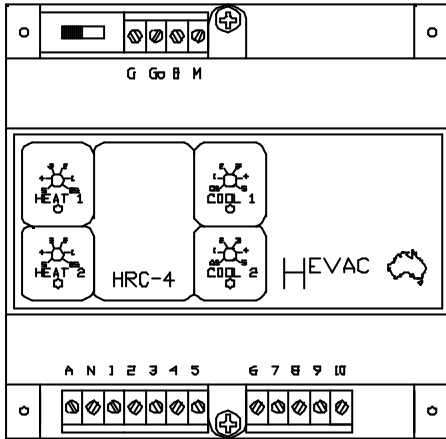
Technical Specifications

<i>Power supply (User Selectable)</i>	<i>24VAC or 240VAC</i>
<i>Power consumption 240 volts</i>	<i>7 VA</i>
<i>Power consumption 24 volts</i>	<i>1 VA</i>
<i>Relay 1 to 5 power ratings</i>	<i>240VAC 2 amp resistive,0.75 amp inductive</i>
<i>Temperature setpoint range</i>	<i>8 to 33 Degrees Celsius in 0.1 increments</i>
<i>Memory back-up</i>	<i>Replaceable 5 year 3volt Lithium battery CR1220</i>
<i>Relay switch ON points (deadband) from setpoint</i>	<i>0.1 to 9.9 Degrees Celsius</i>
<i>Relay Hysterisis (switching differential)</i>	<i>0.3 to 9.9 Degrees Celsius</i>
<i>Relay energise time delay</i>	<i>0.1 to 9.9 Minutes</i>
<i>YH / YC output voltage</i>	<i>0-10 VDC</i>
<i>YH / YC start point (deadband)</i>	<i>0.1 to 9.9 Degrees Celsius</i>
<i>YH / YC range (proportional band)</i>	<i>0.1 to 9.9 Degrees Celsius</i>
<i>Remote set point shift input on Terminal R1 (Potentiometric)</i>	<i>10 k Pot. Programmable authority of 0 to +/- 9 Degrees Celsius</i>
<i>Remote set point shift input on Terminal R2 (Voltage)</i>	<i>0-10 VDC. Programmable authority of 0 to +/- 9 Degrees Celsius</i>
<i>Unoccupied Economy mode added Deadband</i>	<i>1 to 9 Degrees Celsius added to both the Heat & Cool Deadband settings</i>
<i>Terminal YB slave output</i>	<i>0 to 5 VDC over programmable temperature deviation from setpoint -9.9 to + 9.9 Celsius</i>
<i>Relay status by RED/GREEN LED bar graph</i>	<i>RED Heating stage on GREEN Cooling Stage on</i>
<i>Terminal YX output</i>	<i>RS485 output to PC for remote monitoring and programming use</i>
<i>Time switch ONE</i>	<i>7 day Programmable with single ON/OFF settings per day</i>
<i>Time switch TWO</i>	<i>7 day Programmable with single ON/OFF settings per day (holiday override selectable)</i>
<i>Holiday Programming</i>	<i>12 Block dates, which can be individual days or group of dates</i>
<i>Daylight saving</i>	<i>START and FINISH days programmable</i>
<i>Optimiser function</i>	<i>Selectable ON or OFF (early start time limited to 3 hours maximum) self adaptive</i>
<i>After hours run override</i>	<i>Programmable from 1 to 4 hours,when activated the SYS ON LED flashes</i>
<i>SYSTEM ON indication</i>	<i>YELLOW sys on LED</i>

HRC-4

2 Stage Heat & 2 Stage Cool Analogue Staging Relay

HEVAC CONTROLS



The **HRC-4** staging relay is intended for use with the slave output on the HTC analogue range of controllers. This module allows for two extra Heating and Cooling stages.

