



# 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



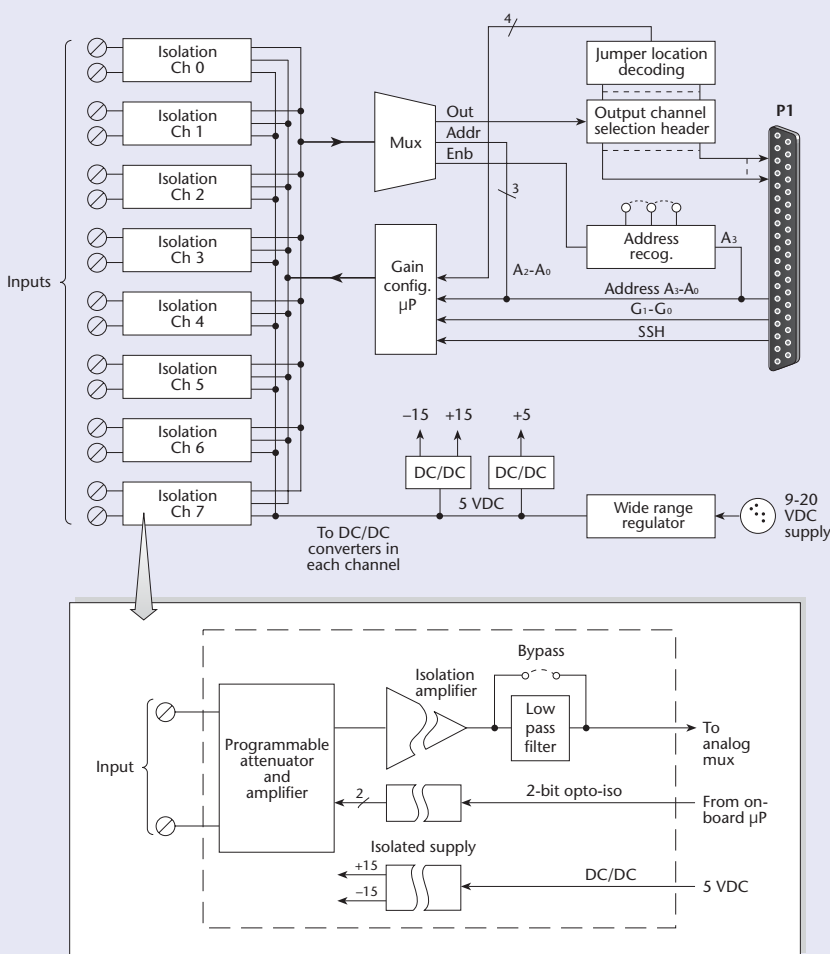
The DBK50 and DBK51 each offer eight channels of input via removable screw-terminal plugs

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.

### 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 ±300V  
**DBK51:** ±100 mV, ±1V, and ±10V  
**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](http://www.iotech.com/acc)

### Related Products

LogBook  
 DaqBook  
 DaqLab  
 DaqScan  
 DBK8  
 DBK42  
 DaqBoard/2000 Series

\* Attachment to the DaqBoard/2000 series requires a DBK200, DBK202, DBK203A, DBK209, DBK213, or DBK214