

Wireless, Self-Contained, 4-Channel RTD Signal Conditioning Module with Linearized Temperature Outputs



Features

- Wireless, 4-channel RTD signal conditioning module
- Data updated at 200 times per second
- Supports 2, 3 and 4-wire RTD connections
- Programmable excitation currents, 500uA to 4mA on per channel basis
- Programmable output expressed as voltage or linearized temperature.
- Most common platinum RTDs supported
- Integral Li-Ion battery and charger
- May also be powered directly from aircraft +28 Volt supply
- Programmable digital moving average filter, selectable from 1 to 128 samples
- $\pm 0.5\%$ system accuracy including excitation
- All RTD data samples are time stamped
- Auxiliary functions including:
 - Battery voltage monitoring
 - Internal temperature monitoring
- Compatible with MCDAU/WDAU-20XX and MARM-2000 operating to 20Mbps
- Windows based TTCWare software included

Description

The SRTD-104-1 wireless 4-channel RTD signal conditioning module forms part of TTC's ASMT wireless signal conditioning product line. This module, in combination with up to four (4) RTD sensors, is a fully self-contained system that operates on battery power and is designed to be attached to the external airframe using electro-cleavable adhesive or alternatively, by screw mounting. Alternatively, it may be powered directly from the aircraft +28V supply. The SRTD-104-1 module communicates with the MWTR-103 miniature wireless transceiver module that can be used to integrate multiple wireless sensors into TTC's line of miniature distributed data acquisition units. RTDs may be connected in 2, 3 or 4-wire input configurations. Programmable constant current excitation is provided on a per channel basis with a choice of 500 uA, 1, 2 or 4 mA. Current is applied to each RTD for only 400 us every 5 ms to prevent self-heating of the sensor. Output data may be displayed as either a voltage or as a linearized temperature. Programmable digital moving average filters output the average of the most recent 1, 2, 4, 8, 16, 32, 64 or 128 input samples to provide additional noise reduction. A 10% (or larger) section of each RTD channel's input range may be expanded to cover the full 12-bit output range of the channel.

The SRTD-104-1 samples each RTD channel at a fixed rate of 200 sps. All four RTD channels are output to the MWTR-103 controller via a Bluetooth 2.0 radio link for insertion into the system PCM serial output data stream. Additional capabilities include on-board battery charging, monitoring of battery voltage and internal temperature.

Applications

- Flight test instrumentation
- Ground vehicles
- Munitions
- Missiles/PGM
- Research measurements and experiments

Revision 10/19/2009

SRTD-104-1 Datasheet

©2009 Teletronics Technology Corporation

Specifications subject to change without notice.



Teletronics Technology Corporation
 15 Terry Drive, Newtown, PA 18940
 phone: 267.352.2020 fax: 267.352.2021 Sales@ttcdas.com

www.ttcdas.com