

# QUAD TRON, INC.

---

303 Camars Drive  
Warminster, PA 18974

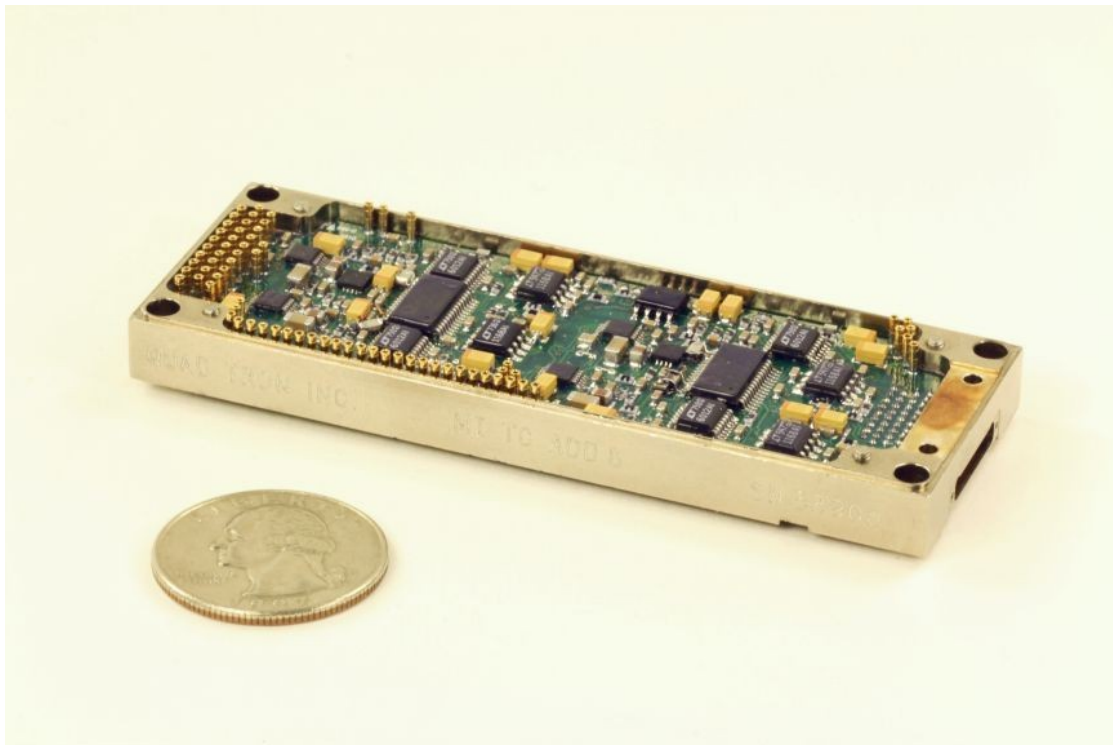
Phone: (215) 441-9303  
Fax: (215) 441-9305  
[www.quadtron.com](http://www.quadtron.com)  
Email: [quadtron.inc@gmail.com](mailto:quadtron.inc@gmail.com)

## MICRO PCM ENCODER SERIES

### MODEL MI\_TC\_ADD8

### EIGHT (8) CHANNEL THERMOCOUPLE ADD ON MODULE

The MI\_TC\_ADD8 module was designed to be used with the 4 Channel Thermocouple module, MI\_TC. This increases the number of channels to 12 very accurate Thermocouple Conditioners.



The 8 Channel thermocouple module add on MI\_TC\_ADD8, is a very accurate Thermocouple Conditioner with Cold Junction Compensation, Amplifier Compensation and Real Time Linearization.

To achieve accuracy, amplifier gain and offset digital temperature compensation is employed. Each channel's thermocouple type can be individually programmed for thermocouple types J, K, B, E, N, R, S, or T.

The Cold Junction Reference Blocks (MI\_CJ4s) are separate from the MI\_TC\_ADD8 module to provide junction temperature isolation (minimizes cold junction self heating effects), and to ease thermocouple connection and disconnection.

The MI\_CJ4 uses digital temperature sensing of the thermocouple reference junction for reduced errors.

The MI\_TC\_ADD8 module requires two MI\_CJ4 four channel Cold Junction compensation blocks.

For twelve channels, one MI\_TC, one MI\_TC\_ADD8, and three MI\_CJ4 are used.

Thermocouple data is digitized to 16-bit resolution for transmission in the system PCM output format.

***NOTE: The MI\_TC\_ADD8 add on module “MUST STACK ON TOP” of the MI\_TC module.***

#### **Electrical Specifications:**

<b>TRANSDUCER TYPE:</b>	Thermocouple Types J, K, B, E, N, R, S, or T
<b>ACCURACY:</b>	± 0.5 degree C, from -20° to +85° C ±1.0 degree C otherwise, or better.
<b>INPUT TYPE:</b>	Thermocouple connection to the reference junction. Copper wire from compensator to unit.
<b>LOW PASS FILTERS:</b>	Each channel is analog filtered at 500 Hz.

#### **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: 27 g

Engraving: MI\_TC\_ADD8

## **MI\_TC\_ADD8 PINOUT:**

J1 CONNECTOR : NANONICS/TYCO, STM037M6HN / 4-1589487-0  
MATE: NANONICS/TYCO, STM037PC2DC024N / 3-1589474-9

Notes: To mate the MI\_TC\_ADD8 module to two MI\_CJ4 cold junction blocks, use Quad Tron cable part #: CBL\_CJ4\_TC8, which is mate pre-wired up to 18 inches.

All connector pins are wired to 2 MI\_CJ4 external cold junction blocks.

<b><u>PIN</u></b>	<b><u>FUNCTION</u></b>	<b><u>PIN</u></b>	<b><u>FUNCTION</u></b>
1	IN5+	19	IN6-
2	IN5-	20	IN6+
3	IN8-	21	IN7+
4	IN8+	22	IN7-
5	CS_N_CJ5	23	AGND
6	CS_N_CJ8	24	CS_N_CJ6
7	DOUT	25	CS_N_CJ7
8	SCLK	26	3.3VD
9	DIN	27	DGND
10	SCLK	28	3.3VD
11	DIN	29	DGND
12	CS_N_CJ9	30	DOUT
13	CS_N_CJ12	31	CS_N_CJ10
14	AGND	32	CS_N_CJ11
15	IN9+	33	AGND
16	IN9-	34	IN10-
17	IN12+	35	IN10+
18	IN12-	36	IN11-
		37	IN11+