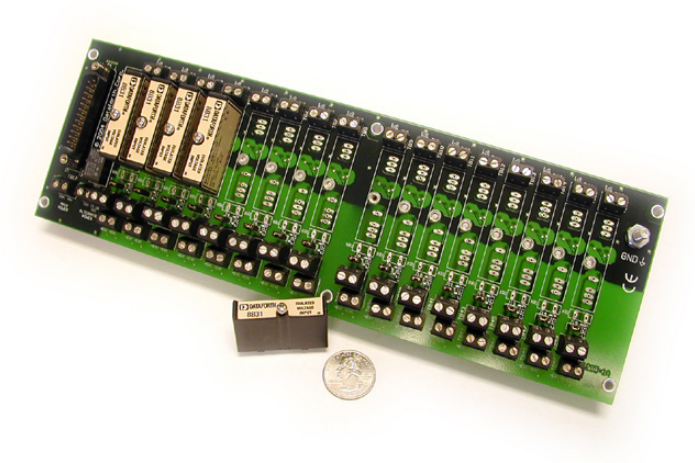
8B

SensorLex® 8B Isolated Analog Signal Conditioners



8B Modules

Dataforth's SensorLex® 8B line of isolated analog signal conditioners includes 20 family groups with a total of 135 models that interface to a wide variety of voltage, current, temperature, position, frequency, and strain measuring devices. Housed in a package only one-fifth the size of competing products, the 8B modules offer fully functional *Instrument Class*® performance with superior specifications such as ±0.05% accuracy, ±0.02% linearity, 5-pole filtering, 1500Vrms isolation, low output noise and much more.

Custom Signal Conditioning

Custom modules are available: consult factory for minimum quantity and pricing details on custom input ranges, output ranges, bandwidth, and other key parameters.

FEATURES

- ±0.05% Accuracy (typ)
- ±0.02% Linearity
- 1500Vrms Transformer Isolation and up to 240Vrms Field-side Protection
- ANSI/IEEE C37.90.1 Transient Protection
- 5V Power (30mA typ)
- 5-Pole Low-pass Filtering
- Up to 120dB CMR
- 70dB NMR at 60Hz
- –40°C to +85°C Operating Temperature
- UL/cUL Listed (Class I, Division 2, Groups A, B, C, D)
- CE Compliant
- ATEX Compliance Pending
- Manufactured per RoHS III Directive 2015/863

BENEFITS

- Protects User Equipment from Lightning and Industrial Equipment Power-line Voltage
- Reduces Electrical Noise in Measured Signals
- Convenient System Expansion and Repair
- Hot Swappable
- Calibration traceable to NIST standards
- Smallest Package Size Available
- Custom Modules Available

APPLICATIONS

- Designed for Embedded Applications
  - PC/104 Embedded Solutions
  - Compact PCI Systems
  - VMEbus Systems
  - PXI Systems
- Designed for Industrial Plant Environments
- High-vibration Environments

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8B Selection Guide

‡THERMOCOUPLE ALLOY COMBINATIONS
STANDARDS: DIN IEC 584, ANSI MC96-1-82, JIS C 1602-1981

Type	Material
J	Iron vs. Copper-Nickel
K	Nickel-Chromium vs. Nickel-Aluminum
T	Copper vs. Copper-Nickel
E	Nickel-Chromium vs. Copper-Nickel
R	Platinum-13% Rhodium vs. Platinum
S	Platinum-10% Rhodium vs. Platinum
B	Platinum-30% Rhodium vs. Platinum-6% Rhodium
C	Tungsten-5% Rhenium vs. Tungsten-26% Rhenium
N	Nickel-14.2% Chromium-1.4% Silicon vs. Nickel-4.4% Silicon- 0.1% Magnesium

****RTD STANDARDS**

Type	Alpha Coefficient	DIN	JIS	IEC
100Ω Pt 120Ω Ni	0.00385 0.00672	DIN 43760	JIS C 1604-1989	IEC 751

