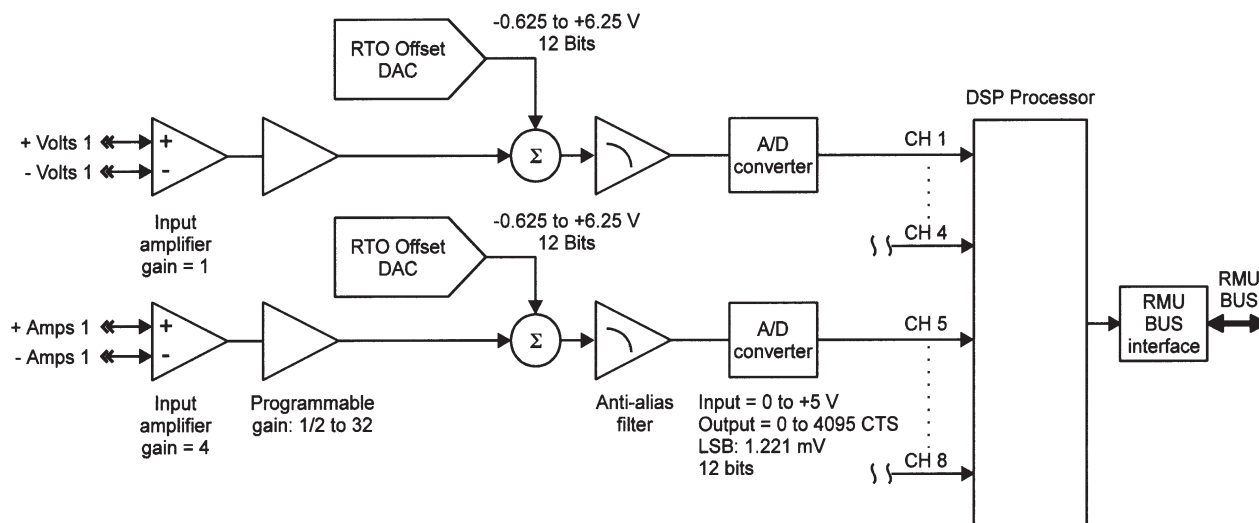




DESCRIPTION

The MSC1000-040 module instruments four power supplies at a sampling rate of 2500 samples per second. The module employs DSP to perform real time data analysis. Any or all calculated parameters, for each channel, may be inserted into the RMU PCM stream. The module includes the following salient features:

FEATURES

- Two measurements are provided for each supply: voltage and current.
- Provides measurements of the following real time parameters
 1. Channel raw data (voltage and current)
 2. Channel DC value (RMS for AC, average for DC), (Voltage and current)
 3. Channel noise value (HF measurement for AC, ripple for DC), (voltage and current)
 4. Channel peak / valley detection (voltage and current)
 5. Supply power



communications

ELECTRICAL SPECIFICATIONS

Power Bus Parameters

- Raw voltage and current
- Maximum transient voltage and current
- Noise
- Mean average voltage or current (DC supplies)
- RMS voltage or current (AC supplies)
- Average power (DC supplies)
- True RMS power (AC supplies)

Data Inputs

- Differential
- Two inputs per power bus; one for voltage and one for current
- Input impedance: 1 Meg ohm minimum
- Full scale: 5 VPP Gain
- CMR at 400 Hz: 70 db minimum with a gain of 1 with 1 K ohm source imbalance
- Overvoltage protection: ± 32 V
- Channels 1 through 4: Voltage inputs
- Channels 5 through 8: Current inputs

Gain

- Programmable per channel over the range of 1 to 64. Voltage signal gain is selected independently from current gain signal. Voltage gain range is 1 to 32. Current gain range is 1 to 64.
- Accuracy: $\pm 0.5\%$ of nominal
- Stability: $\pm 0.25\%$ of nominal over the operating temperature range
- Linearity: $\pm 0.1\%$ BSL

Offset

- Programmable RTO from -5 to +5 VDC in 2.44 mV increments
- Stability: $\pm 0.25\%$ worst case

Calibration

- ZCAL: Input differential signals are shorted together.

Output

- A/D converter: 0 to 5 volts at the output of the analog channel is converted into an unsigned 12 bit word (0 to 4095 counts, respectively).

Miscellaneous

- Current measurements require an external current probe
- Data is acquired over a program selectable time interval
- Signals of greater than 5 volts require an accompanying MSC1000-037 configured as an attenuator.

