

# DI-75B 5B Module Expander



**8-Channel, 5B Module Expansion Device for DI-715B, DI-720, DI-722, and DI-730 Series Instruments**

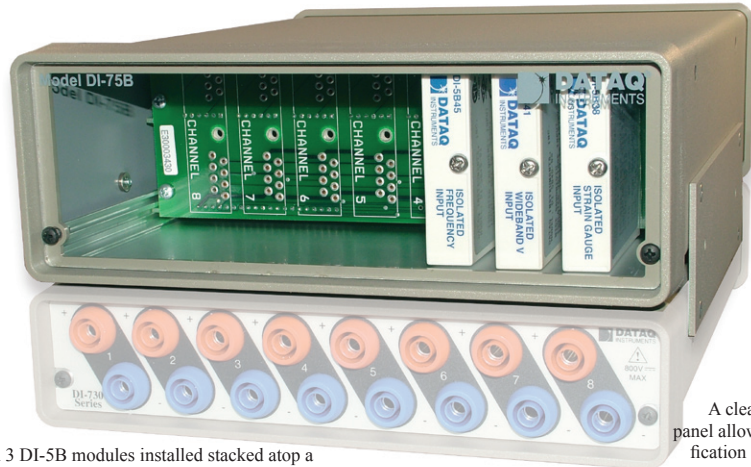
**Gives DI-720, DI-722, and DI-730 Series Instruments Isolated Industrial Measurement Capability**

**Powered from any 9-36VDC Source**

**Completely Portable**

The DI-75B is an eight-channel, 5B-module expansion device for DI-715B, DI-720, DI-722, and DI-730 instruments. Each DI-75B accepts up to eight high-performance, plug-in (DI-5B) signal conditioning modules, thereby expanding the measurement capability of DI-715B, DI-720, DI-722, and DI-730 instruments to include virtually any isolated, industrial-type signal. Because DI-5B modules are identical in pinout and size, they can be mixed or matched in any combination. Choose from thermocouple, true rms, voltage, strain, frequency, process current, RTD, potentiometric, or DC transducer—whatever suits your application. Over 90 models available from DATAQ Instruments, Inc. address the full spectrum of industrial measurements. A clear acrylic front panel allows easy identification of all installed 5B modules. See page 2 for a listing of all available 5B modules.

Included stacking brackets and optional handles help to create a sturdy and convenient expandable data acquisition system.



DI-75B with 3 DI-5B modules installed stacked atop a DI-730 Instrument using stacking brackets (provided).

A clear acrylic front panel allows easy identification of all installed 5B modules

## Features

### Add a DI-75B to the DI-715B, DI-720, DI-722, or DI-730 for Any Industrial Measurement Application

The DI-75B brings isolated, industrial-type measurement capability to DI-715B, DI-720, DI-722, and DI-730 instruments. Add the DI-75B to these instruments for a complete, easy, and convenient signal conditioning solution. Each DI-75B channel consumes one channel from its host instrument in return for the isolated, signal-conditioned input it provides. A maximum of two DI-75B instruments may be connected to any DI-715B, DI-720, DI-722, or DI-730 instrument to get a total of 16 signal-conditioned input channels (in addition to any remaining channels on the host instrument).

### Make Industrial Measurements Through DI-5B Plug-in Signal Conditioning Modules

Each channel on the DI-75B accommodates one DI-5B module, which provides a single channel of isolated input protection, amplification, and filtering. The DI-5B modules are plugged into a socketed backplane and are secured with a mounting screw. Each DI-75B channel has four corresponding screw terminals for your signal connections: channel +, channel -, excitation +, and excitation -. These terminals satisfy all transducer inputs and provide sensor excitation when necessary. Access to the DI-5B modules is through a removable front panel.

### Flexible Power Requirements

When used with either a DI-715B, DI-720, DI-722, or DI-730, the DI-75B can be powered by these instruments through a supplied, dual-ended power cable.

### Similar Footprint

The DI-75B has the same length and width as our DI-720, DI-722, and DI-730 instruments (9"L × 7.29"W). This allows the DI-75B to be stacked and mounted to these instruments with provided stacking brackets. The DI-75B's height is 2.7" to accommodate DI-5B modules.