VOLTAGE INPUT MODULES, 3Hz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B30-01	±10mV	±5V
8B30-02	±50mV	±5V
8B30-03	±100mV	±5V
8B30-04	±10mV	0 to +5V
8B30-05	±50mV	0 to +5V
8B30-06	±100mV	0 to +5V
8B31-01	±1V	±5V
8B31-02	±5V	±5V
8B31-03	±10V	±5V
8B31-04	±1V	0 to +5V
8B31-05	±5V	0 to +5V
8B31-06	±10V	0 to +5V
8B31-07	±20V	±5V
8B31-08	±20V	0 to +5V
8B31-09	±40V	±5V
8B31-10	±40V	0 to +5V
8B31-12	±60V	±5V
8B31-1	±60V	0 to +5V

CURRENT INPUT MODULES, 3Hz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B32-01	4-20mA	0 to +5V
8B32-02	0-20mA	0 to +5V

ISOLATED TRUE RMS INPUT MODULES

MODEL	INPUT RANGE	OUTPUT RANGE
8B33-01	0 to +100mV	0 to +5V
8B33-02	0 to +1V	0 to +5V
8B33-03	0 to +10V	0 to +5V
8B33-04	0 to +150V	0 to +5V
8B33-05	0 to +300V	0 to +5V
8B33-06	0 to +1A	0 to +5V

LINEARIZED 2- OR 3-WIRE RTD MODULES, 0 to +5V OUTPUT, 3Hz BW

MODEL	TYPE	INPUT RANGE
8B34-01	100Ω Pt	–100°C to +100°C (–148°F to +212°F)
8B34-02	100Ω Pt	0°C to +100°C (+32°F to +212°F)
8B34-03	100Ω Pt	0°C to +200°C (+32°F to +392°F)
8B34-04	100Ω Pt	0°C to +600°C (+32°F to +1112°F)

LINEARIZED 4-WIRE RTD MODULES, 0 to +5V OUTPUT, 3Hz BW

MODEL	TYPE	INPUT RANGE
8B35-01	100Ω Pt	–100°C to +100°C (–148°F to +212°F)
8B35-02	100Ω Pt	0°C to +100°C (+32°F to +212°F)
8B35-03	100Ω Pt	0°C to +200°C (+32°F to +392°F)
8B35-04	100Ω Pt	0°C to +600°C (+32°F to +1112°F)

POTENTIOMETER-INPUT MODULES, 0 to +5V OUTPUT, 3Hz BW

MODEL	INPUT RANGE	OUTPUT RANGE
8B36-01	0 to 100Ω	0 to +5V
8B36-02	0 to 500Ω	0 to +5V
8B36-03	0 to 1kΩ	0 to +5V
8B36-04	0 to 10kΩ	0 to +5V

THERMOCOUPLE-INPUT MODULES, 0 to +5V OUTPUT, 3Hz BW

MODEL	TYPE	INPUT RANGE
8B37	J	–100°C to +760°C (–148°F to +1400°F)
8B37	K	–100°C to +1350°C (–148°F to +2462°F)
8B37	T	–100°C to +400°C (–148°F to +752°F)
8B37	R	0°C to +1750°C (+32°F to +3182°F)
8B37	S	0°C to +1750°C (+32°F to +3182°F)

STRAIN GAUGE INPUT MODULES

MODEL	INPUT RANGE	EXCITATION VOLTAGE	SENS	OUTPUT RANGE	BW
8B38-01	±10mV	+3.333V	3mV/V	±5V	8kHz
8B38-02	±30mV	+10.0V	3mV/V	±5V	8kHz
8B38-05	±20mV	+10.0V	2mV/V	±5V	8kHz
8B38-06	±10mV	+3.333V	3mV/V	0 to +5V	8kHz
8B38-07	±30mV	+10.0V	3mV/V	0 to +5V	8kHz
8B38-08	±20mV	+10.0V	2mV/V	0 to +5V	8kHz
8B38-31	±10mV	+3.333V	3mV/V	±5V	3Hz
8B38-32	±30mV	+10.0V	3mV/V	±5V	3Hz
8B38-35	±20mV	+10.0V	2mV/V	±5V	3Hz
8B38-36	±10mV	+3.333V	3mV/V	0 to +5V	3Hz
8B38-37	±30mV	+10.0V	3mV/V	0 to +5V	3Hz
8B38-38	±20mV	+10.0V	2mV/V	0 to +5V	3Hz

