

6-Channel Signal Conditioning Module – Current and Voltage Excitation, Programmable Digital Filtering, & Simultaneous Sampling



Applications

- Flight test instrumentation
- Factory automation and process control
- Strain gauges, load cells, pressure transducers, ...
- Research measurements and experiments

Features

- 6 channels per module
- Simultaneous sampling capability
- Programmable digital FIR or IIR presample filtering
 - Software selected FIR filters: 120, 90, 60 and 40 taps
 - 120 tap FIR filter provides comparable response to 12-pole Butterworth filter
 - Software selected IIR filters: 6-pole and 8-pole Butterworth, 6-pole Bessel and 6-pole Chebyshev
 - Automatic adaptive filter based on format sample rate
 - Analog anti-aliasing filter
 - Filter characteristic selectable on per channel basis
- Constant voltage and fixed constant current excitation
- Programmable gain and offset
- AC and DC input coupling
- Zero calibration
- ZIN ~5 Meg Ω (power on), >1 Meg Ω (power off)
- $\pm 0.5\%$ system accuracy
- Automatic parasitic offset correction on power up and ZCAL. This feature can be disabled
- $\pm 35\text{VDC}$ overvoltage protection
- Microsoft Windows application software included

Description

The MSCD-606D-3 is a 6-channel plug-in signal conditioning module for use in TTC's miniature, stackable data acquisition products. The module is intended for applications that require high channel density, significant signal conditioning flexibility and/or simultaneous sampling capability. The module provides AC and DC input coupling, constant current and constant voltage excitation, programmable presample digital filtering, calibration, and user programmable gain and offset. FIR or IIR digital presample filtering may be selected on a per channel basis. Each digital filter is phase locked to the channel format sample rate to maintain time correlation between the input signal and the data output. The filter can be set for 3, 4, 5, 6, 8 or 10 times oversampling (the filter -3dB point will be automatically set to the format sampling rate divided by the oversampling value). Alternatively, a 6-pole Butterworth filter with software-specified -3dB point may be selected on any channel. The conditioned channel signals are digitized and available at up to 16-bit resolution for transmission in the system data output format.

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MSCD-606D-3 Datasheet

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Specifications subject to change without notice.



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