

Divider Signal Conditioning Board

Features

- Ideal for simulating thermocouples, strain gauges, and temperature compensating diodes
- Reduces nominal DAC voltage range
- Pass-through signal conditioning
- Twenty-four channels per board

Description

The Divider Board is used in ADI's Distributed I/O System (DIOS). The Divider board is a Signal Conditioning device which reduces the nominal ± 10 V signal of a DAC to a range which simulates that of a temperature compensation diode, a 2-wire strain gauge, or a thermocouple.

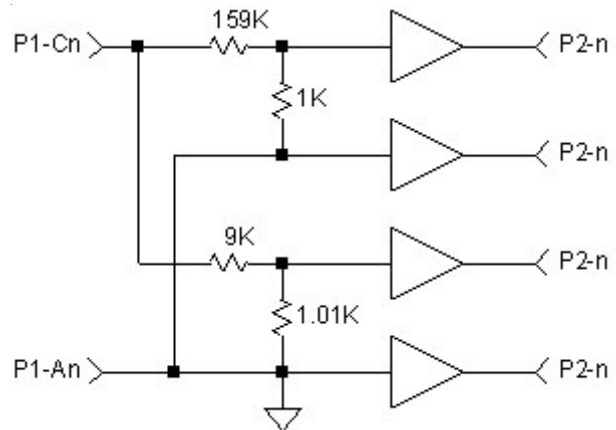
Typical ranges for those sensors are:

- 0 to 1 V for a temperature compensation diode
- 0 to 30 mV for a low range 2-wire strain gauge
- 0 to 600 mV for a high range 2-wire strain gauge
- -5 to 55 mV for a Type K thermocouple

The Divider Board is a standard DIOS board size, 6U by 280 mm. Each of the 24 divider circuits will provide a 10:1 divide ratio output, a 160:1 divide ratio output, and a buffered ground output from a single DAC input.

The 10:1 nominal output will produce ± 1 V full scale when driven by a ± 10 V DAC output, while the 160:1 output will produce ± 62.5 mV full scale.

I/O signals connect to the board at the rear panel connectors provided by the DIOS chassis. Standard connectors are 0.050 series 96-pin D-shell connectors, but other connectors can be accommodated with a custom cable interface board.



Specifications

- Twenty-four channels
- High divide ratio: 1/160
- Low divide ratio: 1/9.9109
- Accuracy : $\pm 0.02\%$ max $\pm 100 \mu\text{V}$ max (uncalibrated)
- Temperature drift: ± 2 ppm/ $^{\circ}\text{C}$ max $\pm 1 \mu\text{V}/^{\circ}\text{C}$ max