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DBK12™ & DBK13™

16-Channel Programmable Low- & High-Gain Analog Input Cards



Features

- Provide 16 differential inputs
- DBK12 offers x1, 2, 4, or 8 programmable gain
- DBK13 offers x1, 10, 100, or 1000 programmable gain

The DBK12™ and DBK13™ provide IOtech's LogBook, DaqBook, DaqBoard, and Daq PC-Card data acquisition systems with 16 differential analog inputs. The DBK12's programmable gain amplifier offers x1, 2, 4, or 8 gain. The DBK13's programmable gain amplifier offers x1, 10, 100, or 1000 gain. The ranges of both cards can be combined with the on-board ranges of the LogBooks, DaqBooks, DaqBoards, or Daq PC-Cards for a wide selection of full scale inputs.

The cards provide DB37 connection to the data acquisition system and offer screw-terminal connections for analog signal input. Up to 16 DBK12 or DBK13 cards can be attached to one LogBook, DaqBook, DaqBoard, or Daq PC-Card, for a total of 256 differential inputs.

For applications that require a module, the DBK53™ provides identical functionality to the DBK12, and the DBK54™ provides identical functionality to the DBK13.

Specifications

Connector: DB37 male, mates with P1 pinout on a LogBook, DaqBook, DaqBoard*, or Daq PC-Card; screw-terminals for signal connection

Gain Ranges

- DBK12: x1, 2, 4, 8
- DBK13: x1, 10, 100, 1000

Inputs: 16 differential or single-ended (switch selectable as a group)

Maximum Voltage Range: 0 to +10, ±5 VDC

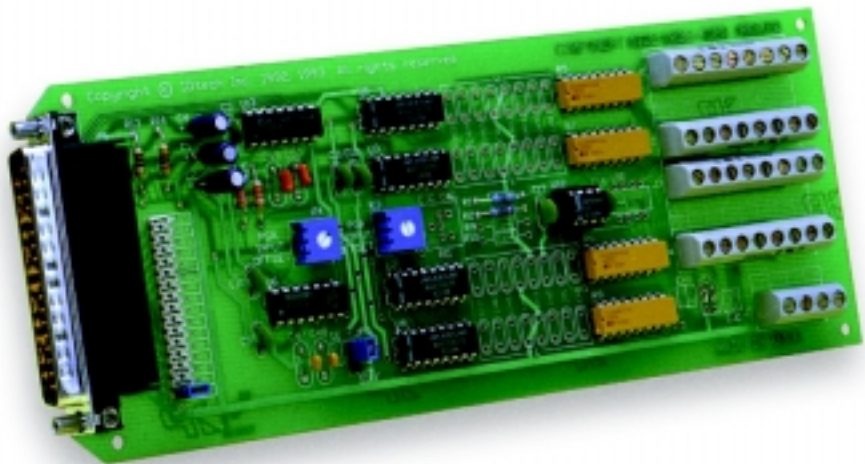
Input Impedance: 100M Ohm in parallel with switched 120 pF capacitor

Gain Accuracy

- DBK12: ±0.05% typ; ±0.25% max
- DBK13: ±0.05% typ @ G <1000
±0.25% max @ G <1000
±0.10% typ @ G = 1000
±1% max @ G = 1000

Maximum Input Voltage

(without damage): ±35 VDC



The DBK12 and DBK13 analog multiplexing cards provide programmable gain

Slew Rate: 20V/μs typ; 10V/μs min

Settling Time

- DBK12: 2 μs to 0.01%
- DBK13: 2 μs to 0.01% @ G <1000
10 μs to 0.01% @ G = 1000

CMRR

- DBK12: 80 dB min @ DC to 60 Hz
- DBK13: 80 dB @ G=1 min @ DC to 60 Hz
86 dB @ G=10 min @ DC to 60 Hz
92 dB @ G=100 min @ DC to 60 Hz
94 dB @ G=1000 min @ DC to 60 Hz

Non-Linearity

- DBK12: 0.002% typ; 0.015% max
- DBK13: 0.002% typ @ G <1000
0.015% max @ G <1000
0.02% typ @ G = 1000
0.06% max @ G = 1000

Bias Current: 150 pA typ

0.2 μA @ 25°C max

Offset Voltage: ±(0.5 + 5/G) mV @ 25°C typ

±(2.0 + 24/G) mV @ 25°C max

Offset Drift: ±(3 + 50/G) μV/°C typ

±(12 + 240/G) μV/°C max

Related Products

LogBooks	p. 58
DaqBooks	p. 71
DaqBoard/2000	p. 82
ISA DaqBoards	p. 92
Daq PC-Cards	p. 101
DBK53	p. 163
DBK54	p. 163

QUICK FIND

For up-to-date information on products, and to order online, visit the IOtech Web site and enter the corresponding page number in the QUICK FIND field.



Ordering Information

Description	Part No.
16-channel programmable low-gain analog input card	DBK12
16-channel programmable high-gain analog input card	DBK13

Expansion Cables

Use cabling specifications for the DBK10 (see p. 127), CDK10 (see p. 104), or DBK41 (see p. 150) expansion chassis

* Attachment to the DaqBoard/2000 requires a DBK200, DBK201, DBK202, or DBK203 adapter

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