

Humidistat Installation & User Guide



For Products: -

PR0440



Authorised User No. 00181



Ensure that all power is switched off before installing or maintaining this product

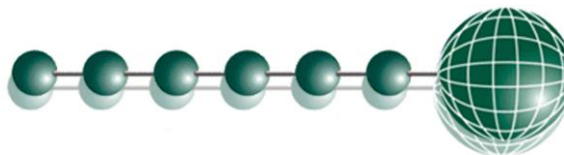


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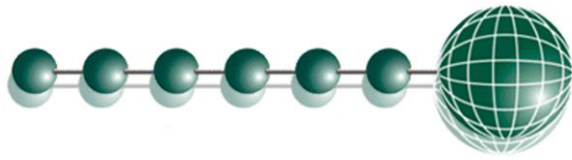
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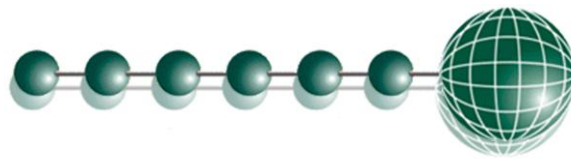


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Humidistat

From Resource Data Management

Types

There are 2 types of controller embedded in the Humidistat controller: -

Display value	Type
1	Triple Thermostat with Timer
2	Temp and Humidity Thermostat with timer

Type Description:

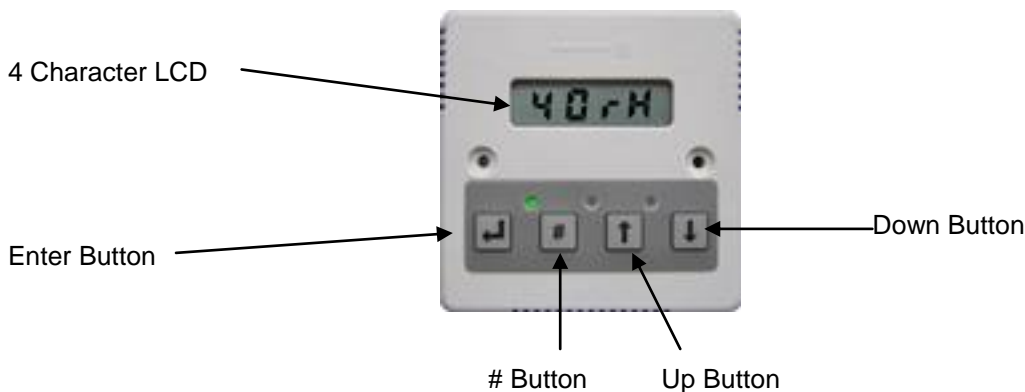
Type 1: Triple thermostat with timer.

This controller has 3 thermostat functions. They can be independent, using a separate probe for each function. Or the controller can be configured for a three stage thermostat using a single probe. There is a 7 day timer with 2 on's and 2 offs. The humidity value for all options can be for monitoring or be used as part of the thermostat function (effective temperature). The set-point range can be limited to prevent the user moving too far.

Type 2: Temperature and Humidity thermostat with timer.

This controller has a temperature thermostat function and a humidistat function using a humidity sensor. There is a 7 day timer with 2 on's and 2 offs.

Front Panel Features



Display:

The display fits a standard UK single socket patress. The display values can be selected by changing the "display" parameter.

Enter Button:

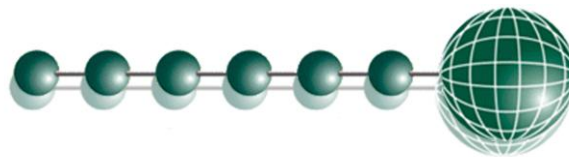
Button used to enter values after a change.

Up Button:

Normally the up button will increment the setpoint. When in the menu, the up button is used to scroll up through the menu items.



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Down Button:

Normally the down button will decrement the setpoint. When in the menu, the down button is used to scroll down through the menu items

Button:

Overrun function. Use this button to provide up to 6 hours of “on” time, if the timer is off, or if the timer is on, extend its time by up to 6 hours. The overrun function will switch off the amber LED if it’s on, or keep it off for the extra hours.

Press the # button during an overrun period to cancel the overrun and turn the thermostat(s) off.

Network LED:

Green LED used to indicate network Status:

- Off No network attached
- Flashing Attempting to Log on to network
- Steady On-line

Timer LED:

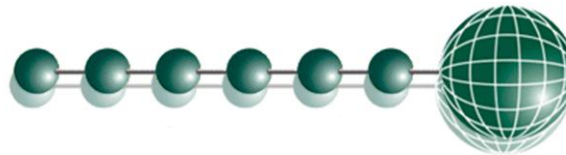
Amber LED, Indicates when the timer is **out** of its operational times.

Fault LED:

Red LED, used to indicate an alarm status.



