BACnet Room Controller (RTC2)

The RTC2 temperature controller incorporates a LCD display and is specifically designed for zone temperature control or fan coil control. The controller can be used in stand-alone applications or part of a BMS system via the standard inbuilt Native BACnet MS/TP communications.

There are two control output types available and these are 0-10V for analogue control of heat/cool or 24VAC triac outputs that can be configured for On/Off control or TPC actuator control of PWM. In both types when used for fan coil control the fan output is a stepped 0 to 10V signal and requires a load interface relay module which depends on the number of fan stages to control.

The RTC2 inbuilt display will allow user selection of temperature and fan speed. The display also provides access to amend the controller default settings and functions. All the settings can also be modified over the BACnet communications interface.

Specification

Power Supply	24V AC
Power Consumption	20mA (plus output)
Outputs (0-10V version)	5mA max
Outputs (24V triac version)	350mA max
Temperature sensor	10K3A1
Digital Outputs	Voltfree
Communication	Native BACnet
Network	MS/TP -RS485
Enclosure	Wall Mounting (IP20) L94-VO
Dimensions	Flush: 150mm x 80mm x 6mm Surface: 150mm x 60mm x 28mm

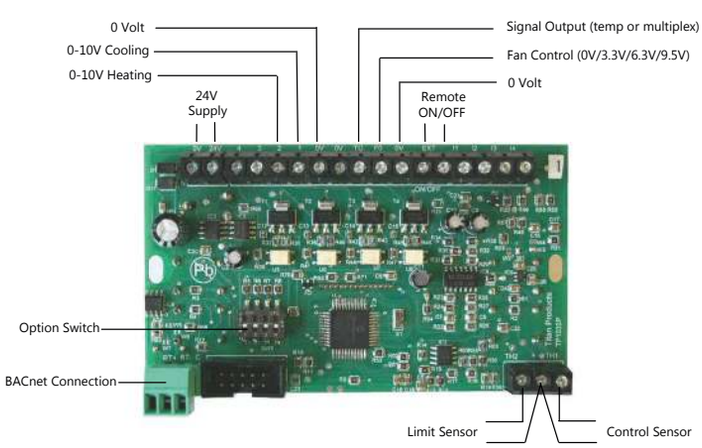
Features

- 0-10V Analogue or 24VAC Triac control outputs
- 1 x 0-10V step voltage output for fan control
- 1 x 0-10V Analogue output for remote signalling
- On/Off, ECO, Frost settings or High Limit
- 3 stage fan control via interface relay module
- 2 x 10K3 temperature sensor input
- Flush or surface mounting
- Decorative finishes available

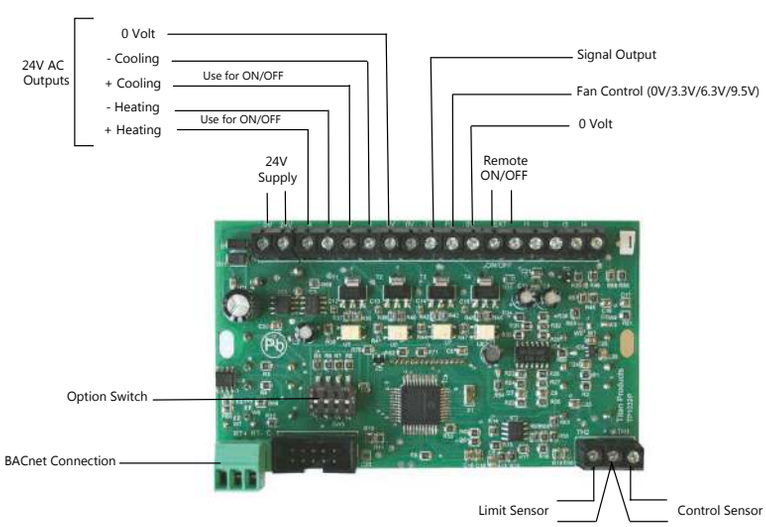
Part codes

Part Code	Type
RTC2/T/F/STDW	24V Triac Flush Mount White
RTC2/T/F/BSS	24V Triac Flush Mount Brushed Stainless Steel
RTC2/T/F/POC	24V Triac Flush Mount Polished Chrome
RTC2/T/SM/STDW	24V Triac Surface Mount White
RTC2/A/F/STDW	0-10V Flush Mount White
RTC2/A/F/BSS	0-10V Flush Mount Brushed Stainless Steel
RTC2/A/F/POC	0-10V Flush Mount Polished Chrome
RTC2/A/SM/STDW	0-10V Surface Mount White

RTC/A 0-10V Control



RTC/T Triac Control



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Setting and Control Options

All settings are accessed by switching option DIL switch 4 to ON. The display will then show the available options and these can be scrolled using the right hand button with the left hand button being used to make any adjustments. The available settings are shown below:

Dead Band - Range 0-4'C default 1'C . This is the dead band between the heating and cooling cycle.

Prop Band - Range 1-5'C default 2'C. The control output is proportional to the deviation from the setpoint over the Pb setting.

ECO - Range 1-12'C default 3'C . With DIL switch 1 On control setpoint is reduced by the ECO value in Off (night) conditions.

Max Setpoint - The maximum setpoint value can be limited to this set value. Default 30'C

Min Setpoint - The minimum setpoint value can limited to this set value. Default 15'C

Default Setpoint - Range Min to Max setpoint settings default 21'C.

Intg. Time - Range 10 to 100 seconds default 20 seconds. Setting defines the integration time of the control output used in conjunction with the
proportional band setting to stop hunting of the control cycle.

Display - Option to display Room Temp or Setpoint. If Setpoint is selected the actual temperature cannot be displayed.

Valve Time - Range 20 or 250 secs default 160. Triac controller only value must match the run time of the valve being used.

Anti Tamper - Yes/No default No When this is set to Yes the two push buttons are interlocked to prevent accidental modification or casual tampering,
when in this condition one button must be held down in order to carry out setpoint changes.

Menu 2 (Switch 2 to On condition before switch 4 is switched to On)

Offset value - Range +/- 2'C default 00. This allows an offset of the temperature reading to be entered.

Control Mode - Options are Single, Dual, None. Selections are shown below

Single (midpoint control point at 5V) RTC22b/A 0-10V control only - Output 1 provides heating/cooling control with the SP at 5 Volt output. Heating operates 5-10V and Cooling operates 5-0V. This is for applications such as hot/cold duct systems.

Dual (Heat & Cooling) RTC22b/A- Used for 2 stage heating/cooling control

None (BMS Interface) - Unit acts as a BMS interface giving analogue output signals from the following:

Actual Temp	connection TO	output 0-10V r	range 0-50'C (0.2V/'C)
Setpoint	connection FO	output 3-6V	range 15-30'C (0.2V/'C)

The signals are always active so they can be used for remote monitoring when the RTC22b is used as a controller

Remote setpoint. Yes/No Default N (BMS Interface applications only). Allows an input signal into I4 of 3 to 8V to modify the controller default setpoint from 15-25'C. This occurs after the input is taken to 0V for 5 seconds and returned to the setpoint value required.

SP Variation 1-4'C default 3'C (BMS Interface applications only). Restricts the user to +/- setpoint limits