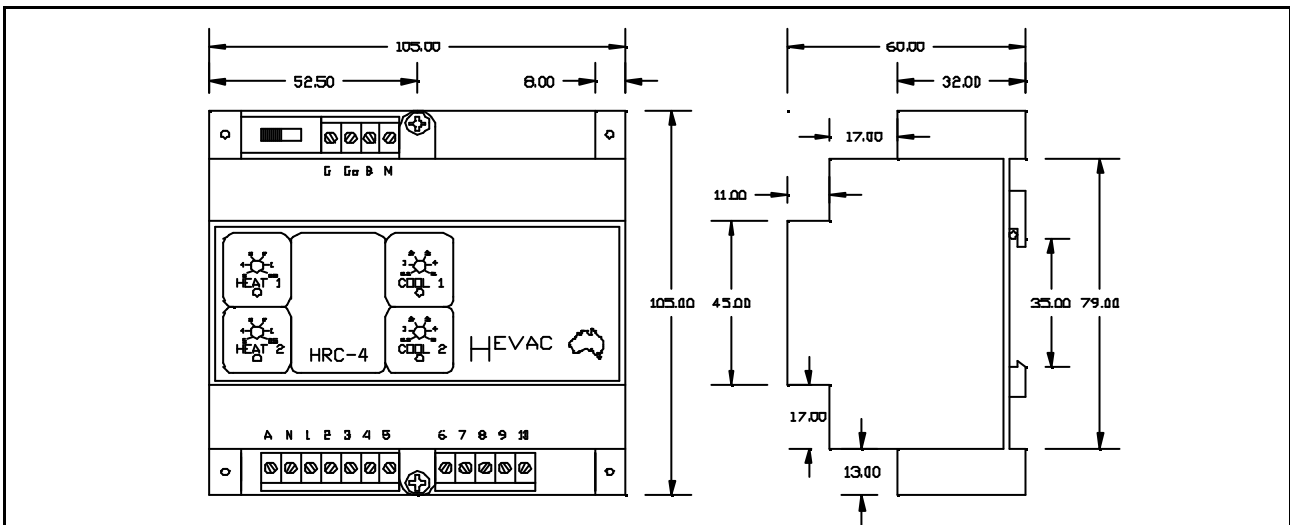
All output relays are voltage free, permitting use on either 240 V or 24 Volt circuitry.

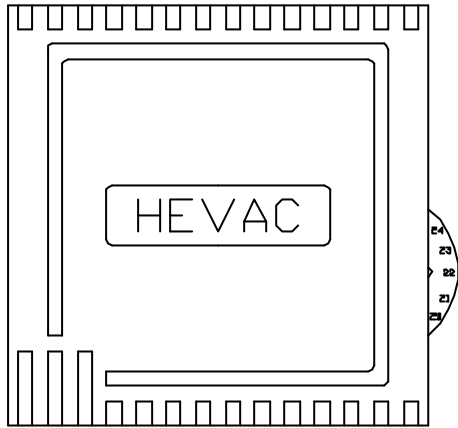
Stage switch on points are individually adjustable with their ON/OFF status displayed via LED indicators.

Technical Specifications

Power supply (User Selectable)	24VAC or 240VAC
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Heating and Cooling relay outputs	240VAC 10 amp resistive 3 amp inductive
Input terminal voltage range	0-10VDC
Switching differential for STAGE 1	0.3 Degrees Centigrade
Switching differential for STAGE 2	0.7 Degrees Centigrade
Stage start point adjustment range	0.5 to 5.0 Degrees Centigrade
Output indication	Green LED for Cooling Red LED for Heating
Mounting method	35mm DIN rail (Not supplied)

Dimensions





The **RTC10** thermostat is an ideal replacement or alternative to mechanical thermostats, having a far superior accuracy and response time.

The thermostat is designed to be used in conjunction with a remote System ON/OFF Switch or a Time Clock.

