

4-Channel Strain/Bridge Transducer Amplifier-Filter-Digitizer

The 6052 input module has four channels of high performance signal-conditioning amplifier-digitizers for strain gages and bridge transducers. Each channel has programmable excitation with remote sensing, voltage calibration, local or remote shunt calibration, programmable gain instrumentation amplifier and four-pole low pass filter. The high level outputs are multiplexed and digitized to 16 bits then output to the 6000 data bus. In addition to the digitized output, each channel provides a continuous, calibrated analog output.

The 6052 is used with quarter, half and full bridge transducers, potentiometers and low-level voltage signals in demanding applications such as load control. The standard filter is a four-pole or six-pole filter with programmable cutoff frequency from 4 Hz to 5 kHz and the 6052C is a four-pole filter with programmable cutoff frequency from 10 Hz to 20 kHz.

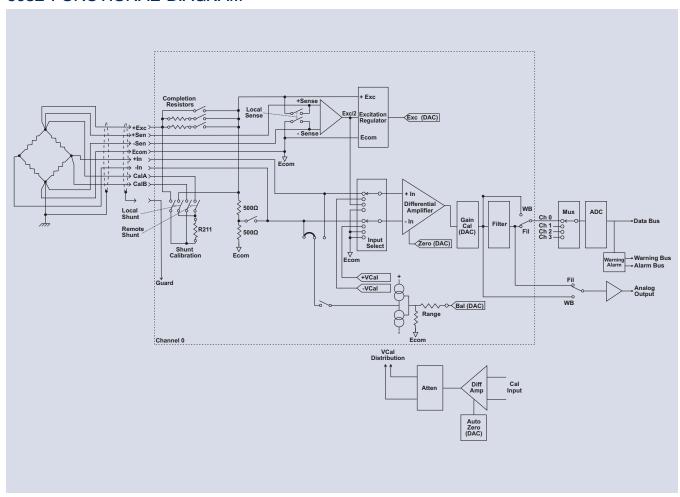
Voltage substitution using an external voltage standard is provided for traceable gain calibration. Internal or external shunt calibration is provided for transducer calibration. Transducer balance, zero and gain calibration are automatic. Two programmable alarms with upper and lower limits are checked for each digitized output. The high-level analog outputs provide a means to independently monitor or record each channel.



FEATURES

- Programmable input configuration ¼, ½ & full bridge
- Programmable excitation with remote sensing
- Shunt & voltage calibration
- Automatic zero & balance
- Gains 1 to 5,000 with 0.05% accuracy
- Model 6052: Up to 20kS/s per channel with 16-bit resolution
- Model 6052C: Up to 50kS/s per channel with 16-bit resolution
- Buffered 10 Volt analog output
- Two alarms with programmable upper & lower limits

6052 FUNCTIONAL DIAGRAM





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SPECIFICATIONS

INPUT	FILTER
Configuration	Type (6052)Four or Six pole, low pass Butterworth. Type (6052C)Four pole, low pass Bessel. Frequency (6052)Continuously programmable 4Hz to 5kHz, 1.25Hz resolution, 3% accuracy. Frequency (6052C)Continuously programmable 10Hz to 20kHz. Noise
ZeroAutomatic to $\pm 1~\mu V$ RTI, $\pm 0.5~mV$ RTO.	ORDERING INFORMATION
Zero Stability±5 μV RTI, ±1 mV RTO, ±1 μV/°C RTI, ±0.2 mV/°C RTO. Short term: ±2 μV RTI, ±0.4 mV RTO. Source Current±25 nA, ±0.01 nA/°C Noise (10 Hz)0.1 μV RMS RTI plus 0.5 mV RMS RTO. Noise (wideband)2 μV RMS RTI plus 0.5 mV RMS RTO. Bandwidth (6052).10 kHz (-3dB) or better. Bandwidth (6052C) 50 kHz (-3dB) for gains 1 to 1,000, 20 kHz (-3dB) for gains above 1,000. Slew Rate (6052)5 V/us. Recovery800 μS to ±0.1% for 10X overload to ±10 V. Analog Output±10 Volt full scale, wideband or filtered. Accuracy is ±0.05%.	6052-PF4/5K-BU44-Ch Strain-Bridge, PF 4Hz-5kHz 4-Pole Butterworth 6052-PF4/5K-BU64-Ch Strain-Bridge, PF 4Hz-5kHz 6-Pole Butterworth 6052B-PF4/5K-BU44-Ch Strain-Bridge, PF 4Hz-5kHz 4-Pole Butterworth, 2-Step Shunt 6052B-PF4/5K-BU64-Ch Strain-Bridge, PF 4Hz-5kHz 6-Pole Butterworth, 2-Step Shunt 6052C-PF10/20K-BE44-Ch Strain-Bridge, PF 10Hz-20kHz 4-Pole Bessel, 2-Step Shunt, 50ks/s 6052C-PF10/20K-BU44-Ch Strain-Bridge, PF 10Hz-20kHz 4-Pole Butterworth, 2-Step Shunt, 50ks/s 6052D-PF4/5K-BU44-Ch Strain-Bridge, PF 4Hz-5kHz 4-Pole Butterworth, 2-Step Shunt, Dual Analog Outputs 6052D-PF4/5K-BU64-Ch Strain-Bridge, PF 4Hz-5kHz 6-Pole Butterworth, 2-Step Shunt, Dual Analog Outputs