

Direct Interface to Thermocouples, RTDs, Strain Gages, Voltage, and Process Current Signals

Rugged, Compact, Low-Cost

High Accuracy, Low Drift

Input-to-Output Isolation

Mix-and-Match Modules as Needed

Smallest Signal Conditioning Module (1.105" × 1.65" × 0.40")

The DI-8B Series is a family of low-cost, high performance plug-in signal conditioners. With over 90 modules to choose from that interface to a wide variety of voltage, current, temperature, position, frequency, and strain measuring devices, it is easy to find a module to fit your signal conditioning data acquisition needs. One-fifth the size of competing products, DI-8B modules offer fully functional performance with superior specifications such as $\pm 0.05\%$ accuracy, $\pm 0.02\%$ linearity, three poles of filtering, 1000V Input-to-Output Isolation (when used with the DI-718B), 500V Channel-to-Channel Isolation (when used with the DI-718B), low output noise, and much more (see each module's datasheet for a complete list of specifications).



Seven DI-8B modules (four installed) shown with DI-718B Data Logger/Acquisition System and an SD memory card.

Features

Uniform Package

Each module is potted and identical in pinout and size (1.105" × 1.65" × 0.40").

High Performance

All modules feature $\pm 0.05\%$ calibrated accuracy, and $\pm 0.02\%$ non-linearity. Chopper based amplification assures a low drift of $\pm 1 \mu\text{V}/^\circ\text{C}$ and excellent long term stability.

Flexibility

The DI-8B Series can be easily tailored to the needs of many applications. These plug-in signal conditioners can be mixed and matched in any combination to adapt to even the most demanding applications. Each module features a simple pinout, plugs easily into instrument-mounted sockets, and is secured with a self-contained mounting screw.

Easy To Use

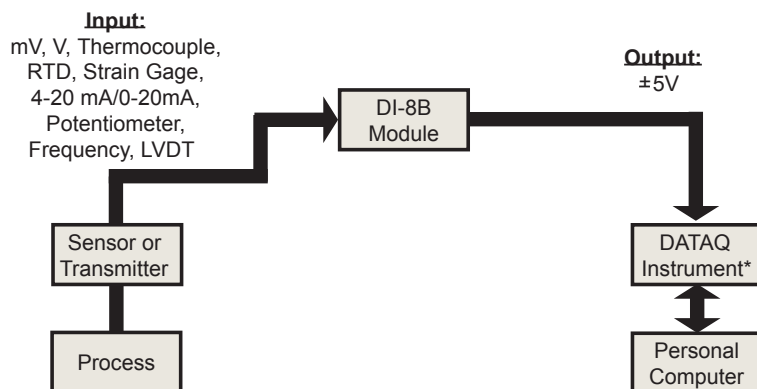
The DI-8B Series has no pots to adjust. Simply choose the module function and measurement range, install it in the instrument (the DI-718B), and then connect your input signals to the instrument. The instrument then becomes a direct sensor interface, providing a way to connect your input signals so the modules can output a perfectly conditioned, $\pm 5\text{V}$ signal (ideal for WINDAQ software).

On-board CJ Compensation

Each input connector of the DI-8B Series backplane is complemented by a cold junction compensation circuit, allowing the thermocouple modules to be located in any position.

Rugged Construction

All modules are hard-potted to protect the internal circuitry from moisture and other contaminants.



*DI-718B Series accepts DI-8B modules

Ordering Guide

Each DI-8B module is a single channel, isolated analog input designed for a specific measurement. 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.
- Small size 1.105" × 1.65" × 0.40".

Common Specifications

- 1000V Input-to-Output Isolation.
- 500V Channel-to-Channel Isolation.
- 240 VAC input protection.
- 160db common mode rejection.

Voltage Input Modules (3Hz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B30-01 | ±10mV |
| DI-8B30-02 | ±50mV |
| DI-8B30-03 | ±100mV |
| DI-8B31-01 | ±1V |
| DI-8B31-02 | ±5V |
| DI-8B31-03 | ±10V |
| DI-8B31-07 | ±20V |
| DI-8B31-09 | ±40V |
| DI-8B31-12 | ±60V |

Current Input Modules (3Hz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B32-01 | 4 to 20mA |
| DI-8B32-02 | 0 to 20mA |

Isolated True RMS Input Modules

| MODEL NO. | Input Range |
|------------|--------------|
| DI-8B33-01 | 0mV to 100mV |
| DI-8B33-02 | 0V to 1V |
| DI-8B33-03 | 0V to 10V |
| DI-8B33-04 | 0V to 150V |
| DI-8B33-05 | 0V to 300V |

