

# Strain Gage Signal Conditioner

For Strain Gage Load Cells and Reaction Torque Sensors

- Operates from 12 to 28 VDC Power
- Delivers  $\pm 5$  or  $\pm 10$  VDC & 4 to 20 mA Output Signals
- Wide Strain Gage Input Range, from 0.5 to 11 mV/V
- Built-in, Switch-actuated, Unipolar Shunt Calibration
- Waterproof (NEMA 4X) Enclosure
- Screw Terminal Connections



**Series 8162**  
Strain Gage Signal Conditioner

Series 8162 Strain Gage Signal Conditioners provide conditioned, amplified analog voltage and current output for strain gage based sensors such as load cells and reaction torque sensors. The units operate from 12 to 28 VDC power, and deliver  $\pm 5$  or  $\pm 10$  VDC and 4 to 20 mA output signals for recording, control, and analysis purposes.

These economical signal conditioners provide a wide strain gage input range from 0.5 to 11 mV/V, and are housed in fire-resistant, waterproof NEMA 4X (IP66) enclosures. Standard features include an integral shunt calibration switch with an internal resistor, a two-pole active filter with 100 Hz cut-off, and watertight compression fittings for easy installation.

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.



## Specifications

Series		8162	
Performance		English	SI
Input Signal	(sensor sensitivity)	0.5 to 11 mV/V	0.5 to 11 mV/V
Output Signal <sup>[1]</sup>	(voltage)	± 5 VDC or ± 10 VDC	± 5 VDC or ± 10 VDC
	(current)	4 to 20 mA	4 to 20 mA
Frequency Range <sup>[2]</sup>		0 to 1000 Hz	0 to 1000 Hz
Electrical Filter Cutoff Frequency <sup>[2]</sup>		100 Hz	100 Hz
Environmental			
Temperature Range		+32 to +158 °F	0 to +70 °C
Enclosure Rating		NEMA 4X	IP66
Electrical			
Excitation Voltage <sup>[1]</sup>	(delivered to sensor)	5 or 10 VDC	5 or 10 VDC
Excitation Current	(delivered to sensor)	60 mA	60 mA
Power Required		12 to 28 VDC	12 to 28 VDC
Offset Voltage	(at minimum gain)	± 50% of FS	± 50% of FS
	(at maximum gain)	± 70% of FS	± 70% of FS
Physical			
Electrical Connector	(input)	screw terminals	screw terminals
Electrical Connector	(output)	screw terminals	screw terminals
Size	(l x w x h)	2.3 x 3.7 x 2.6 in	5.8 x 9.4 x 6.6 cm
Notes			

[1] Internal jumper selectable

[2] Filtered via 2-pole active filter

Switch Positions for Input Signal Range Adjustment			
Sensitivity (mV/V) V <sub>exc</sub> = 5 VDC	Sensitivity (mV/V) V <sub>exc</sub> = 10 VDC	SW2 Settings	SW2 1 = SW "ON"
7.0 to 11.0	3.5 to 5.5	1 2 3 4	
4.6 to 7.0	2.3 to 3.5	0 0 1 0	
3.0 to 4.6	1.5 to 2.3	0 1 0 0	
2.0 to 3.0	1.0 to 1.5	1 0 0 0	
1.5 to 2.0	0.75 to 1.0	1 0 1 0	
1.0 to 1.5	0.50 to 0.75	1 1 0 1	
0.9 to 1.0	0.45 to 0.50	1 1 1 1	

### Accessories Also Available:



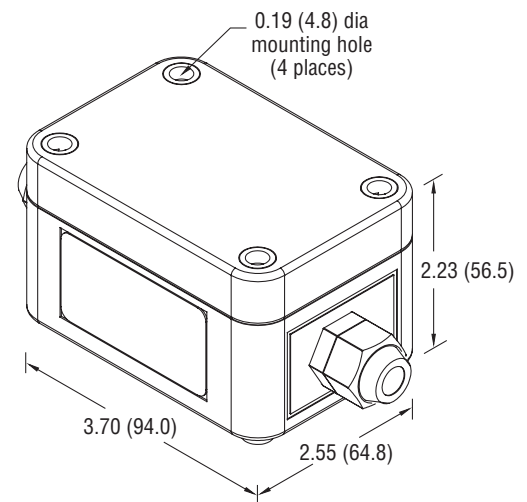
**Series 8315-01**  
Sensor Cable, PC Connector to Pigtails



**Series 8311-01**  
Sensor Cable, PT Connector to Pigtails

## How to order

Base Model	
<b>8162-</b>	Strain Gage Signal Conditioner
Calibrated Output Signal	
<b>0</b>	Voltage
<b>1</b>	Current
Output Signals (internal jumper selectable)	
<b>1</b>	± 10 VDC and 4 to 20 mA
<b>5</b>	± 5 VDC and 4 to 20 mA
Bridge Excitation (internal jumper selectable)	
<b>1</b>	10 VDC
<b>5</b>	5 VDC
Version Code	
<b>A</b>	Initial Release
Example	
<b>8162- 0 1 1 A</b>	Strain gage signal conditioner with ± 10 VDC and 4 to 20 mA output signals, 10 VDC bridge excitation, and calibrated in voltage.



**Series 8162**  
**Strain Gage Signal Conditioner**

Dimensions shown are in inches (millimeters)



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A2LA ACCREDITED to ISO 17025

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