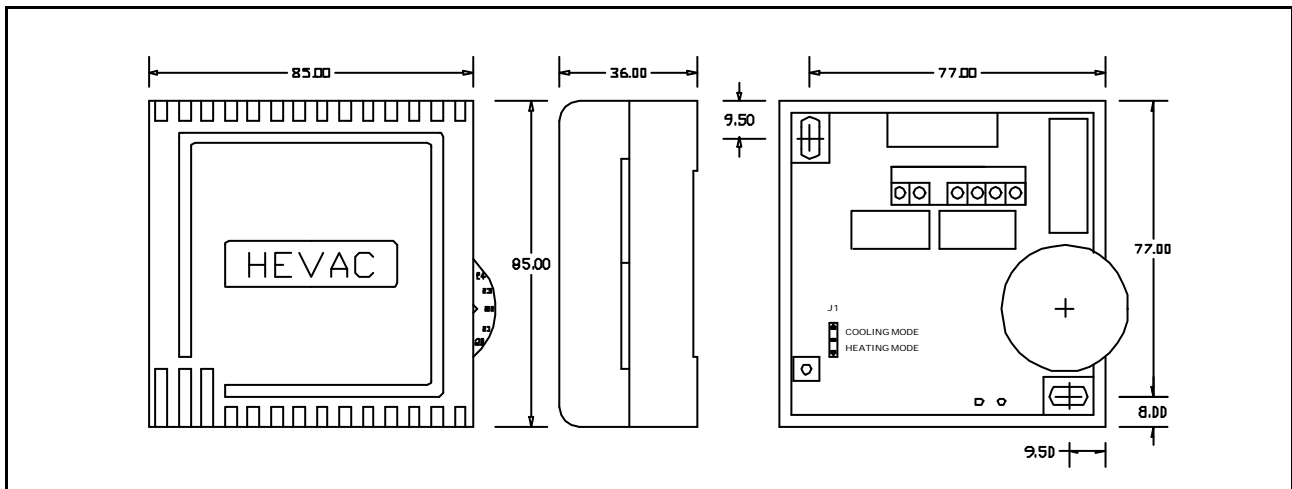
The **RTC10** has one Normally Open Relay contact which can be set via a jumper to energise on Heating or Cooling.

The set point adjuster can be concealed or exposed.

Technical Specifications

Power supply	24VAC or 240VAC
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Heating or Cooling relay output.	240VAC 8 amp resistive
One Normally Open Contact set via Jumper 1	2.5 amp inductive
Jumper 1 Setting (Heat/Cool Function)	Top Position = Relay energises on temperature increase (Cooling Mode).
	Bottom Position = Relay energises on temperature decrease (Heating Mode).
Temperature range	16 to 28 Degrees Centigrade
Switching differential	0.5 Degrees Centigrade
Output indication is determined by Jumper 1 position.	Green LED for Cooling
	Red LED for Heating

Dimensions



Electrical Schematic for COOLING Output

TECHNICAL NOTES

JUMPER 1 IN TOP POSITION
(Factory Default)

“Common” Terminal
The terminal labeled **COM** is a Voltage Free Common to the Relay Output. Therefore the Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Supply Voltage
The RTC-10 requires **either** a 240Volt AC or 24 Volt AC Supply.
(Use **ONE** Supply Voltage Only)

Electrical Schematic for HEATING Output

TECHNICAL NOTES

JUMPER 1 IN BOTTOM POSITION

“Common” Terminal
The terminal labeled **COM** is a Voltage Free Common to the Relay Output. Therefore the Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Supply Voltage
The RTC-10 requires **either** a 240Volt AC or 24 Volt AC Supply.
(Use **ONE** Supply Voltage Only)

Quick Test Information

All HEVAC Controllers are Factory Calibrated and Pre-set to Industry Standard Defaults prior to dispatch. If you require further information on these Settings please Refer to the Technical Specifications Page. The RTC-10 Electronic Room Thermostat is equipped with a TEST Facility Jumper on the Circuit Board. Follow these Steps to perform a Quick Test.

STEP 1: Remove the shorting jumper J2 from the NORM Position and place it in the TEST Position. (Simulates a 22oC Setpoint)

STEP 2: Confirm position of shorting jumper J1, if in Top Position (cooling mode) the following applies.

STEP 3: Dial the Setpoint Down and confirm that the COOLING (Green) LED turns ON.

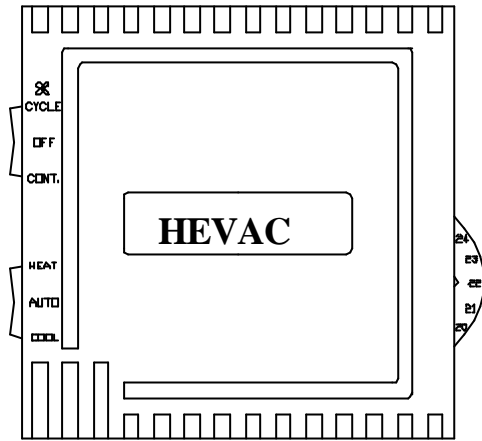
STEP 4: Dial the Setpoint Up and confirm that the COOLING (Green) LED Turns OFF.