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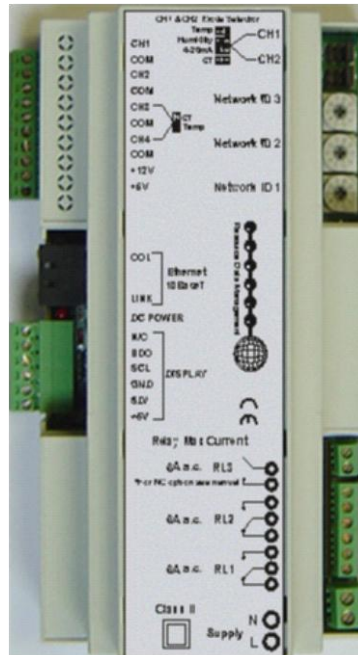
Connections

Analogue Inputs

- Channel 1 Input
- Channel 1 Ground
- Channel 2 Input
- Channel 2 Ground
- Channel 3 Input
- Channel 3 Ground
- Channel 4 Input
- Channel 4 Ground

Display Connector

- Not Connected
- SDO (Data Out)
- SCL (Clock)
- GND
- SDI (Data In)
- +5V (Vcc)



- CH1 Jumper
- CH2 Jumper
- Network ID Switch 3
- Network ID Switch 2
- Network ID Switch 1

Relays

- Relay 3 Normally Open
- Relay 3 Common
- Relay 2 Normally Open
- Relay 2 Common
- Relay 2 Normally Closed
- Relay 1 Normally Open
- Relay 1 Common
- Relay 1 Normally Closed

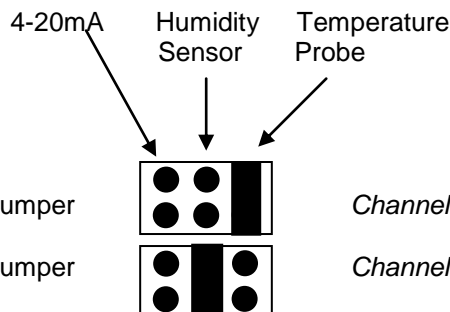
- Mains Neutral
- Mains Live

Do not connect an earth.

Display Connection:

Controller	Display
SDO (Serial Data Out)	Data In
SCL (Serial Clock)	Clock
GND	GND
SDI (Serial Data In)	Data Out
+5V (Vcc)	Vcc

Inputs Jumper Settings:



Channel 1 Input selection Jumper

Channel 1 showing Temperature Probe selected

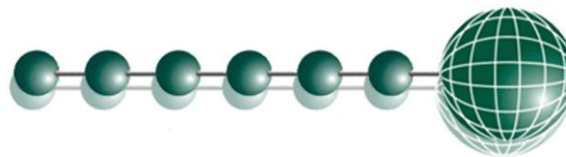
Channel 2 Input selection Jumper

Channel 2 showing Humidity sensor selected

Note: It is very important for the normal operation of the Humidistat controller that these jumpers are set to the correct position for the inputs being used.



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Input/Output Allocation Tables

Type 1 Triple Thermostat

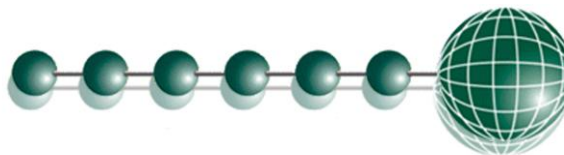
Input/Output	Description	Alarm Action
Display Temperature	Fixed Sensor in the display	yes
Display Humidity	Fixed sensor in the display	yes
Input 1 (Jumper selects)	Probe, Humidity sensor	yes
Input 2 (Jumper selects)	Probe, Humidity sensor	yes
Input 3	Probe	yes
Input 4	Probe	yes
Relay 1	Stat A control	N/A
Relay 2	Stat B control	N/A
Relay 3	Stat C control or Timer output	N/A

Type 2 Thermostat/Humidistat

Input/Output	Description	Alarm Action
Display Temperature	Fixed Sensor in the display	yes
Display Humidity	Fixed sensor in the display	yes
Input 1 (Jumper selects)	Probe, Humidity sensor	yes
Input 2 (Jumper selects)	Probe, Humidity sensor	yes
Input 3	Probe	yes
Input 4	Probe	yes
Relay 1	Thermostat control	N/A
Relay 2	Humidistat control	N/A
Relay 3	Timer output	N/A



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Setting up the controller

Access to the controller can be achieved by 2 ways

- Through the front mounted buttons on the display
- Through the RDM Data Director or Data Manager

Setup Mode

Setup through front buttons



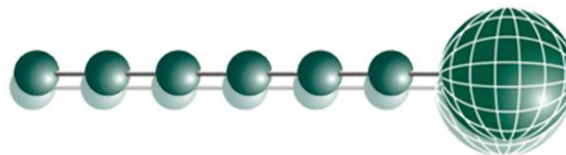
To enter the setup mode, hold the **Enter** and **Down** buttons together for approximately 3 seconds until the message “Ent” appears on the display. Now press the Enter button again to enter the function menu. IO will be displayed. Scroll up or down to go through the menu items.

Setup Function Menu

Display	Option	Explained in Paragraph
IO	View Input and Output States	IO
PArA	View or change Parameters	Para
Unit	View or change Units and Probe types	Unit
tyPE	View or change controller type	type
rtc	View or change the Real Time Clock	RTC
nEt	View or change the network settings	Net
SoFt	View the Software version	
ESC	Escape the menu	



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Recommended set-up method

The first two set-up items (Type and Units) must be set from the display; they can **not** be set from the Data Manager. It is also advisable to set these items before the controller is connected to the network.

type. Set/view controller type

- a. From the function menu scroll to select type, press enter
- b. Use the up/down buttons to scroll through configuration types. (see [configuration table on page 4](#))
- c. Press enter.
- d. Scroll to select “ESC”
- e. Press enter

Controller type configuration is now set

Unit. Set/view temperature unit and Probe type

From the function menu scroll to select Unit

Press enter and the value will be displayed: -

Probe Types

- 0 = PT1000 °C
- 1 = PT1000 °F
- 2 = NTC2K °C
- 3 = NTC2K °F
- 4 = NTC2K25°C
- 5 = NTC2K25°F

Use the up or down keys to select the units and press enter.

