DBK50™ & DBK51™

8-Channel Isolated Voltage-Input Modules

Compatibility: ✔ LogBook ✔ DaqBook ✔ DaqLab ✔ DaqScan ✔ DaqBoard/2000 Series

Features

- **Provide eight channels of isolated input**
- **Offer bipolar input ranges of:**
  DBK50 (high-voltage)
  - **10V, 100V, and 300V full scale input, software programmable**
  DBK51 (low-voltage)
  - **100 mV, 1V, and 10V full scale input, software programmable**
- **Provide 500V channel-to-channel isolation and 500V channel-to-system isolation**
- **Powerable from:**
  - **included AC adapter**
  - **optional rechargeable battery module**
  - **12V car battery**
  - **any +9 to +20 VDC source**

The DBK50™ and the DBK51™ are 8-channel, isolated voltage-input modules that allow IOtech's data acquisition systems to isolate up to 8 channels of analog input. Both the DBK50 and DBK51 modules offer 500V isolation from channel-to-channel and channel-to-system. Up to 32 modules can be connected to one data acquisition system for up to 256 isolated input channels.

Isolated Signal Connections. Each channel features a disconnectable screw terminal block that provides access to the analog inputs.

Power. The DBK50 and DBK51 include built-in DC/DC converters, allowing them to be operated from a variety of external power sources. The units can draw power from their included AC adapters; the optional DBK30A rechargeable battery module; a car battery; or any +9 to +20 VDC source.
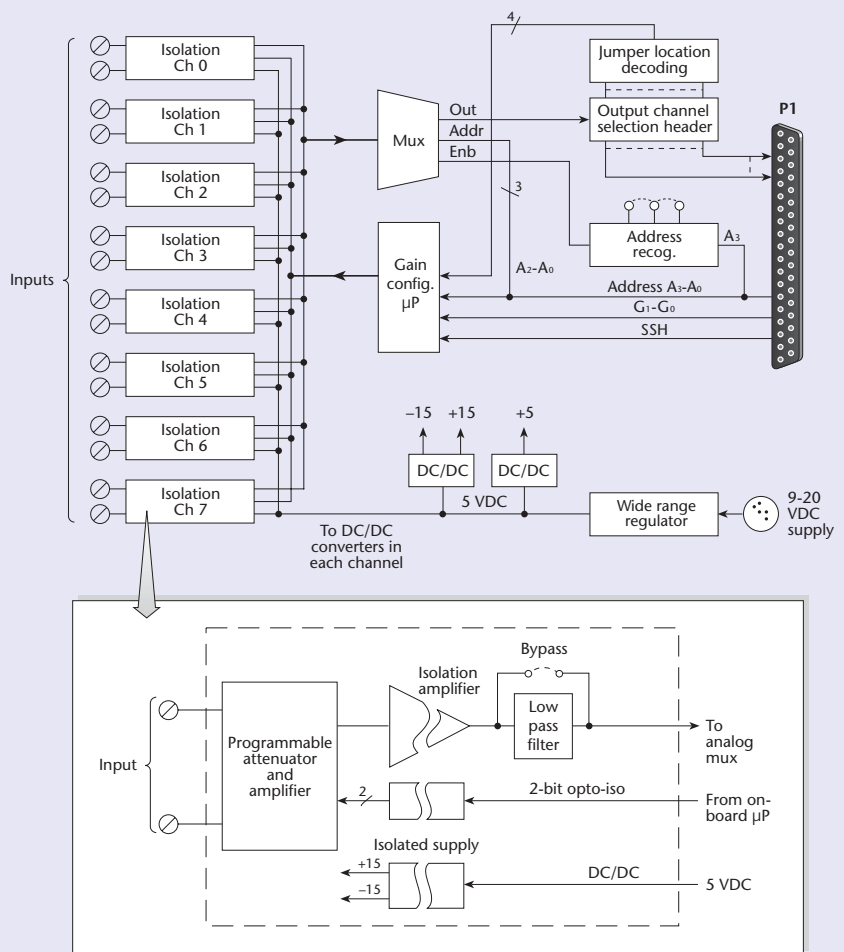
The DBK50 and DBK51 each offer eight channels of input via removable screw-terminal plugs

DBK50 & DBK51 Isolated Voltage-Input Modules Block Diagram

DBK50™ & DBK51™
Specifications & Ordering Information

Input Amplifier. The DBK50's input amplifiers provide input ranges for 10V, 100V, and 300V bipolar signals. The DBK51's input amplifiers provide input ranges for 100 mV, 1V, and 10V bipolar signals. These ranges are software programmable, allowing you to change ranges without having to access internal range-set jumpers or switches. The input amplifiers also provide a zeroed input range, which allows you to incorporate auto-zero and temperature drift compensation in your data acquisition applications.

Bandwidth Filter. The DBK50 and DBK51 provide a selectable 3.5 Hz, low-pass filter on each channel. The corner frequency can be bypassed by plugging in a different standard resistor network. In addition, the low-pass filter can be bypassed entirely, for a bandwidth of 20 kHz.

Specifications

Connector: DB37 male, mates with P1*
Inputs: Removable screw terminal block
Channels: 8, individually isolated
Isolation
 Channel-to-Channel: 500V
 Channel-to-System: 500V
Input Impedance
 DBK50: 1M Ohm
 DBK51: >10M Ohm
Bipolar Input Ranges
 DBK50: ±10V, 100V, and 300Vp-p
 DBK51: ±100 mV, 1V, and 10Vp-p
Output Voltage Range: ±5 VDC
Accuracy: ±2% of range, ±1% of reading
Offset: ±50 mV Max
Noise
 With Low-Pass Filter: <5 mVp-p
 Without Low-Pass Filter: <50 mVp-p
Temp. Coefficient: 0.2 mV/˚C
Attenuation Ratios: $V_{out} = V_{in}/K$
 High-Voltage (DBK50)

10V	K = 2.0	(gain = 0.5)
100V	K = 20.0	(gain = 0.05)
300V	K = 60.0	(gain = 0.0166)

 Low-Voltage (DBK51)

0.1V	K = 0.02	(gain = 50)
1V	K = 0.2	(gain = 5)
10V	K = 2.0	(gain = 0.5)

Bandwidth: 20 kHz (LPF bypassed)
Low-Pass Filter: Factory installed 3-pole, 3.5 Hz (by-passable or user set)
Operating Power Voltage Range: +9 to +20 VDC
Module Power Requirements: 7.5W
Included AC Adapter: 15 VDC @ 0.9A
Dimensions: 285 mm W x 221 mm D x 36 mm H (11" x 8.5" x 1.375")
Weight: 1.7 kg (4 lbs)
Power Consumption: 35 mW

Ordering Information

Description	Part No.
Isolated high-voltage input module	DBK50
Isolated low-voltage input module	DBK51

Accessories & Cables

Rack mount kit	RackDBK2
Shielded P1 T cable for use with DaqBook/2020, LogBook/360, and WBK40/41	CA-255-4T
Shielded P1 T cable for use with DaqBook/2001, DaqBook/2005, LogBook/300, DaqLab/2001, and DaqLab/2005	CA-255-2T
Ribbon cable for use with DaqScan	CA-37-x

Note: The CA-37-x ribbon cable can also be used in lieu of the CA-255-x molded T cables.

For complete information on accessories and cables, visit
www.iotech.com/acc

Related Products

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