STEP 5: **Return the TEST jumper back to the NORM Position.**

Note: If position of shorting jumper J1, is in Bottom Position (heating mode) the opposite of the above applies.

ie. STEP 3: Dial the Setpoint Up and confirm that the HEATING (Red) LED turns ON.

STEP 4: Dial the Setpoint Down and confirm that the HEATING (Red) LED Turns OFF.



The **RTC3C** thermostat is an ideal replacement or alternative to mechanical thermostats, having a far superior accuracy and response time.

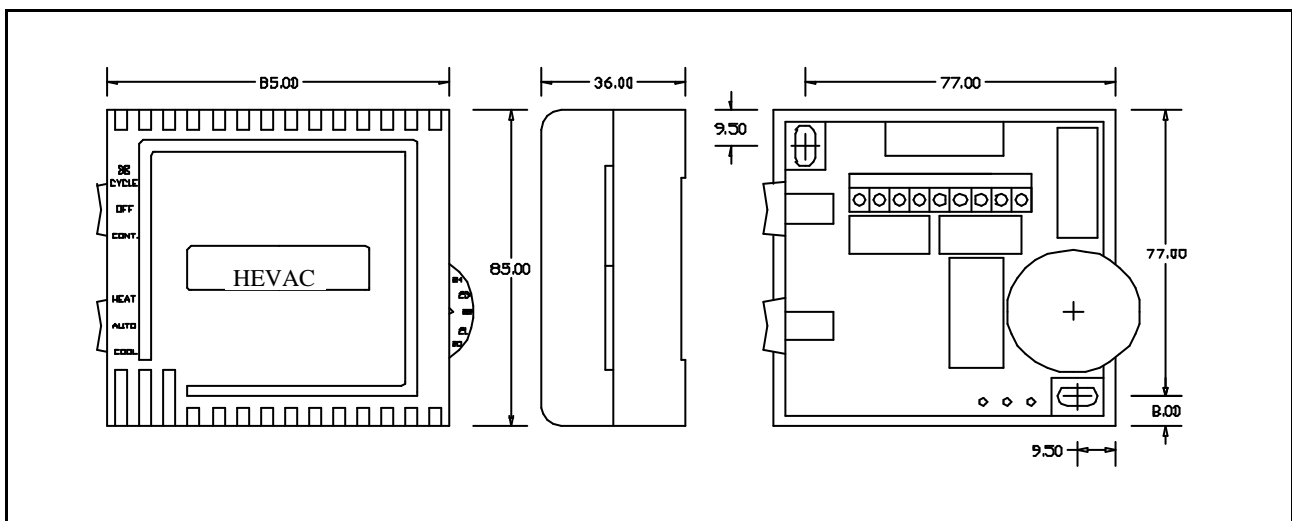
A fan control switch configured as **CYCLE/OFF/CONT** and a mode select **HEAT/AUTO/COOL** switch is provided as standard.

Deadband is adjustable between 2 or 3 degrees and the setpoint adjuster can be concealed or exposed.

Technical Specifications

Power supply	24VAC or 240VAC
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Fan relay output	240VAC 10 amp resistive, 3 amp inductive
Heating and Cooling relay outputs	240VAC 5 amp resistive, 2 amp inductive
Reversing valve relay outputs	240VAC 3 amp resistive, 1.5 amp inductive
Temperature range	16 to 28 Degrees Centigrade
Switching differential	0.5 Degrees Centigrade
Deadzone <u>between</u> heat & cool (Factory Set to 2oC)	Selectable, 2 or 3 Degrees Centigrade
Output indication	Green LED for Cooling Red LED for Heating Yellow LED for Fan

Dimensions



Electrical Schematic for Heat / Cool A/C Units

TECHNICAL NOTES

“Common” Terminal
 The terminal labeled **COM** is a Potential Free Common to the Relay Outputs. Therefore the A/C Unit Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Fan Output
 The **F** Terminal is Rated at 10 Amp Resistive. If your Fan requires a larger switching capacity a contactor should be installed.