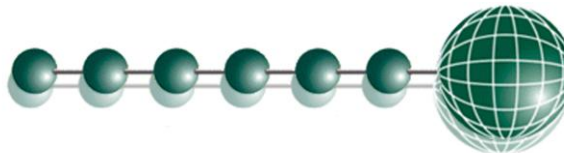
Probe type and units are now set

PArA. Set/view parameters (This can be achieved at the network front end)

- a. From the function menu scroll to select PArA
- b. Pressing Enter while PArA is displayed will enter the parameter menu. The first parameter option will be displayed as P-01. Pressing the Up or Down button will present the other parameter options P-02, P-03 etc. See the parameter tables to find what parameter number corresponds to which actual parameter. Pressing the Enter button will show the current value of the selected parameter. Press Up or Down to modify the value and press Enter again to save the value. The parameter list number will be displayed again. Two other options are present in the parameter menu – dFLt and ESC. Selecting ESC will exit setup mode. Selecting dFLt will reset all parameters back to the default values for the current type of controller.



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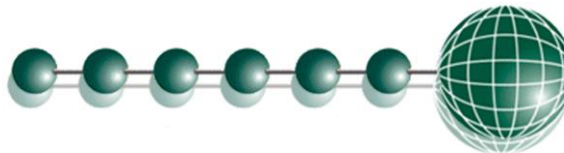
Parameter Tables:

Parameter table for “Type 1” Triple Thermostat

Number	Parameter	Range °C (°F)	Step	Units	Def. °C (°F)
P01	Stat A setpoint	-42 to 60 (-43 to 140)	0.1	°C (°F)	15 (59)
P02	Stat A diff	0 to 20 (32 to 68)	0.1	°C (°F)	5 (41)
P03	Stat A Input See Note 1	0 = Off 1 = Display Probe 2 = Probe 1 3 = Probe 2 4 = Probe 3 5 = Probe 4	1		1
P04	Stat A type	0 = Cooling 1 = Heating	1		1
P05	Stat A min set	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P06	Stat A max set	-42 to 60 (-43 to 140)	1	°C (°F)	5 (41)
P07	Stat A Comfort Index	0 = No 1 = Display Sensor 2 = Sensor 1 3 = Sensor 2	1		0
P10	Stat A High Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	25 (77)
P11	Stat A Low Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P12	Stat A Alarm Delay	00 to 99	1	mins	20
P21	Stat B setpoint	-42 to 60 (-43 to 140)	0.1	°C (°F)	18 (65)
P22	Stat B diff	0 to 20 (32 to 68)	0.1	°C (°F)	5 (41)
P23	Stat B Input See Note 1	0 = Off 1 = Display probe 2 = Probe 1 3 = Probe 2 4 = Probe 3 5 = Probe 4	1		2
P24	Stat B type	0 = Cooling 1 = Heating	1		1
P25	Stat B min set	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P26	Stat B max set	-42 to 60 (-43 to 140)	1	°C (°F)	5 (41)
P27	Stat B Comfort Index	0 = No 1 = Display Sensor 2 = Sensor 1 3 = Sensor 2	1		0
P30	Stat B High Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	25 (77)
P31	Stat B Low Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P32	Stat B Alarm Delay	00 to 99	1	mins	20
P41	Stat C setpoint	-42 to 60 (-43 to 140)	0.1	°C (°F)	20 (68)
P42	Stat C diff	0 to 20 (32 to 68)	0.1	°C (°F)	5 (41)
P43	Stat C Input See Note 1	0 = Off 1 = Display probe 2 = Probe 1 3 = Probe 2 4 = Probe 3 5 = Probe 4	1		0
P44	Stat C type	0 = Cooling 1 = Heating	1		1



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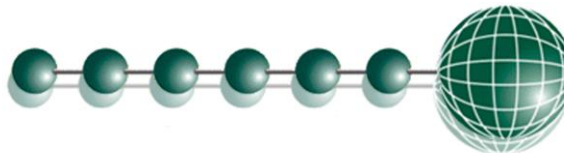