### Easy to Connect

The DI-75B connects to the host instrument in seconds with the supplied interconnecting cable. Simply connect one end of this cable to the EXPANSION port on the host DI-720, DI-722, or DI-730 instrument and connect the other end to EXPANSION IN on the DI-75B's rear panel.

### Convenient Signal Connection

A removable screw terminal block allows signal connections to be made to the DI-75B. Input signal connections are made along the top row while the excitation connections (for those DI-5B modules that require excitation) are made along the bottom row.

# Signal Conditioning Module Selection Guide

Each DI-5B module is a single channel, isolated analog input that interfaces to all types of sensors. The modules filter, isolate, amplify, and convert input signals to a high-level analog signal suitable for A/D conversion. Over 90 modules address the full spectrum of industrial measurements.

## Key Features

- Convenient, flexible, mix-and-match approach.
- Full isolation reduces noise and protects you and your equipment from large, common mode voltages.
- Custom modules are available.

## Common Specifications

- 1000V isolation (if requirements exceed 600V contact DATAQ Instruments)
- 240 VAC input protection
- 160db common mode rejection
- -40°C to +85°C operating temperature range
- Small size: 2.28" × 2.26" × 0.60"

Analog Voltage Input Modules (4Hz or 10kHz BW)			
Narrow Bandwidth (4Hz)		Wide Bandwidth (10kHz)	
MODEL NO.	Input Range	MODEL NO.	Input Range
DI-5B30-01	±10mV	DI-5B40-01	±10mV
DI-5B30-02	±50mV	DI-5B40-02	±50mV
DI-5B30-03	±100mV	DI-5B40-03	±100mV
DI-5B31-01	±1V	DI-5B41-01	±1V
DI-5B31-02	±5V	DI-5B41-02	±5V
DI-5B31-03	±10V	DI-5B41-03	±10V
DI-5B31-07	±20V	DI-5B41-07	±20V
DI-5B31-09	±40V	DI-5B41-09	±40V

Analog Current Input Modules (4Hz BW)			
MODEL NO.	Input Range	MODEL NO.	Input Range
DI-5B32-01	4 to 20mA	DI-5B32-02	0 to 20mA

Isolated True RMS Input Modules (20kHz BW)			
MODEL NO.	Input Range	MODEL NO.	Input Range
DI-5B33-01	100mVFS	DI-5B33-04	150VFS
DI-5B33-02	1VFS	DI-5B33-05	300VFS
DI-5B33-03	10VFS		

Linearized RTD Input Modules (4Hz BW)		
MODEL NO.	Type	Input Range
For 2- or 3-Wire RTDs		
DI-5B34-01	100Ω Pt	-100°C to +100°C (-148°F to +212°F)
DI-5B34-02	100Ω Pt	0°C to +100°C (+32°F to +212°F)
DI-5B34-03	100Ω Pt	0°C to +200°C (+32°F to +392°F)
DI-5B34-04	100Ω Pt	0°C to +600°C (+32°F to +1112°F)
DI-5B34C-01	10Ω Cu @ 0°C	0°C to +120°C (+32°F to +248°F)
DI-5B34C-02	10Ω Cu @ 25°C	0°C to +120°C (+32°F to +248°F)
DI-5B34C-03	10Ω Cu @ 0°C	0°C to +160°C (+32°F to +320°F)
DI-5B34N-01	120Ω Ni	0°C to +300°C (+32°F to +572°F)
For 4-Wire RTDs		
DI-5B35-01	100Ω Pt	-100°C to +100°C (-148°F to +212°F)
DI-5B35-02	100Ω Pt	0°C to +100°C (+32°F to +212°F)
DI-5B35-03	100Ω Pt	0°C to +200°C (+32°F to +392°F)
DI-5B35-04	100Ω Pt	0°C to +600°C (+32°F to +1112°F)
DI-5B35C-01	10Ω Cu @ 0°C	0°C to +120°C (+32°F to +248°F)
DI-5B35C-02	10Ω Cu @ 25°C	0°C to +120°C (+32°F to +248°F)
DI-5B35C-03	10Ω Cu @ 0°C	0°C to +160°C (+32°F to +320°F)
DI-5B35N-01	120Ω Ni	0°C to +300°C (+32°F to +572°F)

