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In-Line Strain Gage Signal Conditioner

Easily Connects Strain Gage Load Cells to Data Acquisition and Process Control Instrumentation

- Operates from 12 to 24 VDC Power
- Provides Necessary Strain Gage Bridge Excitation
- Adjustable Zero and Span
- Delivers ± 5 Volts and 4 to 20 mA Output Signals
- Small Size

Series 8160
In-Line Strain Gage Signal Conditioner

The **Series 8160** is designed for use with strain gage load cells and reaction torque sensors. The unit provides the necessary, regulated, strain gage excitation voltage and delivers both voltage and current mode output signals for recording, control, or analysis purposes. Zero and span adjustments are achieved via screwdriver adjustable potentiometers. The in-line design makes it a convenient choice for use with PLCs and computer based data acquisition systems.

As with all PCB® instrumentation, this equipment is complemented with toll-free applications assistance, 24-hour customer service, and is backed by a no-risk policy that guarantees satisfaction or your money refunded.

PCB PIEZOTRONICS INC.
FORCE / TORQUE DIVISION

Total Customer Satisfaction Guaranteed

Specifications

Performance		
Channels	1	
Frequency Response (factory setting)	0 to 1000 Hz	(1)
Frequency Response (optional setting)	0 to 100 Hz	(1)
Span Adjustment (min)	± 10% FS output	(2)
Zero Adjustment	± 30% FS output	(2)
Input Sensitivity	2 or 3 mV/V	(3)
Input Type	Bipolar, fully differential	
Output Signal (voltage)	± 5 Volts	(4)
Output Signal (current)	4 to 20 mA	(5)
Non-Linearity	0.015% FS	
Environmental		
Temperature Range (operating)	+32 to +158 °F (0 to +70 °C)	
Electrical		
Excitation Voltage (delivered to sensor)	5 or 10 VDC	(3)
Power Required	12 to 24 VDC @ 60 mA max.	(6)
Physical		
Electrical Connector (sensor)	9-pin D-sub female	
Electrical Connector (power and outputs)	9-pin D-sub male	
Dimensions (d x w x h)	3.12 x 1.68 x 0.83 in (79.2 x 42.7 x 21.0 mm)	

Notes:
(1) Upper frequency limited by selectable, internal, 2-pole Butterworth active filter
(2) Via external, screwdriver-adjustable potentiometer
(3) Jumper selectable
(4) At 2 or 3 mV/V input sensitivity
(5) At 0 to 2 or 0 to 3 mV/V input sensitivity
(6) With 350 ohm bridge resistance

Accessories (order separately)

Load Cell Cable Assemblies

Model	Description
8311-15-XXA	Sensor cable, 9-pin D-sub male to PT02E , specify "XX" length in feet.
8314-20-XXA	Output cable, 9-pin D-sub female to pigtails, specify "XX" length in feet.

How to order

Base Model

8160– In-Line Strain Gage Signal Conditioner

Calibrated Output Signal

0 Voltage
1 Current

Bridge Excitation (internal jumper selectable)

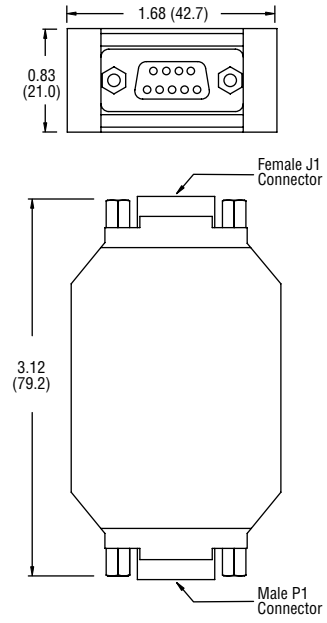
1 10 VDC
5 5 VDC

Version Code

A Initial Release

Example

8160– 0 1 A Strain gage signal conditioner with ± 5 Volts and 4 to 20 mA output signals, 10 VDC bridge excitation, and calibrated in voltage.



Series 8160
Dimensions shown are in inches (millimeters)

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FTQ-8160-1104 Printed in U.S.A.

The Force/Torque Division of PCB® Piezotronics, Inc. specializes in the development, application, and support of piezoelectric and strain gage force sensors, load cells, strain sensors, and torque sensors for a wide range of research, test, measurement, monitoring, and control requirements. This product focus, coupled with the strengths and resources of PCB, permits the Force/Torque Division to offer exceptional customer service, 24-hour technical assistance, and a **Total Customer Satisfaction** guarantee.

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