Regulator Systems

MANUFACTURER OF AIR CONDITIONING CONTROLS AND INSTRUMENTATION

TR3800 TR3840 TR3700 TR3740 TR3500

SMART SENSOR TEMPERATURE & HUMIDITY

The TR3800 smart sensor is a slim attractive wall mounted temperature sensor with a very unique feature. It has a tiny fan that draws air in from the bottom of the housing over the sensor and discharges through the top. The fan is located at the top of the housing and draws air through an inlet plenum. The sensor is located at the bottom of the housing in the inlet plenum. The fan also draws air from the electronics section to remove heat.

The TR3840 smart sensor is similar to the TR3800 sensor except it has a 2 x 16 character LCD display and four pushbuttons. These are located behind a door with a viewing aperture for the display. The pushbuttons are Raise and Lower for setpoint adjustment, Select pushbutton to enable functions and a System On/Off pushbutton to turn the Air Conditioning System on and off when ever that function is enabled.

The TR3700 smart sensor is similar to the TR3800 except that is has a humidity sensor on board as well as the temperature sensor. The TR3740 is similar to the TR3840 with the addition of the display and pushbuttons.

All of the above sensors operate on a two wire non polarised connection to the TC5042 controller. Power and communications are supplied over the one pair of wires. Up to four sensors, including one TR3840 sensor can be connected to the same pair of non polarised wires. The controller will recognise how many are connected and average the sensors.

The TR3500 fan aspirated sensor is similar in appearance to the TR3800, however it is a three or four wire connection. This enables the sensor to be used with other controllers and systems. The sensor can be thermistor, platinum or nickel resistance sensors and the power for the fan can be from 6 -24 volt A/C or D/C.

LCD DISPLY

This is a 2 x 16 character LCD display with blue backlighting. The top line will display the Temperature and/or Humidity. This line will remain permanently displayed in normal mode. The second line displays the setpoint. This can be adjusted by pressing the Select Button and using the Raise / Lower buttons to change the setpoint. It is adjustable in 0.5 C increments.

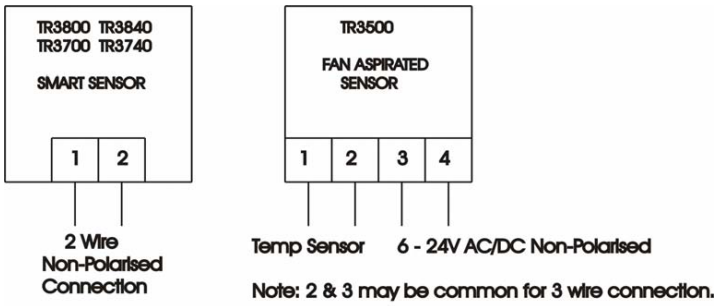
The TR3840 has a standard setpoint range of 20 – 25C. This can be altered to any range between 10 and 40C. It can also be reduced to a smaller range, 22 – 24C or even 23 – 23C.

TECHNICAL DATA

Supply Voltage	
TR3800/3840/3700/3740	Power & Comms supplied from TC5042
TR3500 6	24V AC/DC
Power Consumption	0.2W Max
Fan Life	MTTF 350,000 Hrs. @ 40C
Ambient Temp Operation	0 – 50C
Ambient Humidity	Max 90%RH
Dimensions	L115 x H72 x D16mm
Colours Electric White, Titanium (Brushed Metallic Finish).	
Weight	75g
TR3500	Thermistor 10K. Can be supplied with alternate sensors.

Fan Aspirated Sensor – Patent Pending

CONNECTION DIAGRAM



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