Supply Voltage
 The RTC-3C requires either a 240Volt AC or 24 Volt AC Supply.
 (Use **ONE** Supply Voltage Only)

Electrical Schematic for Compressor Reversing Valve Type A/c Units

Option 1

Option 2

TECHNICAL NOTES

Option 1
 Reversing Valve Energises on a HEATING CALL

Option 2
 Reversing Valve Energises on a COOLING CALL

“Common” Terminal
 The terminal labeled **COM** is a Potential Free Common to the Relay Outputs. Therefore the A/C Unit Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Supply Voltage
 The RTC-3C requires either a 240Volt AC or 24 Volt AC Supply.
 (Use **ONE** Supply Voltage Only)

Quick Test Information

All HEVAC Controllers are Factory Calibrated and Pre-set to Industry Standard Defaults prior to dispatch. If you require further information on these Settings please Refer to the Technical Specifications Page.

The RTC-3C Electronic Room Thermostat is equipped with a TEST Facility Jumper on the Circuit Board. Follow these Steps to perform a Quick Test.

STEP 1: Remove the shorting jumper from the NORM Position and place it in the TEST Position. (Simulates a 22oC Setpoint)

STEP 2: Dial the Setpoint Up and confirm that the HEATING (Red) LED turns ON.

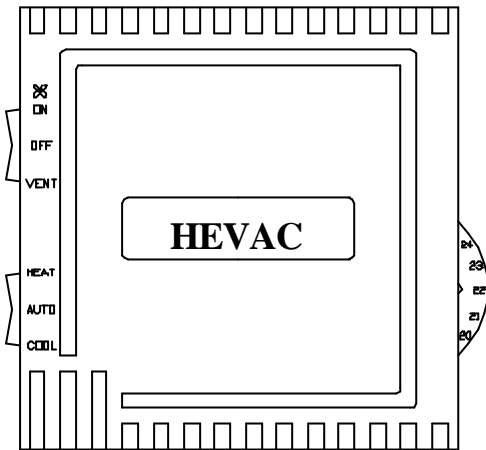
STEP 3: Dial the Setpoint Down and confirm that the COOLING (Green) LED ON.

