QUAD TRON, INC.

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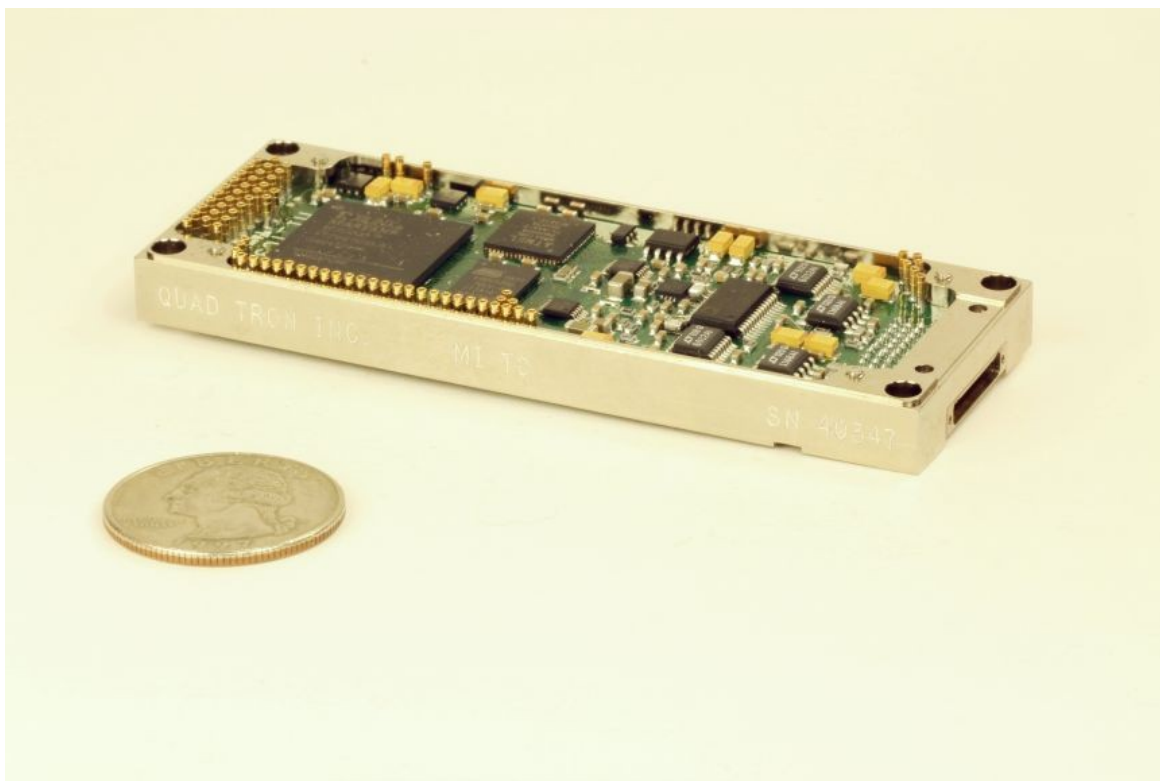
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MICRO PCM ENCODER SERIES

MODEL MI_TC

4 CHANNEL SIGNAL THERMOCOUPLE MODULE

The 4 Channel thermocouple module, MI_TC, 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 Block (MI_CJ4) is separate from the MI_TC 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 module requires one MI_CJ4 four channel Cold Junction compensation block.

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

> **NOTE:** *The MI_TC_ADD8 module can be used to increase the number of thermocouples to 12.*

Electrical Specifications:

TRANSDUCER TYPE:	Thermocouple Types J, K, B, E, N, R, S, or T
ACCURACY:	± 0.5 degree C, from -20° to +85° C ±1.0 degree C otherwise, or better.
INPUT TYPE:	Thermocouple wire connection to the Cold Junction Reference Block MI_CJ4. Copper wire from the MI_CJ4 to the MI_TC.
LOW PASS FILTERS:	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: 25 g

Engraving: MI_TC

MI_TC_PINOUT:

J1 CONNECTOR : NANONICS/TYCO, STM037M6HN / 4-1589487-0

MATE: NANONICS/TYCO, STM037PC2DC024N / 3-1589474-9

Note: To mate the MI_TC module to the MI_CJ4 cold junction block,
use Quad Tron cable part #: CBL_CJ4_TC,
which is mate pre-wired up to 18 inches.

PIN	FUNCTION	PIN	FUNCTION
1	TC1+	19	TC2-
2	TC1-	20	TC2+
3	TC4-	21	TC3+
4	TC4+	22	TC3-
5	AGND	23	AGND
6	AGND	24	AGND
7	CS_N_CJ3	25	CS_N_CJ1
8	CS_N_CJ4	26	CS_N_CJ2
9	DOUT	27	SCLK
10	3.3VD	28	DIN
11	DGND	29	TDI_ATMEL1
12	NC	30	TDO_ATMEL1
13	DGND	31	TMS_PROM
14	NC	32	TCK_ATMEL1
15	DGND	33	TDO_PROM
16	STP2	34	TMS_ATMEL1
17	STP1	35	TDI_PROM
18	STP0	36	RESET_ATMEL1_N
		37	TCK_PROM

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