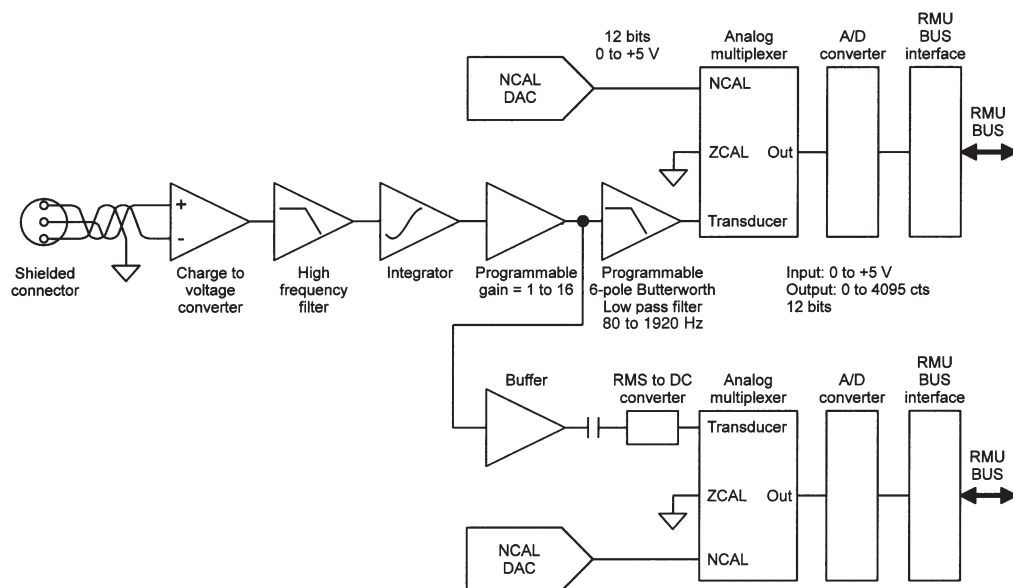




DESCRIPTION

The MSC1000-028 is a two channel full programmable module designed to interface to piezo electric or charge output accelerometers. The modules features are:

FEATURES

- Each channel is independently programmable via DASM software.
- Accepts input signals from two (2) piezo electric or charge output accelerometers
- 5 programmable gains (1 to 16)
- 9 programmable cutoff frequencies (80 Hz to 1920 Hz)
- ZCAL and NCAL
- Sensitivity range of 50 or 100 picocoulombs per G.
- Overvoltage protected to $\pm 32\text{VDC}$.
- RMS to DC Converter (per channel).



communications

ELECTRICAL SPECIFICATIONS

Differential Input Characteristics (Per Channel)

- Input impedance: 10 Megohm minimum
- Tachometer waveforms consist of distorted (third harmonic) sinusoidal signals.
- Amplitude of contactor signals is between 2V and 100V peak-to-peak.
- Tachometer input signals range from 30 Hz to 100 Hz maximum.
- Maximum ratio of change is 10% full scale per second

Sample and Hold

- Module will latch data to bus on receipt of a sample and hold command.

Output

- 12 bits serial data

Operator Inputs

- Tachometer frequency at 100% rotor speed.
- Main rotor revolutions per second
- Tail to main rotor turns ratio.

Rotor Azimuth Card Outputs

- Main Rotor Azimuth
- Tail Rotor Azimuth
- Main Rotor Analog Azimuth
- Tail Rotor Analog Azimuth
- Main Rotor Azimuth Full Scale Count
- Tail Rotor Azimuth Full Scale Count
- Percent Main Rotor Speed
- Center Frequency

Miscellaneous

- Upon command, the card will measure and report the center frequency of the PLL. This is used for the N1, N2, and N3 calculations and allows for the widest dynamic range.
- The module measures the period of the tachometer frequency and converts to percent rotor speed based on a conversion factor calculated and supplied by the setup computer. The period is measured using 1 Mhz clock. The conversion scales the output for a given tachometer frequency input such that 130% main rotor speed equals FFFFH.