Potentiometer Input Modules (4Hz BW)		
MODEL NO.	Input Range	Excitation
DI-5B36-01	0 to 100Ω	0.25mA
DI-5B36-02	0 to 500Ω	0.25mA
DI-5B36-03	0 to 1KΩ	0.25mA
DI-5B36-04	0 to 10KΩ	0.10mA

DC Transducer Input Modules with +10VDC Excitation			
MODEL NO.	Input Range	MODEL NO.	Input Range
DI-5B43-01	±1V	DI-5B43-06	±6V
DI-5B43-02	±2V	DI-5B43-07	±7V
DI-5B43-03	±3V	DI-5B43-08	±8V
DI-5B43-04	±4V	DI-5B43-09	±9V
DI-5B43-05	±5V	DI-5B43-10	±10V

Strain Gage Input Modules (4Hz or 10kHz BW)		
MODEL NO.	Full Scale Input/Bridge	Excitation
10kHz		
DI-5B38-01	±10mV/Full, (3mV/V) 100 to 10KΩ	3.333V
DI-5B38-02	±30mV/Full, (3mV/V) 300 to 10KΩ	10.000V
DI-5B38-03	±10mV/Half, (3mV/V) 100 to 10KΩ	3.333V
DI-5B38-04	±30mV/Half, (3mV/V) 300 to 10KΩ	10.000V
DI-5B38-05	±20mV/Full, (2mV/V) 300 to 10KΩ	10.000V
DI-5B38-06	±33.3mV/Full, (10mV/V) 100 to 10KΩ	3.333V
DI-5B38-07	±100mV/Full, (10mV/V) 300 to 10KΩ	10.000V
4Hz		
DI-5B38-31	±10mV/Full, (3mV/V) 100 to 10KΩ	3.333V
DI-5B38-32	±30mV/Full, (3mV/V) 300 to 10KΩ	10.000V
DI-5B38-33	±10mV/Half, (3mV/V) 100 to 10KΩ	3.333V
DI-5B38-34	±30mV/Half, (3mV/V) 300 to 10KΩ	10.000V
DI-5B38-35	±20mV/Full, (2mV/V) 300 to 10KΩ	10.000V
DI-5B38-36	±33.3mV/Full, (10mV/V) 100 to 10KΩ	3.333V
DI-5B38-37	±100mV/Full, (10mV/V) 300 to 10KΩ	10.000V

2-wire Transmitter Interface Module (100Hz BW)		
MODEL NO.	Input Range	Excitation
DI-5B42-01	4 to 20mA	Nom. 20V at 4 to 20mA

Frequency Input Modules		
MODEL NO.	Input Range	Excitation
DI-5B45-01	0 to 500Hz	+5.1V @ 8mA max
DI-5B45-02	0 to 1kHz	+5.1V @ 8mA max
DI-5B45-03	0 to 3kHz	+5.1V @ 8mA max
DI-5B45-04	0 to 5kHz	+5.1V @ 8mA max
DI-5B45-05	0 to 10kHz	+5.1V @ 8mA max
DI-5B45-06	0 to 25kHz	+5.1V @ 8mA max
DI-5B45-07	0 to 50kHz	+5.1V @ 8mA max
DI-5B45-08	0 to 100kHz	+5.1V @ 8mA max