STEP 4: **Return the TEST jumper back to the NORM Position.**

RTC-3V

Electronic Room Thermostat

HEVAC CONTROLS

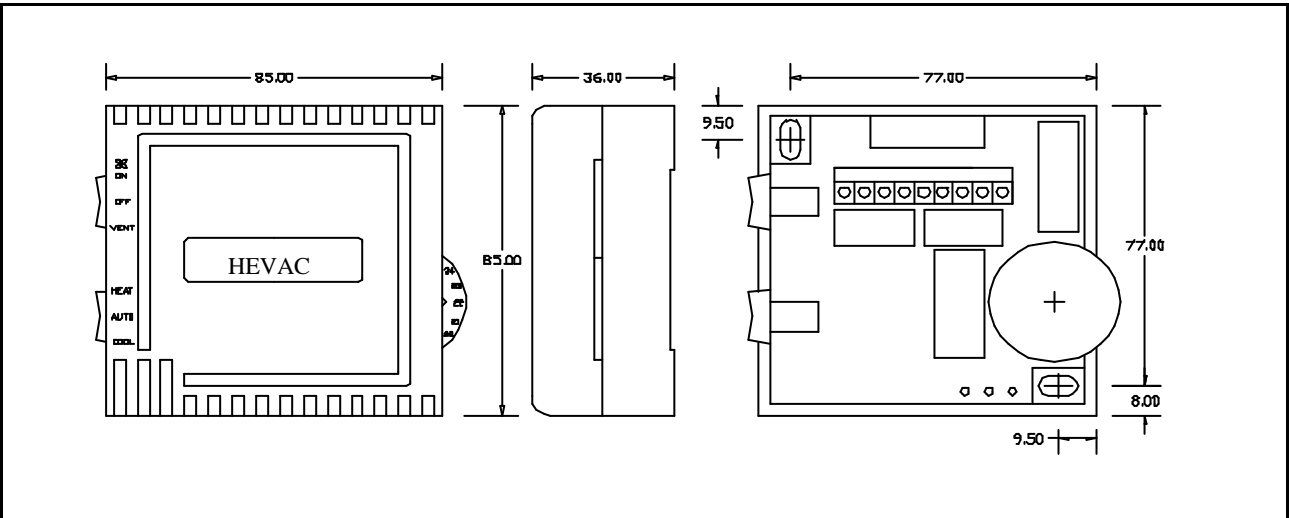


The **RTC3V** thermostat is an ideal replacement or alternative to mechanical thermostats, having a far superior accuracy and response time. A fan control switch configured as **ON/OFF/VENT** and a mode select **HEAT/AUTO/COOL** switch is provided as standard. Deadband is adjustable between 2 or 3 degrees and the setpoint adjuster can be concealed or exposed.

Technical Specifications

Power supply	24VAC or 240VAC
Power consumption 240 volts	7 VA
Power consumption 24 volts	1 VA
Fan relay output	240VAC 10 amp resistive, 3 amp inductive
Heating and Cooling relay outputs	240VAC 5 amp resistive, 2 amp inductive
Reversing valve relay outputs	240VAC 3 amp resistive, 1.5 amp inductive
Temperature range	16 to 28 Degrees Centigrade
Switching differential	0.5 Degrees Centigrade
Deadzone <u>between</u> heat & cool (Factory Set to 2oC)	Selectable, 2 or 3 Degrees Centigrade
Output indication	Green LED for Cooling Red LED for Heating Yellow LED for Fan

Dimensions



Electrical Schematic for Heat / Cool A/C Units

TECHNICAL NOTES

“Common” Terminal
 The terminal labeled **COM** is a Potential Free Common to the Relay Outputs. Therefore the A/C Unit Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Fan Output
 The **F** Terminal is Rated at 10 Amp Resistive. If your Fan requires a larger switching capacity a contactor should be installed.

Supply Voltage
 The RTC-3V requires either a 240Volt AC or 24 Volt AC Supply.
 (Use **ONE** Supply Voltage Only)

Electrical Schematic for Compressor Reversing Valve Type A/c Units

Option 1

Option 2

TECHNICAL NOTES

Option 1
 Reversing Valve Energises on a HEATING CALL

Option 2
 Reversing Valve Energises on a COOLING CALL

“Common” Terminal
 The terminal labeled **COM** is a Potential Free Common to the Relay Outputs. Therefore the A/C Unit Control active can be either 240 Volt or 24 Volt.

* Typically this connection also loops to the appropriate supply terminal.

Supply Voltage
 The RTC-3V requires either a 240Volt AC or 24 Volt AC Supply.
 (Use **ONE** Supply Voltage Only)

Quick Test Information

All HEVAC Controllers are Factory Calibrated and Pre-set to Industry Standard Defaults prior to dispatch. If you require further information on these Settings please Refer to the Technical Specifications Page.

The RTC-3V Electronic Room Thermostat is equipped with a TEST Facility Jumper on the Circuit Board. Follow these Steps to perform a Quick Test.

STEP 1: Remove the shorting jumper from the NORM Position and place it in the TEST Position. (Simulates a 22oC Setpoint)

STEP 2: Dial the Setpoint Up and confirm that the HEATING (Red) LED turns ON.

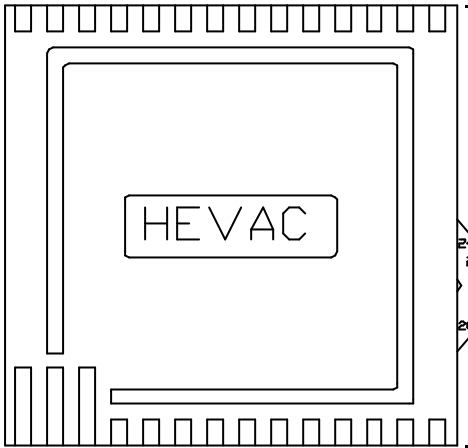
STEP 3: Dial the Setpoint Down and confirm that the COOLING (Green) LED ON.

