

Wireless, Self-Contained, 4-Channel Bridge/Potentiometer/Differential Input Signal Conditioning Module with Programmable Digital Filtering



Features

- Wireless, 4-channel bridge/potentiometer/differential input signal conditioning module
- Highly accurate constant voltage excitation.
 - +5 Volts at up to 60 mA.
 - Able to power one 350Ω bridge per channel
- Integral Li-Ion battery and charger
- May also be powered directly from aircraft +28 Volt supply
- Programmable digital IIR presample filtering
 - 6-pole Butterworth characteristic
 - Automatic adaptive filter -3dB frequency based on format-sample rate
- Finely programmable gain from 1 to 2000.
- Programmable offset from 0 to 1/2 of full scale
- ± 0.5% system accuracy
- All channel 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 SSCD-104-1 wireless 4-channel bridge/potentiometer/differential input signal conditioning module forms part of TTC's ASMT wireless signal conditioning product line. This module, in combination with up to four (4) 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 SSCD-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. The four data channels provide anti-alias filtering, 12-bit digitization and programmable DSP-based IIR digital filtering of the raw signals. DSP-based low-pass IIR channel filters have a 6-pole Butterworth characteristic and programmable -3dB frequency ranging from 3.12 Hz to 100 Hz. The data channels also provide programmable gain from 1x to 2000x and programmable offset of up to 1/2 of the full-scale output range.

The SSCD-104-1 channel sampling rate is automatically set by control software to 98% of the host system format sample rate (up to a maximum of 400 sps). The low-pass, -3dB frequency of the data channels are then fixed at one fourth of the programmed SSCD-104-1 data sampling frequency, thus providing programmable cut off frequencies of up to 100 Hz. All four data 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 and monitoring of battery voltage.

Applications

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

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SSCD-104-1 Datasheet

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Specifications subject to change without notice.



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