CURRENT OUTPUT MODULES, 100Hz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B39-01	0 to +5V	4-20mA
8B39-02	±5V	4-20mA
8B39-03	0 to +5V	0-20mA
8B39-04	±5V	0-20mA
8B39-07	±5V	±20mA

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8B Selection Guide (Continued)

VOLTAGE INPUT MODULES, 1kHz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B40-01	±10mV	±5V
8B40-02	±50mV	±5V
8B40-03	±100mV	±5V
8B40-04	±10mV	0 to +5V
8B40-05	±50mV	0 to +5V
8B40-06	±100mV	0 to +5V
8B41-01	±1V	±5V
8B41-02	±5V	±5V
8B41-03	±10V	±5V
8B41-04	±1V	0 to +5V
8B41-05	±5V	0 to +5V
8B41-06	±10V	0 to +5V
8B41-07	±20V	±5V
8B41-08	±20V	0 to +5V
8B41-09	±40V	±5V
8B41-10	±40V	0 to +5V
8B41-12	±60V	±5V
8B41-13	±60V	0 to +5V

2-WIRE TRANSMITTER INTERFACE MODULES

MODEL	INPUT RANGE	OUTPUT RANGE
8B42-01	4-20mA	0 to +5V
8B42-02	4-20mA	+1 to +5V

DC LVDT INPUT MODULES, 1kHz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B43-01	±1V	±5V
8B43-02	±2V	±5V
8B43-03	±3V	±5V
8B43-04	±4V	±5V
8B43-05	±5V	±5V
8B43-11	±1V	0 to +5V
8B43-12	±2V	0 to +5V
8B43-13	±3V	0 to +5V
8B43-14	±4V	0 to +5V
8B43-15	±5V	0 to +5V

FREQUENCY INPUT MODULES

MODEL	INPUT RANGE	OUTPUT RANGE
8B45-01	0 to 500Hz	0 to +5V
8B45-02	0 to 1kHz	0 to +5V
8B45-03	0 to 2.5kHz	0 to +5V
8B45-04	0 to 5kHz	0 to +5V
8B45-05	0 to 10kHz	0 to +5V
8B45-06	0 to 25kHz	0 to +5V
8B45-07	0 to 50kHz	0 to +5V
8B45-08	0 to 100kHz	0 to +5V

LINEARIZED THERMOCOUPLE-INPUT MODULES, 0 to +5V OUTPUT, 3Hz BW

MODEL	TYPE	INPUT RANGE
8B47J-01	J	0°C to +760°C (+32°F to +1400°F)
8B47J-02	J	–100°C to +300°C (–148°F to +572°F)
8B47J-03	J	0°C to +500°C (+32°F to +932°F)
8B47J-12	J	–100°C to +760°C (–148°F to +1400°F)
8B47K-04	K	0°C to +1000°C (+32°F to +1832°F)
8B47K-05	K	0°C to +500°C (+32°F to +932°F)
8B47K-13	K	–100°C to +1350°C (–148°F to +2462°F)
8B47K-14	K	0°C to +1200°C (+32°F to +2192°F)
8B47T-06	T	–100°C to +400°C (–148°F to +752°F)
8B47T-07	T	0°C to +200°C (+32°F to +392°F)

VOLTAGE OUTPUT MODULES, 100Hz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B49-01	0 to +5V	±5V
8B49-02	±5V	±5V
8B49-03	±5V	0 to +5V
8B49-04	0 to +10V	±10V
8B49-05	±10V	±10V
8B49-06	±10V	0 to +10V
8B49-07	±5V	±10V

VOLTAGE INPUT MODULES, 20kHz BANDWIDTH

MODEL	INPUT RANGE	OUTPUT RANGE
8B50-01	±20mV	±5V
8B50-02	±50mV	±5V
8B50-03	±100mV	±5V
8B50-04	±20mV	0 to +5V
8B50-05	±50mV	0 to +5V
8B50-06	±100mV	0 to +5V
8B51-01	±1V	±5V
8B51-02	±5V	±5V
8B51-03	±10V	±5V
8B51-04	±1V	0 to +5V
8B51-05	±5V	0 to +5V
8B51-06	±10V	0 to +5V
8B51-07	±20V	±5V
8B51-08	±20V	0 to +5V
8B51-09	±40V	±5V
8B51-10	±40V	0 to +5V
8B51-12	±60V	±5V
8B51-13	±60V	0 to +5V