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P45	Stat C min set	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P46	Stat C max set	-42 to 60 (-43 to 140)	1	°C (°F)	5 (41)
P47	Stat C Comfort Index	0 = No 1 = Display Sensor 2 = Sensor 1 3 = Sensor 2	1		0
P50	Stat C High Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	25 (77)
P51	Stat C Low Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P52	Stat C Alarm Delay	00 to 99	1	mins	20
P60	Display	0 = Cycle 1 = Stat A 2 = Stat B 3 = Stat C 4 = Stat A & Stat B 5 = Stat A & Stat C 6 = Stat B & Stat C	1		2
P61	Frost probe select	0 = Off 1 = Display probe 2 = Probe 1 3 = Probe 2 4 = Probe 3 5 = Probe 4	1		0
P62	Frost Detect	-42 to 60 (-43 to 140)	1	°C (°F)	0 (32)
P63	Frost Cut-in	-42 to 60 (-43 to 140)	1	°C (°F)	10 (50)
P70	Timer Mode	0 = local 1 = Remote 2 = force on 3 = force off	1		0
P71	Sunday On Time 1	00:00 to 23:59	00:01		00:00
P72	Sunday Off Time 1	00:00 to 23:59	00:01		00:00
P73	Sunday On Time 2	00:00 to 23:59	00:01		00:00
P74	Sunday Off Time 2	00:00 to 23:59	00:01		00:00
P75	Monday On Time 1	00:00 to 23:59	00:01		00:00
P76	Monday Off Time 1	00:00 to 23:59	00:01		00:00
P77	Monday On Time 2	00:00 to 23:59	00:01		00:00
P78	Monday Off Time 2	00:00 to 23:59	00:01		00:00
P79	Tuesday On Time 1	00:00 to 23:59	00:01		00:00
P80	Tuesday Off Time 1	00:00 to 23:59	00:01		00:00
P81	Tuesday On Time 2	00:00 to 23:59	00:01		00:00
P82	Tuesday Off Time 2	00:00 to 23:59	00:01		00:00
P83	Wednesday On Time 1	00:00 to 23:59	00:01		00:00
P84	Wednesday Off Time 1	00:00 to 23:59	00:01		00:00
P85	Wednesday On Time 2	00:00 to 23:59	00:01		00:00
P86	Wednesday Off Time 2	00:00 to 23:59	00:01		00:00
P87	Thursday On Time 1	00:00 to 23:59	00:01		00:00
P88	Thursday Off Time 1	00:00 to 23:59	00:01		00:00
P89	Thursday On Time 2	00:00 to 23:59	00:01		00:00
P90	Thursday Off Time 2	00:00 to 23:59	00:01		00:00
P91	Friday On Time 1	00:00 to 23:59	00:01		00:00
P92	Friday Off Time 1	00:00 to 23:59	00:01		00:00
P93	Friday On Time 2	00:00 to 23:59	00:01		00:00
P94	Friday Off Time 2	00:00 to 23:59	00:01		00:00
P95	Saturday On Time 1	00:00 to 23:59	00:01		00:00



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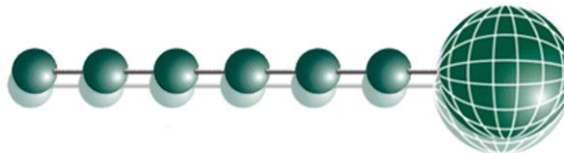
P96	Saturday Off Time 1	00:00 to 23:59	00:01		00:00
P97	Saturday On Time 2	00:00 to 23:59	00:01		00:00
P98	Saturday Off Time 2	00:00 to 23:59	00:01		00:00

Parameter table for “Type 2” Temp and Humidity Thermostat with timer

Number	Parameter	Range °C (°F)	Step	Units	Def. °C (°F)
P01	Temp Stat setpoint	-42 to 60 (-43 to 140)	0.1	°C (°F)	15 (59)
P02	Temp Stat diff	0 to 20 (32 to 68)	0.1	°C (°F)	5 (41)
P03	Temp Stat Input See Note 1	0 = Display probe 1 = Probe 1 2 = Probe 2 3 = Probe 3 4 = Probe 4	1		0
P04	Temp Stat type	0 = Cooling 1 = Heating	1		1
P05	Temp Stat min set	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P06	Temp Stat max set	-42 to 60 (-43 to 140)	1	°C (°F)	5 (41)
P07	Stat Comfort Index	0 = No 1 = Yes	1		0
P10	Temp Stat High Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	25 (77)
P11	Temp Stat Low Alarm	-42 to 60 (-43 to 140)	1	°C (°F)	-5 (23)
P12	Temp Stat Alarm Delay	00 to 99	1	mins	20
P21	Humidity Stat setpoint	0 to 100	1	% rH	30
P22	Humidity Stat diff	0 to 20	1	% rH	5
P23	Humidity Stat Input See Note 1	0 = Display sensor 1 = Remote sensor 1 2 = Remote sensor 2	1		0
P24	Humidity Stat type	0 = Heating 1 = Cooling	1		0
P25	Humidity Stat min set	0 to 100	1	% rH	20
P26	Humidity Stat max set	0 to 100	1	% rH	40
P30	Humidity Stat High Alarm	0 to 100	1	% rH	50
P31	Humidity Stat Low Alarm	0 to 100	1	% rH	10
P32	Hum. Stat Alarm Delay	00 to 99	1	mins	20
P60	Display	0 = Cycle 1 = Temperature Stat 2 = Humidity Stat	1		2
P61	Frost probe select	0 = Off 1 = Display probe 2 = Probe 1 3 = Probe 2 4 = Probe 3 5 = Probe 4	1		0
P62	Frost Detect	-42 to 60 (-43 to 140)	1	°C (°F)	0 (32)
P63	Frost Cut-in	-42 to 60 (-43 to 140)	1	°C (°F)	10 (50)
P70	Timer Mode	0 = local 1 = Remote 2 = force on 3 = force off	1		0



