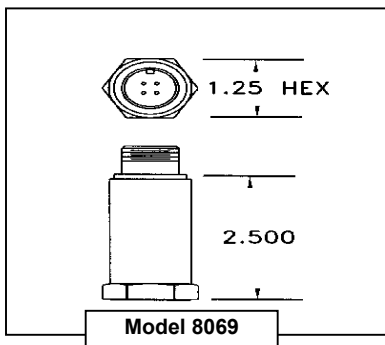
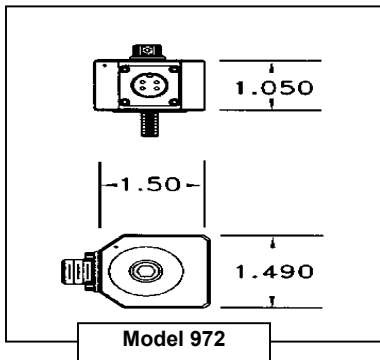


# Columbia Research Laboratories, Inc. **Vibration / Temperature Transmitters**

## Models 972 & 8069

- \*Monitor & Trend Bearing Performance
- \*(2) 4-20 mA Outputs
- \*Available in Three Ranges
- \*Electrically Isolated
- \*Reverse Polarity Protection
- \*Choice of Case Designs / Mounting Configurations



### Output Connector Pin Functions:

- Pin A Vibration Loop ( + )
- Pin B Vibration Loop ( - )
- Pin C Temperature Loop ( + )
- Pin D Temperature Loop ( - )

The Model 972 and 8069 Solid-State Loop-Powered Vibration and Temperature Sensors are specifically designed for industrial machinery monitoring. The sensors continuously measure both vibration and temperature—key machinery health parameters—and transmit the data directly into a PLC, providing level monitoring, alarm and machinery shutdown capabilities. Both sensors provide two isolated 4 to 20 mA outputs that are proportional to vibration and temperature.

The vibration output is expressed in velocity with standard factory set ranges of 0-1, 0-2, and 0-5 inches/second. Measurements can be made over a frequency range of from 2 to 2,000 Hz over an operating temperature range of -20 to +85 degrees C. The temperature sensor utilizes a precision compensated RTD calibrated from 0 to 100 degrees C.

Both sensors are case isolated and the outputs are accessible via a standard 4-pin connector. The Model 972 is mounted with an integral 1/4-28 socket head cap screw which allows the case to be rotated to any 360 degree position prior to lock down. The Model 8069 is mounted with a removable 1/4-28 mounting stud. *Consult the factory for customized versions of these sensors.*

### Specifications

	972-1	972-2	972-3
Vibration Output	8069-1	8069-2	8069-3
Response Characteristic	Velocity, Average-Responding		
Range	0 To 1 Inch / Second Peak	0 To 2 Inch / Second Peak	0 To 5 Inch / Second Peak
Accuracy	+/-3% @ 25 Deg C +/-5% Over Temperature		
Calibration	3.25 g Peak @ 200 Hz (1.00 Inch/Second)	6.50 g Peak @ 200 Hz (2.00 Inch/Second)	16.25 g Peak @ 200 Hz (5.00 Inch/Second)
Frequency Response	+/-0.5 dB, 5 Hz To 2KHz		
Output Ripple	<1% of Reading @ 2 Hz		
Output Rise / Fall Time	1 Second, 10% To 90%		

### Temperature

Sensor Type	100 Ohm PT RTD, Linearized
Operating Range	0 Deg C To 100 Deg C
Accuracy	+/-1.5 Deg C

### Electrical

Minimum Operating Voltage	10 VDC
Maximum Operating Voltage	36 VDC
Isolation	100M Ohm Min Circuit To Circuit and Circuit To Case
Reverse Polarity	Both Circuits Protected
Operating Temperature	-20 Deg C To +85 Deg C

### Physical

	Series 972	Series 8069
Size (Excluding Connector & Mounting Stud)	1.50 In L x 1.49 In W x 1.05 In H 3.81 cm L x 3.8 cm W x 2.67 cm H	1.25 In Hex x 2.50 In H 3.81 cm L x 3.8 cm W x 2.67 cm H
Weight	150 Grams	230 Grams
Case Material	Aluminum Alloy	Stainless Steel
Electrical Interface	Connector, PC02A-8-4P (Mates with PC06E-C-4S)	4-Pin Connector, MIL-C-5015 (Mates with MS3106A-14-S)
Mounting	1/4-28 x 1.50 Socket Hd Cap Screw	1/4-28 x 0.25 Stud