Linearized Thermocouple Input Modules (4Hz BW)*		
MODEL NO.	Type	Input Range
DI-5B47J-01	J	0°C to +760°C (+32°F to +1400°F)
DI-5B47J-02	J	-100°C to +300°C (-148°F to +572°F)
DI-5B47J-03	J	0°C to +500°C (+32°F to +932°F)
DI-5B47J-12	J	-100°C to +760°C (-148°F to +1400°F)
DI-5B47K-04	K	0°C to +1000°C (+32°F to +1832°F)
DI-5B47K-05	K	0°C to +500°C (+32°F to +932°F)
DI-5B47K-13	K	-100°C to +1350°C (-148°F to +2462°F)
DI-5B47K-14	K	0°C to +1200°C (+32°F to +2192°F)
DI-5B47T-06	T	-100°C to +400°C (-148°F to +752°F)
DI-5B47T-07	T	0°C to +200°C (+32°F to +392°F)
DI-5B47E-08	E	0°C to +1000°C (+32°F to +1832°F)
DI-5B47R-09	R	+500°C to +1750°C (+932°F to +3182°F)
DI-5B47S-10	S	+500°C to +1750°C (+932°F to +3182°F)
DI-5B47B-11	B	+500°C to +1800°C (+932°F to +3272°F)
DI-5B47N-15	N	-100°C to +1300°C (-148°F to +2372°F)

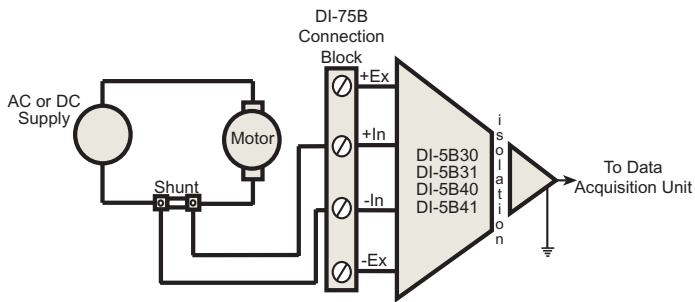
  

ICP-style Piezoelectric Transducers		
MODEL NO.	Input Range	Output Range
DI-5B1CP-Peak	±5V	±5V
DI-5B1CP-RMS	±5V	0 to 3.535V

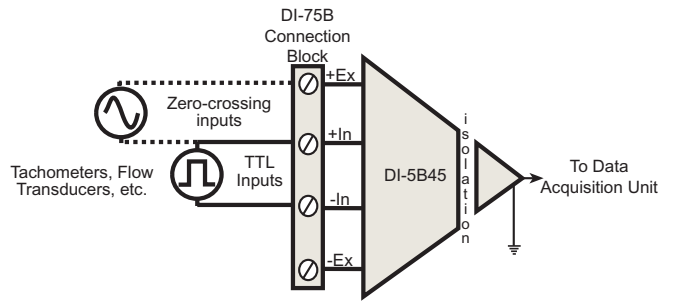
  

Accelerometer Input Module			
MODEL NO.	Input Range	Output Range	Bandwidth
DI-5B48-01	±10V max	±10V	2.5kHz to 20kHz

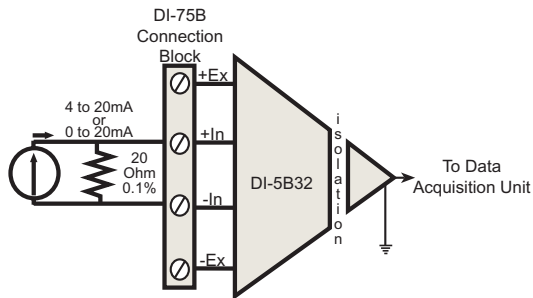
## AC or DC Current Shunt:



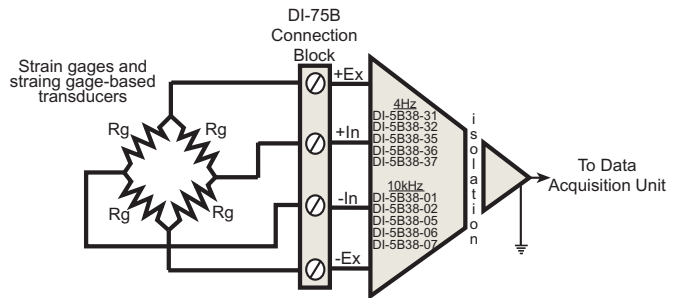
## Frequency:



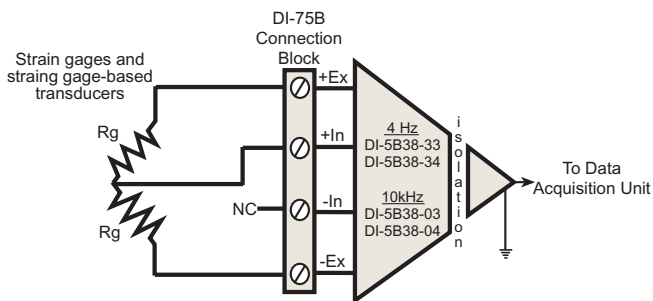
## Process Current:



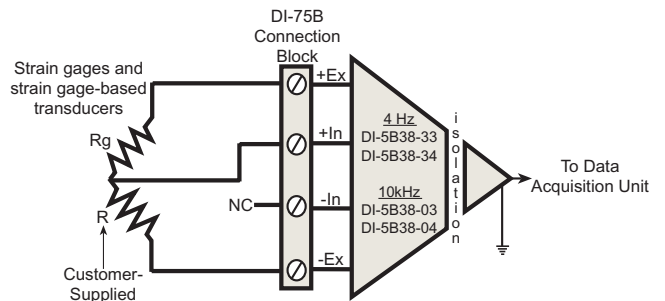
## Full-Bridge Strain Gage:



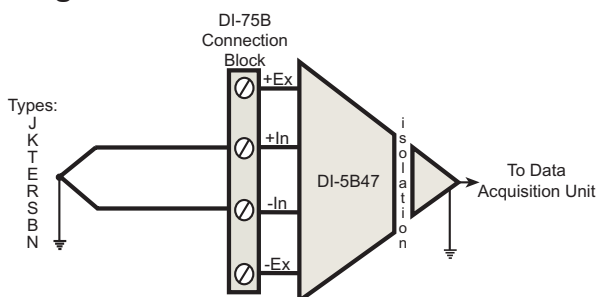
## Half-Bridge Strain Gage:



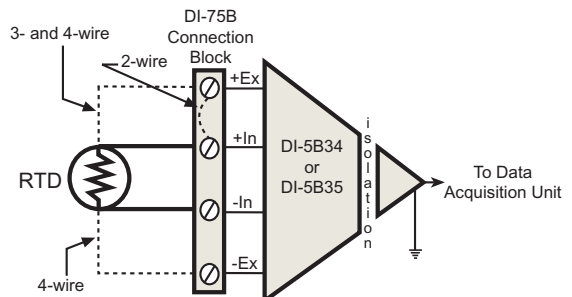
## Quarter-Bridge Strain Gage:



