

# QUAD TRON, INC.

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## MICRO PCM ENCODER SERIES

### MODEL MI\_RT D12\_4W

### 12 CHANNEL 4 WIRE RTD MODULE

The 12 channel RTD module, MI\_RT D12\_4W, is a very accurate 4 wire RTD conditioner with industry leading channel density, weight and low power.

Each of the 12 channels consists of:

- a 24 bit delta sigma A/D converter with built in low pass filtering for anti aliasing,
- a one pole low pass analog filter for anti aliasing,
- constant current source excitation,
- a precision reference resistor for ratiometric RTD measurement
- dynamic offset error removal and
- an FIR filter.

American ( $\alpha= 0.00392 \Omega/\Omega/^\circ\text{C}$ ) and European ( $\alpha= 0.00385\Omega/\Omega/^\circ\text{C}$ ) ohms conversion for temperature output provided for most common RTD types. Resistance mode provides output resistance in ohms.

Both continuous constant current excitation and pulsed excitation modes selectable. Pulsed excitation mode reduces self heating.

Each channels FIR filter, is programmable for 1, 2, 4, 8, 16, 32, 64, 128, 256, 512, or 1024 taps providing improved noise reduction. Each channels sample rate is 370 Hz.

Two wire measurements supported.

RTD add on modules can be stacked on top to increase the number of channels. Both 16 channel, 3 wire and 12 channel, 4 wire add on modules are available, add on modules MI\_RT D\_ADD16\_3W and MI\_RT D\_ADD12\_4W respectively. Add on modules provide reduced weight and power per channel.

**Electrical Specifications:**

**TRANSDUCER TYPE:** RTD's of 100 ohm, 200 ohm, 500 ohm, and 1Kohm

**EXCITATION:** Constant current, programmable per channel, 0.210, 0.4200, 1 or 2 milli amp.

**ACCUARCY:** ±0.25% of full scale accuracy

**Environmental:**

Operating Temperature: -40°C to +85°C  
Storage Temperature: -55°C to +125°C  
Humidity: Relative humidity of 85% for two hours at 65°C.  
Altitude: Unlimited  
Vibration: 20g's RMS from 5 to 2000Hz in each major axis.  
Acceleration: Constant acceleration of 100g's in each axis.  
Shock: 100g's for 10m second in each major axis.

**Mechanical:**

Size:

	inches	mm
Length	3.50	88.9
Width	1.25	31.75
Height	0.291	7.39

Weight: 25 g

Engraving: MI\_RTD12\_4W

**J1 CONNECTOR :** Nanonics # STMO51M6HN; TE Connectivity # 4-1589487-5

**MATE:** Nanonics # STMO51PC2DC018N; TE Connectivity # 7-158947-7