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P71	Sunday On Time 1	00:00 to 23:59	00:01		00:00
P72	Sunday Off Time 1	00:00 to 23:59	00:01		00:00
P73	Sunday On Time 2	00:00 to 23:59	00:01		00:00
P74	Sunday Off Time 2	00:00 to 23:59	00:01		00:00
P75	Monday On Time 1	00:00 to 23:59	00:01		00:00
P76	Monday Off Time 1	00:00 to 23:59	00:01		00:00
P77	Monday On Time 2	00:00 to 23:59	00:01		00:00
P78	Monday Off Time 2	00:00 to 23:59	00:01		00:00
P79	Tuesday On Time 1	00:00 to 23:59	00:01		00:00
P80	Tuesday Off Time 1	00:00 to 23:59	00:01		00:00
P81	Tuesday On Time 2	00:00 to 23:59	00:01		00:00
P82	Tuesday Off Time 2	00:00 to 23:59	00:01		00:00
P83	Wednesday On Time 1	00:00 to 23:59	00:01		00:00
P84	Wednesday Off Time 1	00:00 to 23:59	00:01		00:00
P85	Wednesday On Time 2	00:00 to 23:59	00:01		00:00
P86	Wednesday Off Time 2	00:00 to 23:59	00:01		00:00
P87	Thursday On Time 1	00:00 to 23:59	00:01		00:00
P88	Thursday Off Time 1	00:00 to 23:59	00:01		00:00
P89	Thursday On Time 2	00:00 to 23:59	00:01		00:00
P90	Thursday Off Time 2	00:00 to 23:59	00:01		00:00
P91	Friday On Time 1	00:00 to 23:59	00:01		00:00
P92	Friday Off Time 1	00:00 to 23:59	00:01		00:00
P93	Friday On Time 2	00:00 to 23:59	00:01		00:00
P94	Friday Off Time 2	00:00 to 23:59	00:01		00:00
P95	Saturday On Time 1	00:00 to 23:59	00:01		00:00
P96	Saturday Off Time 1	00:00 to 23:59	00:01		00:00
P97	Saturday On Time 2	00:00 to 23:59	00:01		00:00
P98	Saturday Off Time 2	00:00 to 23:59	00:01		00:00

Note 1.

As well as selecting the input type in the parameter section, the physical input needs to be set to the corresponding type. See [Inputs Jumper Settings](#)

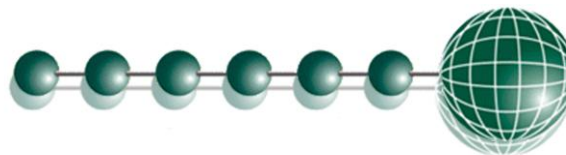
rtc. Real time clock (This will automatically synchronise on network systems)

- a. Use the up or down buttons to scroll through the display until the display reads "rtc"
- b. Press enter. The display will show "t-1". press enter again
- c. Scroll hours up or down (0 – 23) press enter
- d. Use up button to select "t-2", press enter
- e. Scroll minutes up or down (0 – 59) press enter
- f. Repeat for t-3 (seconds 0 – 59)
- g. Repeat for t-4 (Days up to 31)
- h. Repeat for t-5 (months up to 12)
- i. Repeat for t-6 (Year up to 99)
- j. Use up button to display "ESC", press enter to display "rtc"

Time clock is now set



Ensure that all power is switched off before installing or maintaining this product



Network Configuration

The final section to setup is the network ID. In all instances, this must be done before the controller is connected to the site network. Set the 3 rotary network switches to an appropriate setting, the controllers have an auto-initialise function, which will automatically log the device onto the site network. If the wrong ID has been entered onto the network, you will have to reset the controller ID by setting the ID to 0-0-0, power cycle and then re-enter the correct ID.

This controller does not require an external communications module.

IP-L (Local IP Address)

To configure the controller for IP-L, set all three rotary switches to zero.

1. nEt. From the function menu you can now select nEt
 - Press enter and the display will show "IP-L", press enter
 - You can now set the address using the table below

Display	Option
IP-1	IP Address byte 1
IP-2	IP Address byte 2
IP-3	IP Address byte 3
IP-4	IP Address byte 4
nL	Network Mask Length
gt-1	Gateway Address byte 1
gt-2	Gateway Address byte 2
gt-3	Gateway Address byte 3
gt-4	Gateway Address byte 4
ESC	Exit network menu. N.B. this option must be selected to save any changes made in this menu

IP-r (IP Address issued by the DHCP server)

To configure the controller for IP-r, set the three rotary switches to give each controller a unique identifier. The controller should then be connected to the network.

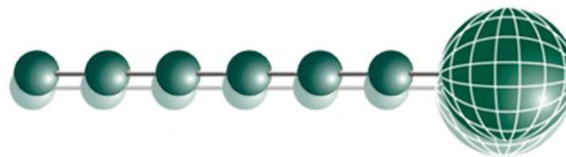
2. nEt. From the function menu you can now select nEt
 - Press enter and the display will show "IP-r", press enter
 - You can now view only the address given by the DHCP server

To ease setup, a single network mask length value is used. If the address has been specified with a network mask value in dotted IP format e.g. 255.255.255.0 then the table below gives the conversion:

Mask	Length	Mask	Length	Mask	Length
		255.255.254.0	23	255.254.0.0	15
255.255.255.252	30	255.255.252.0	22	255.252.0.0	14
255.255.255.248	29	255.255.248.0	21	255.248.0.0	13
255.255.255.240	28	255.255.240.0	20	255.240.0.0	12
255.255.255.224	27	255.255.224.0	19	255.224.0.0	11
255.255.255.192	26	255.255.192.0	18	255.192.0.0	10
255.255.255.128	25	255.255.128.0	17	255.128.0.0	09
255.255.255.0	24	255.255.0.0	16	255.0.0.0	08



Ensure that all power is switched off before installing or maintaining this product



Operation:

Type 1: Triple Thermostat

This controller has 3 temperature thermostat functions, A, B and C. They can be used as independent thermostats by selecting a different input for each function. Alternatively, they can be used as a 2 or 3 stage thermostat by selecting the same input. Or they can be switched off. When thermostat C is set to Off, Relay 3 energises when the 7 day timer is active.