Linearized 2- or 3-wire RTD Modules (3Hz BW)

| MODEL NO. | Type | Input Range |
|------------|---------|-------------------------------------|
| DI-8B34-01 | 100Ω Pt | -100°C to +100°C (-148°F to +212°F) |
| DI-8B34-02 | 100Ω Pt | 0°C to +100°C (+32°F to +212°F) |
| DI-8B34-03 | 100Ω Pt | 0°C to +200°C (+32°F to +392°F) |
| DI-8B34-04 | 100Ω Pt | 0°C to +600°C (+32°F to +1112°F) |

Linearized 4-wire RTD Modules (1kHz BW)

| MODEL NO. | Type | Input Range |
|------------|---------|-------------------------------------|
| DI-8B35-01 | 100Ω Pt | -100°C to +100°C (-148°F to +212°F) |
| DI-8B35-02 | 100Ω Pt | 0°C to +100°C (+32°F to +212°F) |
| DI-8B35-03 | 100Ω Pt | 0°C to +200°C (+32°F to +392°F) |
| DI-8B35-04 | 100Ω Pt | 0°C to +600°C (+32°F to +1112°F) |

Potentiometer Input Modules (3Hz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B36-01 | 0 to 100Ω |
| DI-8B36-02 | 0 to 500Ω |
| DI-8B36-03 | 0 to 1kΩ |
| DI-8B36-04 | 0 to 10kΩ |

Strain Gage Input Modules

| MODEL NO. | Type | Bandwidth | Input Range |
|------------|------|-----------|-------------------------|
| DI-8B38-01 | Full | 8kHz | ±10mV, 3mV/V 100 to 10k |
| DI-8B38-02 | Full | 8kHz | ±30mV, 3mV/V 300 to 10k |
| DI-8B38-05 | Full | 8kHz | ±20mV, 2mV/V 300 to 10k |
| DI-8B38-31 | Full | 3Hz | ±10mV, 3mV/V 100 to 10k |
| DI-8B38-32 | Full | 3Hz | ±30mV, 3mV/V 300 to 10k |
| DI-8B38-35 | Full | 3Hz | ±20mV, 2mV/V 300 to 10k |

Voltage Input Modules (1kHz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B40-01 | ±10mV |
| DI-8B40-02 | ±50mV |
| DI-8B40-03 | ±100mV |
| DI-8B41-01 | ±1V |
| DI-8B41-02 | ±5V |
| DI-8B41-03 | ±10V |
| DI-8B41-07 | ±20V |
| DI-8B41-09 | ±40V |
| DI-8B41-12 | ±60V |

Current Input Modules (3Hz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B42-01 | 4 to 20mA |
| DI-8B42-02 | 4 to 20mA |

Frequency Input Modules (3Hz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B45-01 | 0 to 500Hz |
| DI-8B45-02 | 0 to 1kHz |
| DI-8B45-03 | 0 to 3kHz |
| DI-8B45-04 | 0 to 5kHz |
| DI-8B45-05 | 0 to 10kHz |
| DI-8B45-06 | 0 to 25kHz |
| DI-8B45-07 | 0 to 50kHz |
| DI-8B45-08 | 0 to 100kHz |

Linearized Thermocouple Input Modules (3Hz BW)

| MODEL NO. | Type | Input Range |
|-------------|------|---------------------------------------|
| DI-8B47J-01 | J | 0°C to +760°C (+32°F to +1400°F) |
| DI-8B47J-02 | J | -100°C to +300°C (-148°F to +572°F) |
| DI-8B47J-03 | J | 0°C to +500°C (+32°F to +932°F) |
| DI-8B47J-12 | J | -100°C to +760°C (-148°F to +1400°F) |
| DI-8B47K-04 | K | 0°C to +1000°C (+32°F to +1832°F) |
| DI-8B47K-05 | K | 0°C to +500°C (+32°F to +932°F) |
| DI-8B47K-13 | K | -100°C to +1350°C (-148°F to +2462°F) |
| DI-8B47K-14 | K | 0°C to +1200°C (+32°F to +2192°F) |
| DI-8B47T-06 | T | -100°C to +400°C (-148°F to +752°F) |
| DI-8B47T-07 | T | 0°C to +200°C (+32°F to +392°F) |

Voltage Input Modules (20kHz BW)

| MODEL NO. | Input Range |
|------------|-------------|
| DI-8B50-01 | ±20mV |
| DI-8B50-02 | ±50mV |
| DI-8B50-03 | ±100mV |
| DI-8B51-01 | ±1V |
| DI-8B51-02 | ±5V |
| DI-8B51-03 | ±10V |
| DI-8B51-07 | ±20V |
| DI-8B51-09 | ±40V |
| DI-8B51-12 | ±60V |



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