## Floating Grounded TC:



## RTD:



# DI-75B 5B Module Channel Expander

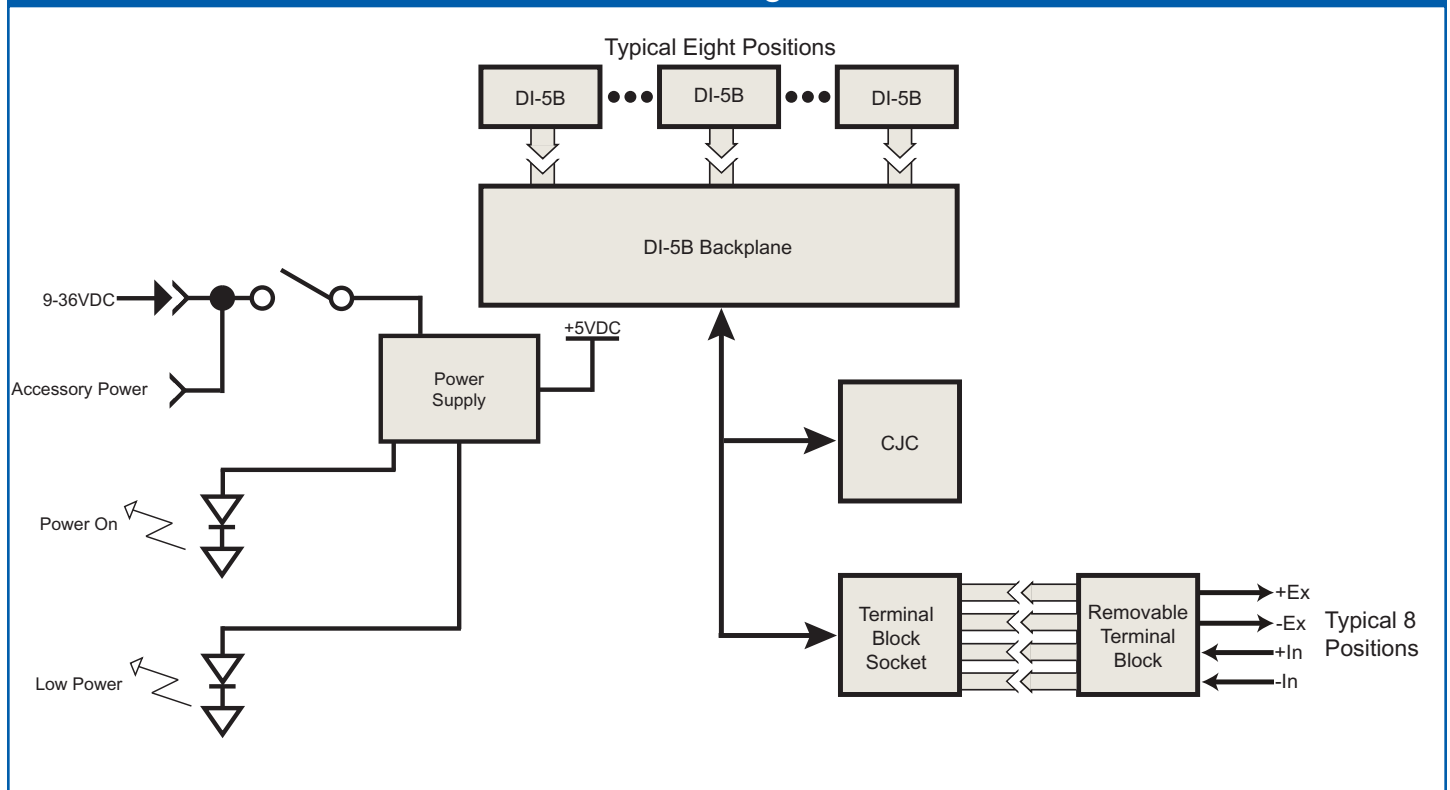
## Specifications

<b>Size:</b>	9"L × 7.29"W × 2.7"H	<b>Signal Connections:</b>	4 screw terminals per channel (Channel +, Channel -, Excitation +, Excitation -). Accepts AWG 16-22 wire
<b>Power Requirements:</b>	9-36VDC @ 3A max	<b>Power Consumption:</b>	1.2 watts plus DI-5B module
<b>Operating temperature:</b>	0 to 70°C		

## Accessories

Accessory	Description
<b>Stacking Brackets (100671) and Handles (100690)</b>	A pair of stacking brackets (included) allow the DI-75B and its host DI-720 or DI-730 instrument to be stacked and fastened together on each side to form one rigid, monolithic unit. Both sides of all DI-720 and DI-730 instruments are fitted with PEM® brand fasteners, which act as mounting holes for the stacking brackets. Screws provided with the brackets are easily installed with a screwdriver. An optional handle (sold separately) may be mounted directly to either or both stacking brackets (screws are included) to facilitate carrying or mounting the unit.

## Block Diagram



## Ordering Guide

Description	Order Number	Description	Order Number
<b>DI-75B for DI-720/730 Instruments</b> 8-channel signal conditioned input expander for DI-720 Series, DI-722 Series, and DI-730 Series instruments. Includes interconnecting cable, power cables, and stacking brackets.	DI-75B	<b>Stacking Brackets</b> Pair of stacking brackets with mounting hardware.	100671
		<b>Handle</b> One Stainless steel handle with mounting hardware. Mounts directly onto the stacking brackets.	100690



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