All three thermostat functions have their own diff, and can be set for cooling mode (diff is below the set-point) or heating mode (diff is above the set-point).

Thermostat A switches relay 1, thermostat B switches relay 2, and thermostat C switches relay 3.

If the comfort index is enabled, the control temp is offset by a value according to the humidity value (see appendix 1; Humidity/Temperature chart) The Display temperature is also similarly adjusted. The decimal point adjacent to the zone indicator will be on to indicate an offset temperature value.

To change a setpoint value, press the up and down button together for a short time (2 seconds); the display will show thermostat A's set-point (such as "15.0"); press enter to display thermostat B's set-point (such as "20:0"), repeating enter moves through the set-points A, B and C. To change the set-point value, use the up/down buttons to get to the desired value and then press enter. Note that the alarm levels will also change by the same value as the setpoint is changed.

High and Low alarm limits can be set for each thermostat.

The controller has a built in 2 on/2 off seven day timer. The controller will continue to display outside of the set times, but the control relays will not function. When set to a 1 or 2 stage thermostat (Thermostat C off) Relay 3 energises when within the selected times, also the amber LED indicates when outside of the set times.

Type 2: Temp and Humidity Thermostat with timer

This controller has 2 thermostat functions; a temperature thermostat that switches relay 1, and a humidistat that switches relay 2.

Both thermostat functions have their own diff, and can be set for cooling mode (diff is below the set-point) or heating mode (diff is above the set-point).

If the Comfort Index is enabled, the control temp is offset by a value according to the humidity value (see appendix 1; Humidity/Temperature chart) The Display temperature is also similarly adjusted. The decimal point adjacent to the zone indicator will be on to indicate an offset temperature value.

High and Low alarm limits can be set for each thermostat

Set-points can be changed in the same manner as described in the above paragraph.

The controller has a built in 2 on/2 off seven day timer. The controller will continue to display outside of the set times, but the control relays will not function. Relay 3 energises when within the selected times, the amber LED indicates when outside of the set times.

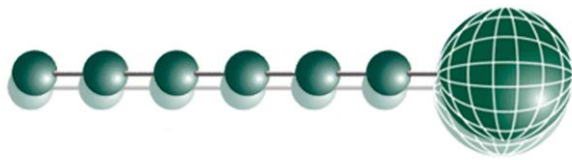
Frost Detect

Frost detect is included in both type 1 and type 2 controllers. Frost detect works when the timer is off, and the frost probe reaches the frost detect value, the thermostat relays are energised. The thermostats will then operate to the frost cut-in and diff until the frost detect value is exceeded, where upon the thermostats are switched off.

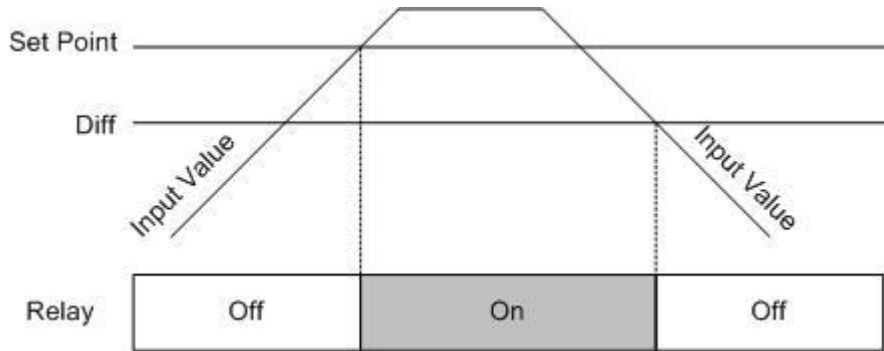
Note If the same probe is used for the thermostat and frost detect, hunting may occur around the frost detect point. It is better to use separate probes.



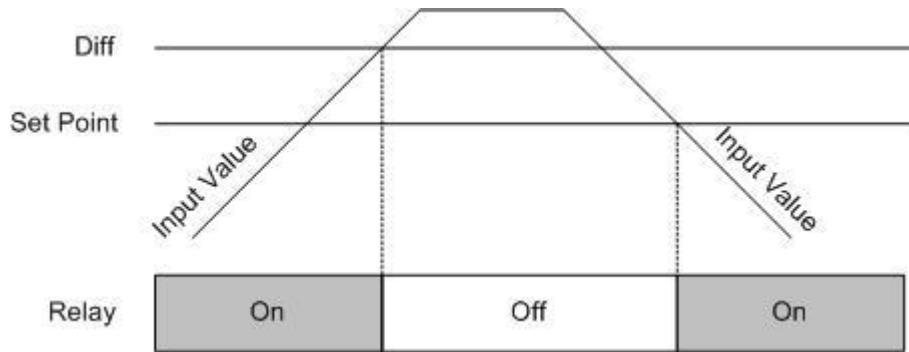
Ensure that all power is switched off before installing or maintaining this product



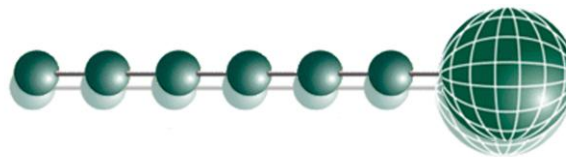
Cooling Thermostat graph



Heating Thermostat graph



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Viewing

Apart from setting up the controller, you can also view the status of the inputs and outputs.