STEP 4: **Return the TEST jumper back to the NORM Position.**

RSC-2

Electronic Room Sensor/Controller

HEVAC CONTROLS



The **RSC-2** is a wall mount room sensor and Electronic Temperature controller.
It incorporates a reverse acting and direct acting 0-10VDC modulating output.
Constructed from high impact ABS plastic, the housing is specifically designed with sensor sensitivity in mind making the **RSC-2** very responsive even in low airflow situations.
Cable entry is from the rear with side knockouts for cable duct on three sides, allowing for easy electrical installation.

Technical Specifications

Power supply	24VAC
Power consumption 24 volts	1 VA
Temperature range	16 to 28 Degrees Centigrade
Temperature Adjustment-Convertible	Exposed or Concealed Adjustment
Reverse Acting Output (YH)	0-10VDC
Direct Acting Output (YC)	0-10VDC
Deviation Output (Y)	0-10VDC over full Setpoint Range
Proportional Band Adjustment (Factory Default = PB LINK UNCUT)	YH=1.50 YC=1.50 Y=10.0 Degrees C
Proportional Band Adjustment (PB LINK CUT)	YH=0.5 YC=0.5 Y=3.0 Degrees C
DeadZone between Heating and Cooling start	0.5 Degrees Centigrade
Output indication (Intensity of ALL LED'S vary with the Signal Output)	Green LED for Cooling Red LED for Heating
Test Facility Jumper in TEST position (Factory Default = NORM Position)	Simulates 22.0 Degrees Centigrade
VAV / FCU OUTPUT JUMPER (Factory Default = F.C.U Position)	Set to VAV position for VAV Systems Set to FCU position for Fan Coil Systems

Terminal Designations

G	24 VOLT AC SUPPLY ACTIVE
Go	24 VOLT AC SUPPLY GROUND REFERENCE
Y	0-10VDC DEVIATION OUTPUT
YH	0-10VDC REVERSE ACTING HEATING OUTPUT
YC	0-10VDC DIRECT ACTING COOLING OUTPUT

SENSORS

- AVERAGING ROOM SENSORS
- DUCT SENSORS
- PIPE SENSORS
- ROOM SENSORS WITH LCD DISPLAY
- REMOTE SETPOINT ADJUSTERS
- ROOM SENSORS WITH VARIOUS SWITCH FUNCTIONS

HTC ANALOGUE CONTROLLERS with the following features

- 0-10 VDC ECONOMY CYCLE OUTPUTS
- COMPARATORS EITHER ON/OFF OR MODULATING
- 0-10 VDC MODULATING CHILL WATER & HOT WATER OUTPUTS
- AUXILIARY ELECTRIC ELEMENT STAGES
- TRIPLE COMPRESSOR HEAT PUMP MODELS
- ON/OFF ECONOMY CYCLE OUTPUTS

HRC ANALOGUE STAGING RELAYS with the following features

- 0-10 VDC ECONOMY CYCLE OUTPUTS
- COMPARATORS EITHER ON/OFF OR MODULATING
- 0-10 VDC MODULATING CHILL WATER & HOT WATER VALVE OUTPUTS
- AUXILIARY ELECTRIC ELEMENT STAGES
- TRIPLE COMPRESSOR HEAT PUMP MODELS
- ON/OFF ECONOMY CYCLE OUTPUTS

HHC HUMIDITY CONTROLLER with the following features

- 0-10 VDC HUMIDIFICATION OUTPUT
- 0-10 VDC DE-HUMIDIFICATION OUTPUT
- ON/OFF HUMIDIFICATION OUTPUT
- ON/OFF DE- HUMIDIFICATION OUTPUT
- DC POWER SUPPLY FOR HUMIDITY SENSOR

HDT-6 MULTISTAGE DELAY ON TIMER with the following features

- DUAL SUPPLY VOLTAGE 24 VOLT OR 240 VOLT
- SEVEN USER ADJUSTABLE DELAY SETTINGS
- TEST FACILITY

LT-SERIES LAMP TEST MODULES

IF YOU HAVE A SPECIFIC REQUIREMENT OR REQUIRE FURTHER TECHNICAL ASSISTANCE PLEASE CONTACT OUR SALES STAFF.

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