Columbia Research Laboratories, Inc.

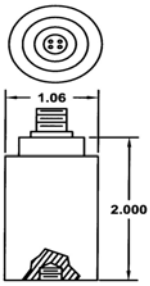
Integrated Accelerometers

Model 947M4
Model 947M5
Model 947M6

- *Seismic Sensors
- *Low Impedance Output
- *Choice of Sensitivities
- *Electrical Isolation
- *Hermetically Sealed
- *Battery Power (+12 VDC)

Columbia Models 947M4, 947M5 and 947M6 Piezoelectric Accelerometers provide an electrical output of 0.5 volt per g, 1 volt per g, and 2 volts per g respectively over a frequency band of 0.1 Hz to 1500 Hz. They are designed for measurement of the low level, low frequency signals encountered in seismic studies.

The sensors incorporate a 4-pin connector for ease of installation or may be supplied with choice of optional cable assemblies. Internal electrical isolation minimizes ground loop problems from noise currents. The Series 947 is designed to operate from DC power sources ranging from 10 to 30 VDC. The low power requirement allows operation from battery sources for portable or remote applications. ***Consult the factory for customized versions of this sensor.***



Output Connector Pin Functions:

Pin A + DC Power
Pin B Common
Pin C Signal Out
Pin D Common

Accessories Supplied:

(1) Mating Connector (PC06-8-4S)
(1) 1/4-28 x 0.500"L Mounting Stud
(1) Hardwood Storage Case
(1) Standard Calibration Data
(1) Certificate of Calibration Traceable to N.I.S.T.

*Optional cable assemblies are available

R112706

Specifications

Transfer / Electrical	947M4	947M5	947M6
Voltage Sensitivity[1]	500 mv/g +/-10%	1,000 mv/g +/-10%	2,000 mv/g +/-10%
Vibration Range	+/-5.0 g Max.	+/-2.5 g Max.	+/-1.75 g Max.
Frequency Linearity[2]	+/-1 dB Max 0.01 Hz To 1500 Hz		
Phase Shift	6 Deg Max @ 2.5 Hz		
Transverse Sensitivity	6% Max		
Amplitude Linearity	+/-1.0% (BFSL)		
Electrical Noise	0.0003 g Equiv., Nom.		
Avg Temp Coeff of Sensitivity	0.05 % / Deg F		
Output Bias Voltage	5.0 +/-1 VDC		
Output Impedance	75 Ohms Max.		
Isolation Resistance	100M Ohm Min., 50 VDC		
Power Requirements	12 VDC @ 4.0 mA, Nom.		
Environmental			
Vibration Limit	50 g Max (Sine)		
Shock Limit	100 g Max.		
Temperature Range	-40 To +250 Deg F (-40 To +121 Deg C)		
Humidity[3]	0 To 100% R.H.		
Base Strain Sensitivity	0.005 g/uE Equiv, Typical		
Electromagnetic Sensitivity	0.005 g (Equiv / 100 Gauss)		
Acoustic Sensitivity	0.02 g RMS (Equiv @ 124 dB SPL)		
Physical			
Configuration	Single-Ended Compression		
Size	1.060 In. Dia. x 2.000 In. H (27.0 mm Dia x 50.0 mm H)		
Weight	6.0 Oz (170 Gm)		
Case Material	18-8 Stainless Steel		
Electrical Interface	PC02A-8-4P or Equiv.		
Mounting	0.250-28 UNF-3A Tapped Base		

NOTES:
[1] At +75 Deg F, 10g Peak, 100Hz; 12 VDC Power Source
[2] Referenced to Sensitivity @ 100 Hz.
[3] With Connector Protected or Sealed, Unit is Hermetically Sealed.

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