1. IO. View Inputs / Outputs and States
 - a. From the function menu, select "IO", press enter
 - b. You can now scroll through the IO tables as set out below. The tables you view will depend on the controller type configuration.

Input/Output table Type 1 (Triple Thermostat)

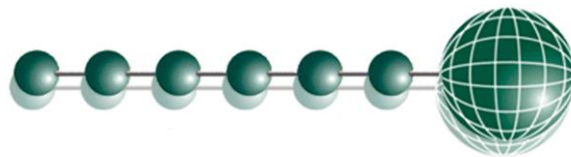
Number	IO	Range (dependant on probe type) °C (°F)	Step	Units
I-01	Stat A Control temp	-59 - 120 (-74 - 248)	1	Deg
I-02	Stat B Control temp	-59 - 120 (-74 - 248)	1	Deg
I-03	Stat C Control temp	-59 - 120 (-74 - 248)	1	Deg
I-10	Display Temperature	-40 - 120 (-40 - 248)	1	Deg
I-11	Display Humidity	0 - 99	1	%rH
I-21	Stat A Temperature	-59 - 120 (-74 - 248)	1	Deg
I-22	Stat B Temperature	-59 - 120 (-74 - 248)	1	Deg
I-23	Stat C Temperature	-59 - 120 (-74 - 248)	1	Deg
O-01	Relay 1	0 = off, 1 = on	1	-
O-02	Relay 2	0 = off, 1 = on	1	-
O-03	Relay 3	0 = off, 1 = on	1	-
O-11	Timer	0 = off, 1 = on	1	-
S-01 S-02 S-03	Stat A Control State Stat B Control State Stat C Control State	0 = off 1 = Stablise 2 = Normal 3 = High Alarm 4 = Low Alarm	-	-

Input/Output table Type 2 (Thermostat/Humidistat)

Number	IO	Range (dependant on probe type) °C (°F)	Step	Units
I-01	Stat Control temp	-59 - 120 (-74 - 248)	1	Deg
I-02	Control Humidity	0 - 99	1	%rH
I-21	Stat Temperature	-59 - 120 (-74 - 248)	1	Deg
O-01	Relay 1	0 = off, 1 = on	1	-
O-02	Relay 2	0 = off, 1 = on	1	-
O-03	Relay 3	0 = off, 1 = on	1	-
O-11	Timer	0 = off, 1 = on	1	-
S-01 S-02	Stat A Control State Stat B Control State	0 = off 1 = Stablise 2 = Normal 3 = High Alarm 4 = Low Alarm	-	-



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Alarm Messages

The following alarms and messages can appear on the Mercury display.

Display Message	System status
Ft	Probe or sensor fault

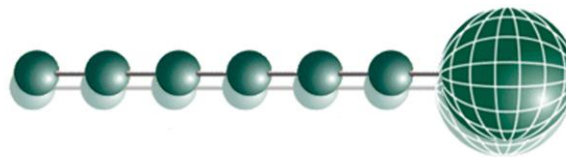
Network Alarms

The table below shows the text and associated type number that is sent to the system "front end". The type number is normally used to provide different alarm actions.

Alarm text	Type # (index)
Display Probe fault	6
Display Sensor fault	6
Stat A Probe fault	6
Stat A Over Temperature	4
Stat A Under Temperature	5
Stat B Probe fault	6
Stat B Over Temperature	4
Stat B Under Temperature	5
Stat C Probe fault	6
Stat C Over Temperature	4
Stat C Under Temperature	5
Humidity Sensor fault	6
High Humidity Alarm	8
Low Humidity Alarm	9



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Specification

Power requirements:

Supply Voltage Range:	100 - 240 Vac \pm 10%
Supply Frequency:	50 - 60 Hz
Maximum supply current:	0.2 Amp (Not including Relay current)
Typical supply current:	<0.1 Amp (Not including Relay current)
Operating temperature range:	+5°C to +50°C
Operating Humidity:	80% maximum
Storage temperature range:	-20°C to +65°C
Environmental:	Indoor use at altitudes up to 2000m, Pollution Degree 1, Installation Category II. Voltage fluctuations not to exceed \pm 10% of nominal voltage
Size:	90mm (W) x 58mm (H) x 160mm (D)
Weight:	
Safety:	EN61010
EMC:	EN61326; 1997 +Amdt. A1; 1998
Ventilation:	There is no requirement for forced cooling ventilation
Class 2 Insulation:	No protective Earth is required and none should be fitted.

The host equipment must provide a suitable external over-current protection device such as: -
Fuse: 3A 240 Vac Antisurge (T) HRC conforming to IEC 60127
Or MCB: 3A, 240 VAC Type C conforming to BS EN 60898

The host equipment must provide adequate protection against contact to hazardous live parts.

Relays

Relay 1: contacts: - N/C, N/O and Common
Max current relay 1: 6A (non inductive)
Max Voltage relay 1: 260Vac (external supply)

Relay 2: contacts: - N/C, N/O and Common
Max current relay 2: 6A (non inductive)
Max Voltage relay 2: 260Vac (external supply)

Relay 3: contacts: - N/O and Common
Max current relay 3: 6A (non inductive)
Max Voltage relay 3: 260Vac (external supply)

For compliance with the LVD, supplies to all three relays must be the same voltage.

