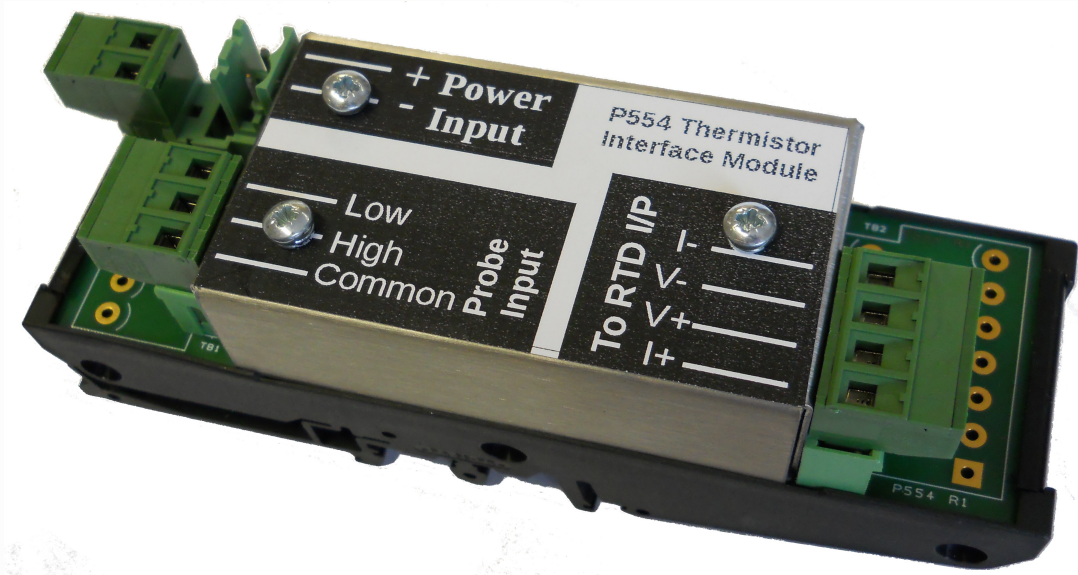


## P554 Thermistor Interface



### FEATURES

- ▶ *High Accuracy measurement*
- ▶ *Wide Input Range PSU*
- ▶ *Works with Micro<sup>3</sup>™ RTD or Analog Inputs*
- ▶ *Input power fully isolated*

### DESCRIPTION

#### Protected Input Stage

A precision voltage reference together with highly accurate sensing resistors produce a conditioning network that scales the change in resistance with temperature of Omega 700 series probes so that it can be interfaced with the RTD or the 1-5 Volt inputs of the Micro<sup>3</sup> measurement device.

#### Output Stage

When driving the Micro<sup>3</sup>™ RTD input, a 4-wire connection should be made between the Micro<sup>3</sup>™ and the P554 Thermistor Interface. When used with 4-20 or 1-5V inputs, a 2-wire connection is used.

#### Wide Input Range PSU

There are two pairs of input terminals that are diode-OR'ed together, to allow redundant power supplies to power the unit. The diode-OR'ed power can be in the range 9 to 36 VDC.

#### Linearization

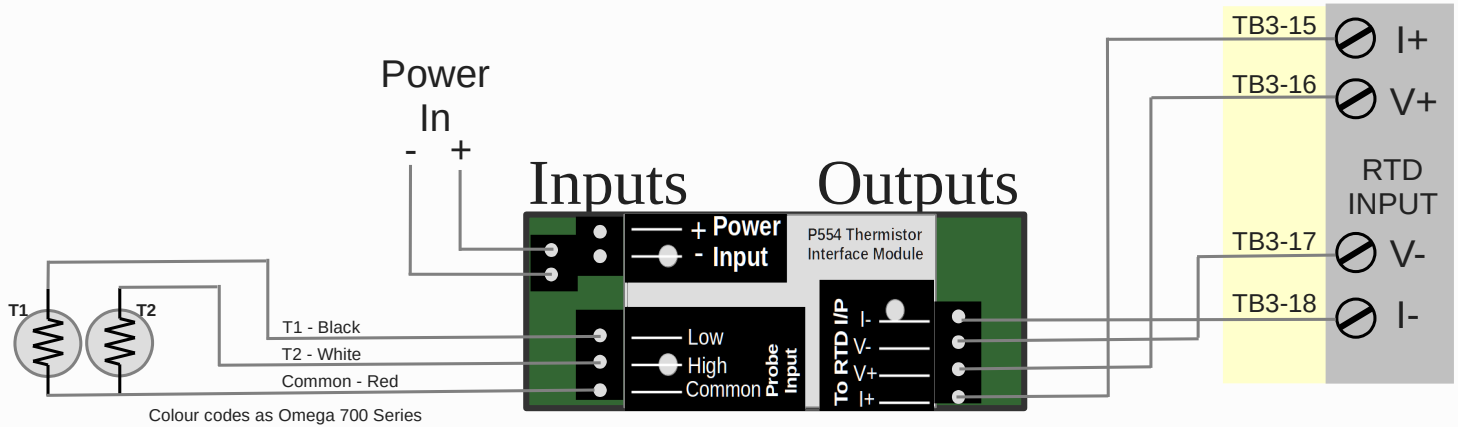
The high accuracy measurement is a result of the precision design of the P554 Thermistor Interface together with the linearization algorithm built into the Micro<sup>3</sup>™ Applications. The P554 Thermistor Interface will not work with other flow measurement products.



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## WIRING DIAGRAM FOR P554 THERMISTOR INTERFACE



## Probe P554 Thermistor Interface Micro<sup>3</sup>

If the Micro<sup>3</sup> application allows Thermistors to be used on inputs other than RTD1, then the following wiring rules must be followed:

If RTD input 2 is used, wire using the 4-wire arrangement as shown above.

If Analog Inputs 1 to 4 are used, Connect P554 Output V+ to AnIn + and V- to AnIn - and the P554 terminals marked as I+ and I- should be left unconnected.

### P554 THERMISTOR INTERFACE SPECIFICATION

<b>Supply Voltage</b>	9V to 36V DC input. Can tolerate ripple and isolated from signals.
<b>Measurement Range</b>	-22°F to +167°F in 0.1°F steps
<b>Accuracy</b>	Depends upon Thermistor accuracy, but can be 0.1°F
<b>Dimensions</b>	1 9/16" deep x 5" Long x 2" Tall including feet
<b>Mounting</b>	Needs 1 5/8" length of top-hat DIN Rail to EN50022

### P554 THERMISTOR INTERFACE FAQs

Q1 - Measured Temperature seems to be very wrong and gets lower as the temperature increases?

A1 - Ensure the Micro<sup>3</sup> application has the Thermistor mode enabled

Q2 - Measured Temperature seems to be wrong by a fixed amount?

A2 - Check the Thermistor Probe is correctly connected. Swapping the Low (T1) and the Common Connections causes an under-reading by 10°F to 15°F.

Q3 - How can I easily test the P554 Thermistor Interface?

A3 - Firstly without a Thermistor probe connected, The voltage between V+ and V- on the output terminals should be 5.0 Volt. If on the Thermistor Probe Inputs, you connect a wire between Common and High, the output voltage will fall to Zero volts. If you then connect the wire between the Common and the Low Probe Input connections, the output voltage will be about 3.25 Volts.

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