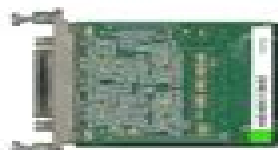


KAD/ADC/129/S2

Full-bridge ADC (voltage excitation, programmable analog gain, sense lines, 25kHz b/w) - 4ch at 100ksps

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Key Features

- Four full or ½-bridge, potentiometer or differential ended input channels
- Programmable input range ($\pm 10\text{mV}$ to $\pm 10\text{V}$)
- High accuracy (0.02% FSR; typical for range of 1V and 10V)
- Programmable voltage excitation with separate sense lines and balance adjust
- Short on any channel does not affect others
- 16-bit simultaneous sampling on each channel

Applications

- Bridge sensors and strain gage measurement
- Differential voltage measurement

Overview

The KAD/ADC/129/S2 has four channels of signal conditioning and data acquisition for differential voltages, strain gage or bridge measurements. In addition to the measurement channel, the KAD/ADC/129/S2 provides independent bipolar excitation for up to four channels. Each differential ended signal has a separate programmable amplifier, filter and A/D converter.

At the heart of the KAD/ADC/128/S2 is a hard-wired state-machine that over-samples all channels at a rate between 200ksp/s and 400ksp/s and digitally filters any noise above the user-programmable cutoff frequency. This is achieved using cascaded, half-band, decimate by 2 x 15-tap, Finite-Impulse-Response (FIR) filters followed by an 8th order Butterworth Infinite-Impulse-Response (IIR) filter with a default cutoff point set at a quarter of the sampling frequency. All signals are sampled simultaneously. Thus, when several channels are sampled at different sampling rates, all channels will be aligned at the start of an acquisition cycle.

The KAD/ADC/129/S2 is intended for use with strain gages, and should not be used for asymmetric bridge transducers such as accelerometers, pressure transducers unless sensor re-calibration is carried out on a channel-by-channel basis. If the sense lines or internal offset adjust (balance) feature are not required, refer to the KAD/ADC/129/S1.

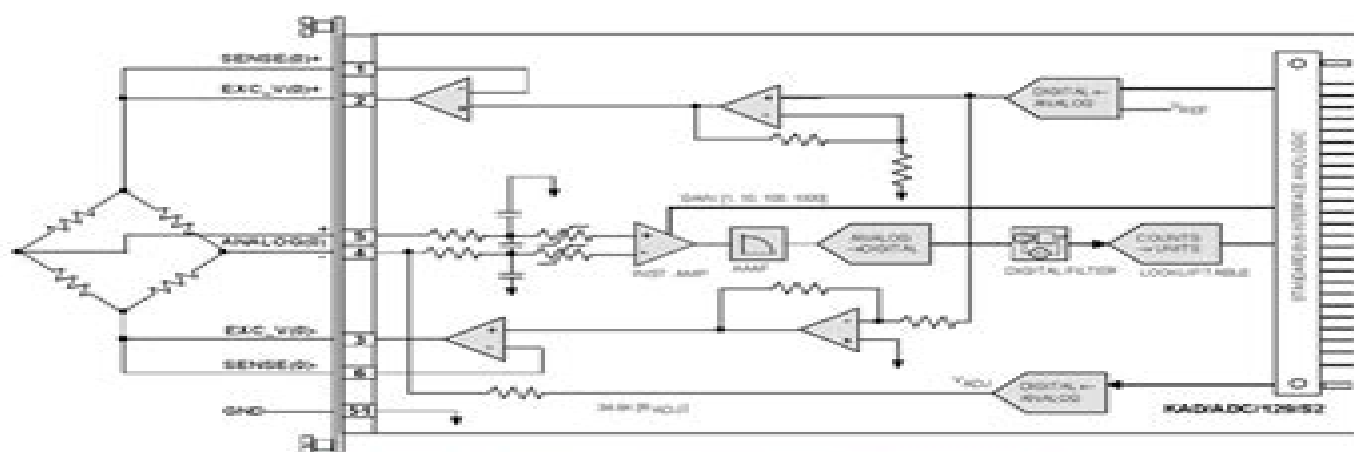


Figure 1: First of four channels on the KAD/ADC/128/52

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