Inputs

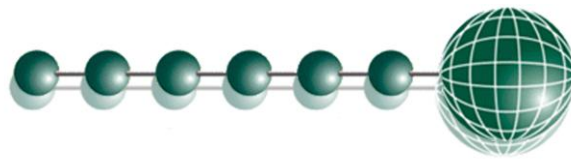
CH1: Selectable, PT1000 (also used for Digital), 4-20mA, Humidity Sensor or CT
CH2: Selectable, PT1000 (also used for Digital), 4-20mA, Humidity Sensor or CT
CH3: Selectable, PT1000 (also used for Digital) or CT
CH4: Selectable, PT1000 (also used for Digital) or CT

Remote Sensor – Humidity

Farnell part number 732849 or similar device can be used.

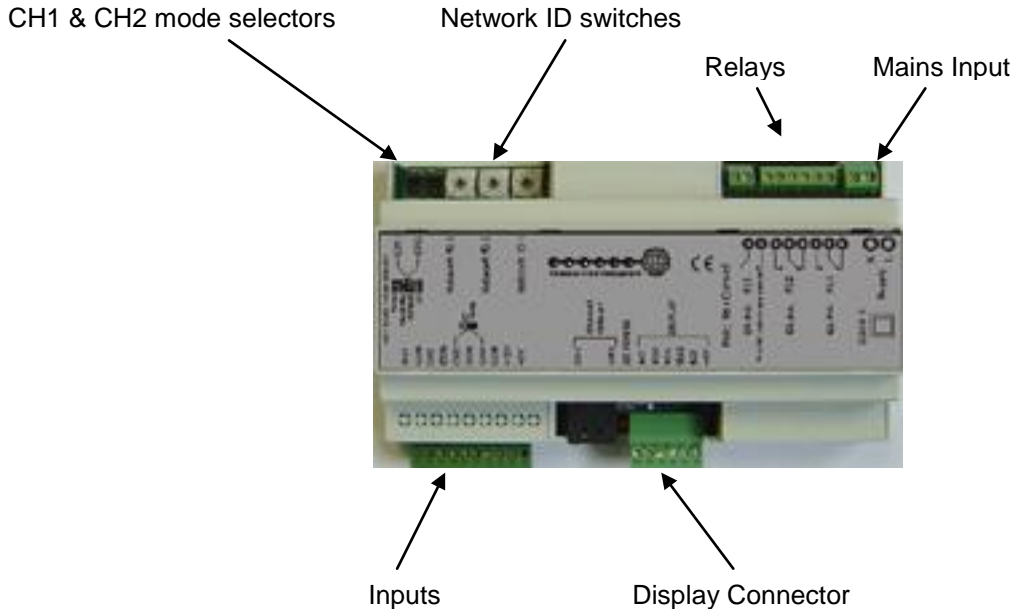


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Installation:

Wiring:



Fixing:

The Humidistat Display is designed to fix on to a single socket patress, either wall or flush mount. Display cable length must not exceed 5 Metres.

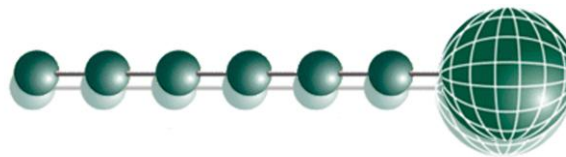
The Humidistat Controller fits a standard DIN rail, or the clips can be extended to allow for a surface screw fixing.

Clearances:

There are no clearance rules associated with this controller.



Ensure that all power is switched off before installing or maintaining this product



Fuse:

The host equipment must provide a suitable external over-current protection device such as: -

Fuse: 1A 110Vac or 240 Vac Antisurge (T) HRC conforming to IEC 60127

Or MCB: 1A, 110Vac or 240 Vac Type C conforming to BS EN 60898

Cleaning:

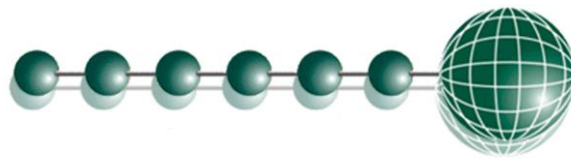
Do not wet the controller when cleaning. Clean the top by wiping with slightly dampened lint free cloth.

Disclaimer:

The specifications of the product detailed in this document may change without notice. RDM Ltd shall not be liable for errors or omissions, for incidental or consequential damages, directly or indirectly, in connection with the furnishing, performance or misuse of this product or document.



Ensure that all power is switched off before installing or maintaining this product



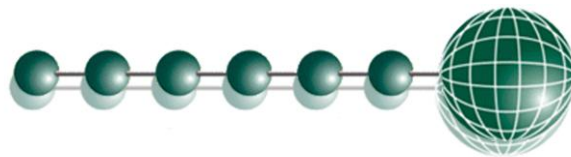
Appendix 1

Apparent Temperature for Values of Room Temperature and Relative Humidity

	0%	5%	10%	15%	20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%
115	103	107	111	115	120	127	135	143	151								
110	99	102	105	108	112	117	123	130	137	143	151						
105	95	97	100	102	105	109	113	118	123	129	135	142	149				
100	91	93	95	97	99	101	104	107	110	115	120	126	132	136	144		
95	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136
90	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113
85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97
80	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86
75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78
70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	70	71



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Revision History

Revision	Date	Changes	Comments
1.3	13/06/2006	Changes to the type description paragraph	Removed reference to case/coldroom
1.4	25/09/2007	Typo's corrected	
1.5	31/08/2009	Remote humidity sensor part number added.	
1.6	12/01/10	Size Added.	



Ensure that all power is switched off before installing or maintaining this product