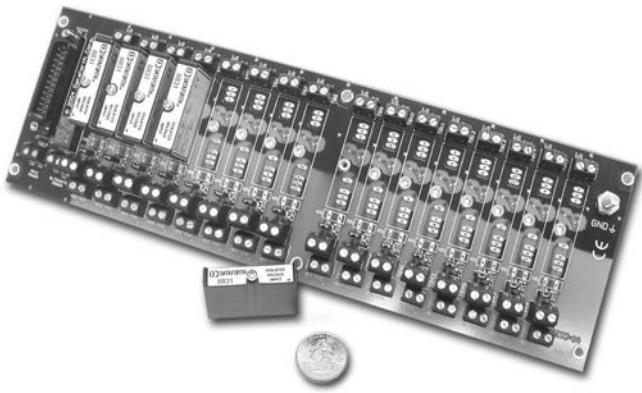


8B

SensorLex® 8B Isolated Analog Signal Conditioners



Features

- ±0.05% Accuracy (Typical)
- ±0.02% Linearity
- 1500Vrms Transformer Isolation & up to 240Vrms Field-side Protection
- ANSI/IEEE C37.90.1 Transient Protection
- 5V Power (30mA Typical)
- 5-Pole Low-Pass Filtering
- Up to 120dB CMR
- 70dB NMR at 60Hz
- -40°C to +85°C Operating Temperature
- C-UL-US Listed (Class I, Division 2, Groups A, B, C, D)
- CE Compliant
- ATEX Compliance Pending
- Manufactured per RoHS II Directive 2011/65/EU

Applications

- Designed for Embedded Applications
 - PC/104 Embedded Solutions
 - Compact PCI Systems
 - VMEbus Systems
 - PXI Systems
- Protects User Equipment from Lightning and Industrial Equipment Power-Line Voltage
- Reduces Electrical Noise in Measured Signals
- Convenient System Expansion and Repair

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 offers 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.

8B Selection Guide
VOLTAGE INPUT MODULES, 3Hz BANDWIDTH Page 104

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
8B31-13	±60V	0 to +5V

CURRENT INPUT MODULES, 3Hz BANDWIDTH Page 106

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

ISOLATED TRUE RMS INPUT MODULES Page 108

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) Page 110

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) Page 112

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) Page 114

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) Page 116

MODEL	TYPE	INPUT RANGE
8B37J	J	-100°C to +760°C (-148°F to +1400°F)
8B37K	K	-100°C to +1350°C (-148°F to +2462°F)
8B37T	T	-100°C to +400°C (-148°F to +752°F)
8B37R	R	0°C to +1750°C (+32°F to +3182°F)
8B37S	S	0°C to +1750°C (+32°F to +3182°F)

STRAIN GAGE INPUT MODULES Page 118

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 Page 120

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

VOLTAGE INPUT MODULES, 1kHz BANDWIDTH Page 122

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

8B Selection Guide (Continued)
2-WIRE TRANSMITTER INTERFACE MODULES Page 124

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

DC LVDT INPUT MODULES, 1kHz BANDWIDTH Page 126

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 Page 128

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) Page 130

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 Page 132

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 Page 134

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

8B Selection Guide (Continued)

ACCESSORIES Starts on Page 137

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
SCMXPRT-001	Power supply, 1A, 5VDC, 220VAC
SCMXPRT-003	Power supply, 3A, 5VDC, 120VAC
SCMXPRT-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
R	Platinum-13% Rhodium vs. Platinum
S	Platinum-10% Rhodium vs. Platinum

****RTD STANDARDS**

TYPE	ALPHA COEFFICIENT	DIN	JIS	IEC
100Ω PT	0.00385	DIN 43760	JIS C 1604-1989	IEC 751
120Ω NI	0.00672			

8B
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.