

FEATURES

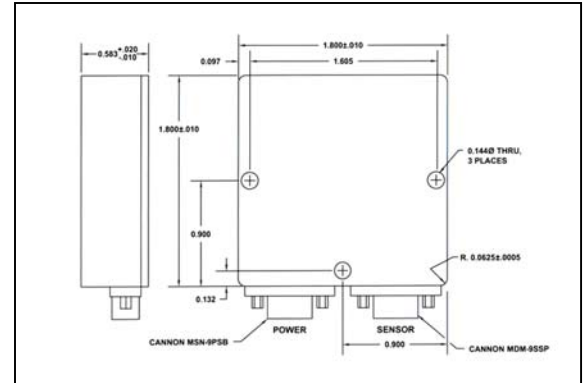
- Connects to Any Columbia Full Bridge Strain Sensor
- Strain & Temperature Outputs
- Wide Input Power Range
- ± 5 VDC Strain Signal Output
- Auto Zeroing Capability



The Columbia Model 5802 Military-Grade Strain Gage Amplifier is designed to amplify signals from Columbia's DT and DTD Series Full-Bridge Strain Sensors. The system will provide both strain and temperature outputs.

The strain output incorporates a microprocessor-driven auto zeroing circuit capable of compensating for input offsets of up to $\pm 3000 \mu\epsilon$ equivalent and will automatically drive the output to 0.00 VDC in the presence of input offset equivalent strains within that range. This feature allows the operator to correct for any strain offsets resulting from gage mounting, material fatigue or material deformation. Auto zeroing may be performed automatically on power-up, or on command by briefly grounding the auto zero function pin.

The temperature output is derived from a platinum RTD and provides a linearized output of 40 mV / Deg C from -40 Deg C (0.00 V) to $+85$ Deg C (5.00 V). The temperature output will remain within ± 3 degrees or ± 120 mV of the straight line passing thru these two points over its rated operating range.



Sensor Pin Functions	
1	Bridge Drive (+)
2	Bridge Output (+)
3	Bridge Output (-)
4	Bridge Drive (-)
5	Shield / Case Ground
8	Temperature Sensor
9	Temperature Sensor

Amplifier Pin Functions	
1	+DC Power Input
9	DC Power Ground
7	Strain Output
3	Temperature Output
5	Signal Ground
4	Auto Zero Select
8	Shield / Case Ground

Specifications

Power Required	+15 To +35 VDC (+28VDC Nominal)
DC Current Drain	25 mA Max.
Strain Signal Output	± 5.000 VDC 0.00VDC = 0 Micro Strains
	Standard : Output corresponding to $\pm 5000 \mu\epsilon$ Optional : Output corresponding to Specified Range ¹
Temperature Output	± 3 Degrees or ± 120 mV of straight line passing thru 0.0 VDC @ -40 Deg C and 5.00 VDC @ $+85$ Deg C
Temperature Scale Factor	40mV / Deg C
Output Protection	Over-Voltage and Over-Current Protection on Both Strain and Temperature Outputs
Measurement Accuracy (Strain)	$\pm 5\%$
Electronic Filtering	5-Pole Butterworth Filter with response set to -3 dB @ 2000 Hz ²

Fault Detection	The amplifier will provide fault detection on all four strain sensor lead wires with positive indication of any combination of broken or unconnected strain sensor lead wires. Faults will be indicated by an out-of-range output from the amplifier at the end of the auto-zeroing period. Open fault detection of the temperature probe is intrinsic.
Operating Temperature	-40 To $+85$ Deg C
Sensor Interface	Cannon MDM-9SSP Connector
Power Interface	Cannon MSN-9PSB Connector
Grounding	Case Isolated from Sig/Pwr Grounds
Case Seal	Epoxy
Mounting	(3) #6 Clearance Holes
Size	1.8" Square x 0.58" High
Weight	55 Grams Nom.

¹Specify Optional Strain Output Range as model number suffix (e.g. Model 5802-Range +/- xxxx Mic

²Custom models available with filtering of 1 to 5 poles, Butterworth response or Bessel response, with cutoff frequencies from 8 Hz to 2KHz (Consult Factory)