

MOD-ATC Thermistor Multiplexer

MOD-ATC modules are designed to provide 4 x 10K thermistor inputs multiplexed to a single 0 to 10V output which allows 4 sensors to be read by a single input on a BMS system.

Option SW3 provides either mux timer output on AO4 or the output value can be controlled by a voltage input signal of 2, 4, 6, 8V.

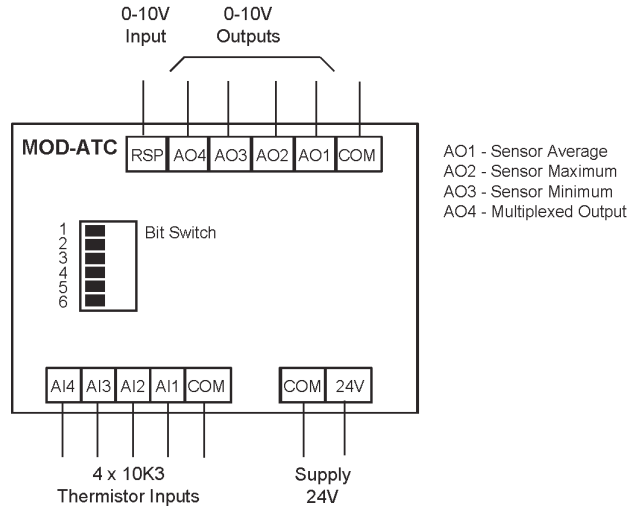
Additional product functionality is provided by the three 0 to 10V outputs (AO1, AO2, AO3) for average, maximum and minimum values of the sensors fitted. A further option of using AO4 (mux output) as a difference between AI1 and AI2 is available.

FEATURES:-

- 4 NTC10 Thermistor Inputs multiplexed to a single 0 to 10V output
- Average, maximum and minimum calculation options available
- 24Vac/dc power supply
- Designed for DIN rail mounting

Model Types	Model	Description
	MOD-ATC	MOD-ATC Thermistor to Analogue Multiplexer
Technical Data	Power Supply	24V ac/dc +/-15%
	Inputs	4 x 10K3A Thermistor
	Outputs	0..10V (5mA max)
	Output Scale	-10 to +40°C
	Accuracy	+/- 0.5°C
	Power Consumption	12mA 0..10V outputs
	Mounting	DIN rail
	Agency Listings	CE Approval
	Dimensions	W80 x H85 x D45 mm

Wiring



AO1 - Sensor Average
 AO2 - Sensor Maximum
 AO3 - Sensor Minimum
 AO4 - Multiplexed Output

AO4 is multiplexed output of all 4 inputs irrespective of the number of sensors fitted. The output order from AI1 to AI4 from a start signal voltage 10V.

Note:- The sensor outputs are scaled to 0 to 10V for a temperature range of -10 to +40°C but are limited to an output voltage of 9V = 35°C to eliminate any confusion with the start voltage of 10V when these are read in by the BMS.

AO4 output has two additional functions dependent on the state of SW3 and SW4 as shown below. Note SW3 has precedence over SW4 and when SW3 is on SW4 is inactive.

INPUT SELECTED MULTIPLEXED SIGNALING				
Sensor Inputs	AI1	AI2	AI3	AI4
Input Signal Volts	2V	4V	6V	8V

TIMED MULTIPLEXED WITH SYNCHRONISED SIGNAL				
Start 10V	AI1	AI2	AI3	AI4

See switch SW1 and SW2 to select output timing of each value

Bit Switch Settings SW1 & SW2 set speed of multiplexer output in binary steps as shown below as 1- second increments from a base of 4 seconds.

SW1	SW2	Multiplex Timing
Off	Off	4 Seconds
On	Off	5 Seconds
Off	On	6 Seconds
On	On	7 Seconds

SW3 Off: Mux output with time interval as set on SW1 & SW2. Note in this condition SW is enabled.

SW3 On: Timed mux output and SW4 disabled and AO4 output is controlled by the input voltage on RSP connection (next terminal to AO4) with the values shown below.
 0V in – No output
 2V in – AI1 output
 4V in – AI2 output
 6V in – AI3 output
 8V in - AI4 output

All above input signals have a tolerance of plus and minus 0.9V

SW4 On: The timed multiplexer will stop and will be changed to a static value representing the difference between inputs AI1 and AI2 scaled in the range 0.2V/°C centred on 5V allowing a reverse differential to be displayed in the range + or – 0 to 25°C for 5 to 10V or 5 to 0V respectively.

SW5 & SW6 Not used.

Notes: In the view of a constant development of their products, the manufacturer reserves the right for changing technical data and features without prior notice. The consumer is guaranteed against any lack of conformity for 24 months from the time of delivery, according to the European Directive 1999/44/EC. The full text of guarantee is available on request from the seller.