

| APPLICATION | | REVISIONS | | | |
|-------------|---------|-----------|------------------------|----------------|-----------------|
| NEXT ASSY | USED ON | REV A | DESCRIPTION ECN 301 | DATE 3/6/09 | APPROVED JWM |

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|------------------|-----|------------------------|--------------------------|---|--------------|
| CONTRACT NO. | | QUAD TRON, INC. | | | |
| APPROVALS | | DATE | | MICRO MODULE PCM ENCODER, MODEL MI_CJ4_X 4 CHANNEL THERMOCUPLE COLD JUNCTION BLOCK | |
| DRAWN | MJC | 4/15/08 | | | |
| CHECKED | RHM | 4/15/08 | | | |
| ISSUE | JWM | 4/15/08 | | | |
| | | SIZE A | FSCM NO. OBPE4 | DRAWING NO. 57-2624 | REV. A |
| | | | | | SHEET 1 OF 4 |

MICRO PCM ENCODER SERIES

MODEL MI_CJ4_X

4 CHANNEL THERMOCOUPLE COLD JUNCTION DIGITAL COMPENSATION BLOCK

The MI_CJ4_X module provides 4 channels of Thermocouple Cold Junction digital compensation. It outputs the four digital cold junction temperatures in industry standard SPI format. It uses 4 digital thermometers, this has many advantages as follows:

- 1) Digital Format.
- 2) Thermometers power down, so as not to cause self heating errors.
- 3) Thermocouple types can be easily changed since the cold junction temperature is provided, not Cold Junction voltage.
- 4) The cold junction temperature errors can be easily corrected by table lookup.
- 5) The thermometers are located very close to the actual cold junction since the devices are miniature.
- 6) The Thermocouples are mounted on a Beryllium substrate to keep the temperature the same as both wires of the Thermocouple.

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Electrical Specifications:

Temperature Resolution: 0.03125° C
Temperature Readings: 4 Sensors / 13 Bits, SPI Format

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.

ENGRAVING: MI_CJ4_X

X – THERMOCOUPLE TYPE:

| | |
|----------|----------|
| B-TYPE B | N-TYPE N |
| E-TYPE E | R-TYPE R |
| J-TYPE J | S-TYPE S |
| K-TYPE K | T-TYPE T |

Mechanical:

Size:
Length: 1.25 inches; Width: 1.052 inches; Height: 0.264 inches.

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MI_CJ4_X_PINOUT:

CONNECTOR: GLENAIR, MWDL-21SSP

MATING CONNECTOR: GLENAIR, MWDL-21PSS

| PIN | FUNCTION | PIN | FUNCTION |
|-----|---------------|-----|----------|
| 1 | DGND | 12 | 3.3VD |
| 2 | NC | 13 | NC |
| 3 | TC4- | 14 | TC3- |
| 4 | TC4+ | 15 | TC3+ |
| 5 | TC2- | 16 | TC1- |
| 6 | TC2+ | 17 | TC1+ |
| 7 | NC | 18 | NC |
| 8 | CS_N_CJ3 | 19 | CS_N_CJ4 |
| 9 | SCLK | 20 | DIN |
| 10 | CS_N_CJ2 | 21 | CS_N_CJ1 |
| 11 | DOU \bar{T} | | |

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