

15207A /25207A /35207A Accelerometer

Digital Accelerometers
User Configurable to ± 70 g
Wide Bandwidth to 10 kHz

Digital Accelerometer

These Measurement Specialties digital accelerometers are complete, easy-to-use, user-configurable sensors containing one to three accelerometers, a temperature sensor, signal processor, RS-485 interface and three analog outputs in a small, easy-to-install package.

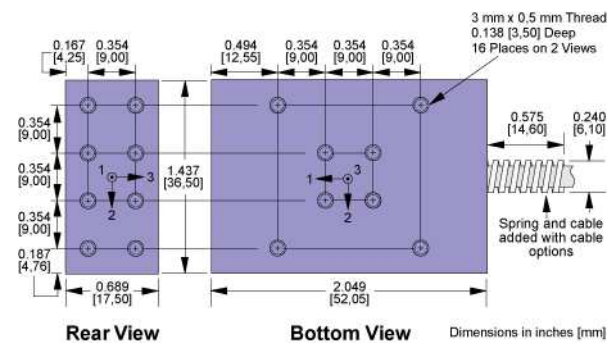
No data acquisition system is required; data is streamed directly to a PC. A connection kit is available to set up and begin testing immediately upon receipt of the sensor.

The analog/digital output range and low-pass filter of each digital accelerometer axis can be set via a built-in RS-485 interface using a free, downloadable Instrument Configuration Utility (ICU). An RS-485 to RS-232 adapter is available.

Calibrated, ranged and filtered data can be streamed out at up to 3 Mbit/ sec via RS-485. Analog output of up to three calibrated, ranged and filtered channels are provided for compatibility with existing systems.



dimensions

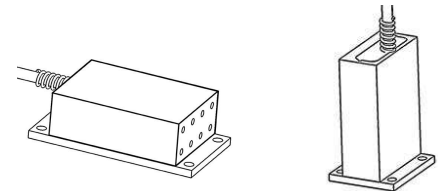


Two through holes and four 3 mm x 0.5 mm threaded holes are provided for mounting.

FEATURES

- User Configurable Settings
- RS485 Serial and Analog Outputs
- High Accuracy and Linearity over Wide Temperature Range
- Built-in Calibration Data
- Built-in Power Supply Regulation
- Easy Installation
- Suitable for Harsh Environments
- Three Year Warranty

Mounting adapters (sold separately)



35170A Horizontal

35172A Vertical

connections



APPLICATIONS

- Vehicle dynamics
- Construction Equipment
- Research & Development
- Test & Measurement
- Military/Aerospace

Pin	1	2	3	4	5	6	7	8	9
Signal	Analog1+	Analog2+	Analog3+	Signal-	RS485-	RS485+	Aux	+Vs	Gnd
Wire	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical expert. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.

15207A/25207A /35207A Accelerometer

performance specifications

$T_A = T_{min}$ to T_{max} ; Acceleration = 0 g unless otherwise noted; within one year of calibration. Improved specifications available upon request.

PARAMETERS	Min	Typical	Max	Units	Conditions/Notes
Range: Measurement Full Scale			±70	g	Lower ranges are user configurable
Sensitivity Drift 25°C to T_{min} or T_{max}		±0.5		%	Percent of sensitivity at 25 °C
Zero g Drift 25°C to T_{min} or T_{max}		±1.5		g	Some units to 3 g
Alignment		±3.0		degrees	Deviation from ideal axes
Transverse Sensitivity		±0.25		%	Inherent sensor error, excluding misalignment
Nonlinearity		0.2	2	% FSR	Best fit straight line
Frequency Response	0		10	kHz	Lower filter cutoffs are user configurable*
Noise Density		2.5		mg/√Hz	
Temperature Sensor					
Range	-55		125	°C	
Resolution		0.25		°C	
Accuracy		±2.0	±3	°C	$T_A = -40$ to $+85$ °C
Digital Signal Processor					
Internal Word Size			32	bits	
Sensor Scan Rate		15,000	42,500	Hz	User configurable; channels processed in parallel
Analog Outputs					
Configurable to sensor					
Voltage Swing	0.25		4.75	V	$I_{out} = 1$ mA max
Impedance to Analog -	100	130	220	Ω	
Nonlinearity			0.15	% FSR	Excluding sensor nonlinearity
Digital Output Word Size			16	bits	Filtered, gained and calibration corrected
Power Supply (V_s)					
Input Voltage Limits	-80		+80	V	-80 V continuous, >38 V if ≤550 ms, duty <1%
Input Voltage – Operating	+8.5		+36	V	Continuous
Input Current		50		mA	
Rejection Ratio		>120		dB	DC
Temperature Range (T_A)	-40		+85	°C	Terminal block option T000 rated to -30 °C
Mass					
		78		grams	
Shock Survival – Sensor	-1500		+1500	g	Any axis for 0.5 ms, limited by oscillator

*User configurable low-pass filter 3dB cutoff (number poles configurable)

ordering info