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8B Selection Guide (Continued)

ACCESSORIES

MODEL	DESCRIPTION
8BP01	Single Channel DIN-rail Mount Carrier
8BP02	Standard 2-channel Backpanel
8BP02-1	8BP02 without Cold Junction Compensation Sensor
8BP02-2	8BP02 with DIN-rail Mounting Option
8BP02-3	8BP02-1 with DIN-rail Mounting Option
8BP04	Standard 4-channel Backpanel
8BP04-1	8BP04 without Cold Junction Compensation Sensor
8BP04-2	8BP04 with DIN-rail Mounting Option
8BP04-3	8BP04-1 with DIN-rail Mounting Option
8BP08	Standard 8-channel Backpanel
8BP08-1	8BP08 without Cold Junction Compensation Sensor
8BP08-2	8BP08 with DIN-rail Mounting Option
8BP08-3	8BP08-1 with DIN-rail Mounting Option
8BP16	Standard 16-channel Backpanel
8BP16-1	8BP16 without Cold Junction Compensation Sensor
8BP16-2	8BP16 with DIN-rail Mounting Option
8BP16-3	8BP16-1 with DIN-rail Mounting Option
8BPWR-2	Power Supply Module
SCMXPRT-001	Power Supply, 1A, 5VDC, 120VAC
SCMXPRE-001	Power Supply, 1A, 5VDC, 220VAC
SCMXPRT-003	Power Supply, 3A, 5VDC, 120VAC
SCMXPRE-003	Power Supply, 3A, 5VDC, 220VAC
PWR-4505	Power Supply, 5A, 5VDC, 85-264VAC
SCMXCA006-xx	System Interface Cable for Backpanels
8BXIF	DB25 to Screw Terminal Interface Board
8BXCJC	Cold Junction Compensation Sensor
8BPT	Non-isolated Signal Pass thru Module
8B-PROTO	Breadboard Kit
SCMXRK-002	19-inch Metal Rack for Mounting Backpanels
SCMXRAIL1-XX	DIN EN50022-35x7.5 (slotted steel), Length -XX in Meters
SCMXRAIL2-XX	DIN EN50035-G32 (slotted steel), Length -XX in Meters
SCMXRAIL3-XX	DIN EN50022-35x15 (slotted steel), Length -XX in Meters

‡THERMOCOUPLE ALLOY COMBINATIONS

STANDARDS: DIN IEC 584, ANSI MC96-1-82, JIS C 1602-1981

Type	Material
J	Iron vs. Copper-Nickel
K	Nickel-Chromium vs. Nickel-Aluminum
T	Copper vs. Copper-Nickel
E	Nickel-Chromium vs. Copper-Nickel
R	Platinum-13% Rhodium vs. Platinum
S	Platinum-10% Rhodium vs. Platinum
B	Platinum-30% Rhodium vs. Platinum-6% Rhodium
C	Tungsten-5% Rhenium vs. Tungsten-26% Rhenium
N	Nickel-14.2% Chromium-1.4% Silicon vs. Nickel-4.4% Silicon- 0.1% Magnesium

****RTD STANDARDS**

Type	Alpha Coefficient	DIN	JIS	IEC
100Ω Pt 120Ω Ni	0.00385 0.00672	DIN 43760	JIS C 1604-1989	IEC 751

Installation Notes

1) This Equipment is Suitable for Use in Class I, Division 2, Groups A, B,C, D, or Non-hazardous Locations Only.
2) WARNING - Explosion Hazard - Substitution of Any Components May Impair Suitability for Class I, Division 2.
3) WARNING - Explosion Hazard - Do Not Disconnect Equipment Unless Power Has Been Switched Off or the Area is Known to be Non-hazardous.

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