

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
- ± 0.3% system accuracy
- ± 35VDC overvoltage protection
- +28VDC ±4VDC operation
- 5.800" W x 4.000" D x 3.000" H
- Weighs 2.7 pounds
- Microsoft Windows application software included

Description

The MRTM-3048C is a 48-channel remote thermocouple conditioner/multiplexer unit. The MRTM-3048C 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-3048C 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-3048C is formatted as serial PCM per IRIG-106-96, Chapter 4 requirements (standard fixed-position PCM format). The MRTM-3048C 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 CAIS compatible connectors. Input power uses a circular military style connector.

Applications

- Distributed data acquisition systems
- Remote temperature measurement

Revision 05/12/2015

MRTM-3048C Datasheet

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CAIS
Compatible



Management
System
AS9100C
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