

48 Channel Remote Thermocouple Conditioner/Multiplexer



Features

- 48-channel Thermocouple Conditioner and Encoder
- Uses three (3) internal card assembly types:
 - RCI-2048 overhead card: controls internal channel sampling and interfaces with the CAIS master unit
 - TCD-2048 16-channel thermocouple conditioning card (3 each are included): Provides thermocouple conditioning, electronic cold junction compensation, and real-time thermocouple linearization
 - PSU-2048 power supply: accepts 28VDC aircraft power and provides multiple internal regulated outputs; provides ground isolation between 28V input, chassis and signal grounds.
- Operates as a CAIS Remote DAU
- True Real-time Thermocouple Linearization
- Compatible with Types J, K, E, & T
 - Programmable on Per-Channel Basis
 - Mixed Types in the Same Unit
- Programmable Measurement Range
 - Full ANSI Range (coarse), or
 - ANSI Range / 2 (fine - approx)
- Programmable Sliding Fine Range (Range Min/Max)
- Programmable Open TC Detection
 - For Non-grounded Thermocouples
 - Output Error Code of "4095" on open
- $\pm 0.3\%$ System Accuracy
- $\pm 35\text{VDC}$ Overvoltage Protection
- $+28\text{VDC} \pm 4\text{VDC}$ Operation
- 5.800" W x 4.000" D x 3.000" H
- Weighs 4 pounds
- Windows 95/98/NT/2000 Software Included

Description

The MRTM-3048D is a 48-channel remote thermocouple conditioner/multiplexer unit. The MRTM-3048D unit accepts direct-input thermocouple wiring, provides electronic cold junction compensation, real-time data linearization, and compatibility with ANSI thermocouple types J, K, E and T, all within a single enclosure. Thermocouple data is digitized to 12-bit resolution. The MRTM-3048D operates as a "remote unit" along with a CAIS compatible master unit such as TTC's CDAU-20XX or MCDAU-2000. Channel sample sequence and conditioning parameters are controlled by the CAIS master, which is user programmable via a serial RS-232/422 hookup to a PC-based computer running TTC's Windows™ 95/98/NT software application called "TTCWare™". Data acquired and encoded by the MRTM-3048D is formatted as serial PCM per IRIG-106-96, Chapter 4 requirements (standard fixed-position PCM format). The MRTM-3048D is a ruggedized, fixed-volume enclosure suitable for use in harsh environments and over a wide temperature range. Thermocouple wiring and Unit ID use high reliability D-Sub style connectors. All CAIS interface signals use standard 9-pin D-sub style connectors. Input power uses a circular military style connector.

Applications

- Distributed Data Acquisition Systems
- Remote Temperature Measurement

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MRTM-3048D Datasheet

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