



TM4HC/D is an electronic thermostat designed for controlling heating and cooling applications

- * Two stages heating and Two stages cooling in sequence
- * Supply voltage 24 V AC or 230 V AC
- * Adjustable neutral zone
- * Internal or external setpoint

Function

TM4HC/D is an electronic thermostat to be used in conjunction with Regin temperature sensors. The thermostat has relay outputs for applications with both heating and cooling with adjustable neutral zone. TM4HC/D can be used with supply voltage 24 V AC or 230 V AC. TM4HC/D is supplied in standard casing for DIN-rail mounting with all settings accessible on the front.

Setpoint

The setpoint is set by means of the setpoint knob on the front or by means of the external setting device. TM4HC/D has a standard scale of 0...30°C. The setpoint is the temperature at which the relay H1 is deenergized.

Other scales adapted for other sensor ranges are available.

When an external setting device, e.g. TG-R430 or TBI-30, is used the built-in setpoint must be set at the counter clockwise end position.

Sensors

The TM4HC/D is intended for a sensor temperature range 0...30°C but other temperature ranges are available. See leaflet 6-100 in the main catalogue for choice of sensors.

Hysteresis

The difference in temperature between a relay's ON-point and OFF-point is fixed at 0.5K and is the same for all relays.

Neutral zone (NZ)

The difference in temperature between the relay's OFF-points is adjustable between 0.5...10K.

Step differential (SD)

The step differential between the heating relays and between the cooling relays is 1K fixed.

Indicators

TM4HC/D has LEDs to indicate supply voltage on and relay output activation. Red = heating and green = cooling.

Night Set-back

Night set-back can be initiated by means of an external time switch together with the night set-back module NS/D. See separate leaflet. This module allows night set-back to be set between 0...10 K.

Technical data

General

Supply voltage	24 V AC or 230 V AC +/- 15 % 50-60 Hz
Power consumption	Max. 5 VA
Ambient temperature	0...50°C
Storage temperature	-40...+50°C
Ambient humidity	Max. 90% RH
Form of protection	IP20



This product conforms with the requirements of European EMC standards CENELEC EN 50081-1 and EN 50082-1, European LVD standards IEC 669-1 and IEC 669-2-1 and carries the CE mark.

Inputs

Sensor	One input for main sensor. Only for Regin NTC-sensors. See leaflet 6-100 for choice of sensor.
Setpoint	When using an external setpoint the setpoint device should be connected in series with the sensor to the sensor input. The setpoint knob on TM4HC/D must be set to 0. If night set-back is required the NS/D should be used together with a timer.
Night set-back	

Outputs

Relays	Four. Two SPDT (change over) relays (one for heating and one for cooling) and two closing relays (one for heating and one for cooling), 230 V AC 5 (2) A. When a relay is activated the corresponding LED comes on.
Hysteresis	Fixed 0.5K.
Step differential (SD)	Fixed 1K. Between the heating and between the cooling relays.

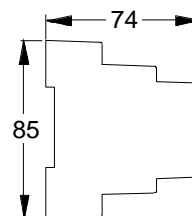
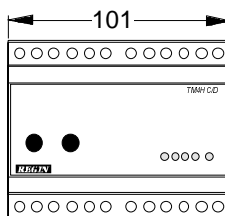
Settings

Setpoint	0...30°C. The choice of sensor determines the thermostat's setpoint range
Neutral zone	0.5...10 K. The difference in temperature between the OFF-points for relays C1 and H1.

Wiring and dimensions

1		Relay H1 heating
2		
3		5(2)A 230V AC
4		
5		Relay H2
6		
7		5(2)A 230V AC
8		
9		Relay C1 cooling
10		
11		5(2)A 230V AC
12		
11	Not connected	
12	Not connected	

13	Temperature sensor	
14	Signal neutral	
15	Signal neutral	
16	Signal neutral	
17	Signal neutral	
18	Signal neutral	
19	Signal neutral	
20	24V AC in	Supply voltage
21	Syst. neutral	voltage
22	Not connected	
23	230V AC	Supply voltage
24		



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FOR INDOOR CLIMATE WITH OPTIMUM CONTROL

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