

Tri-axial piezo-resistive accelerometer

Description

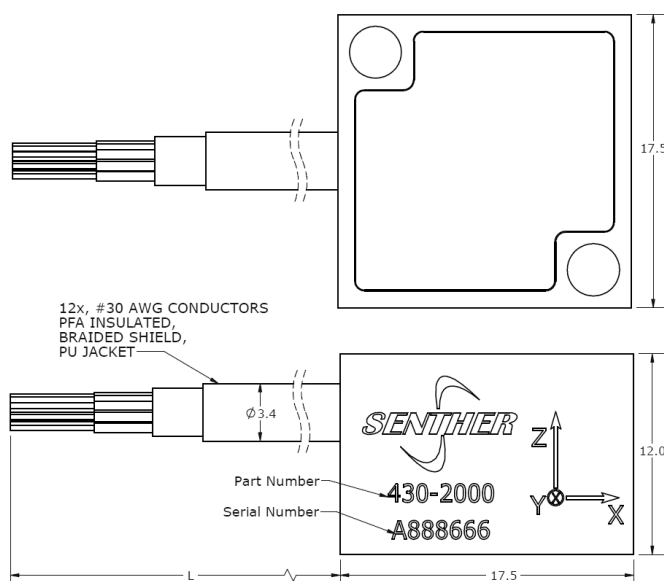
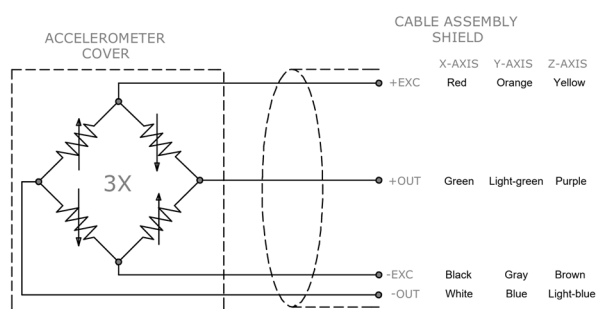
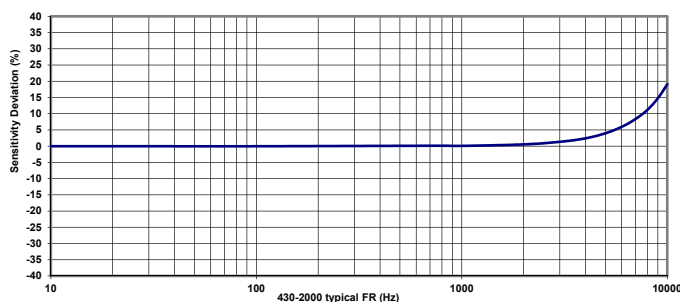
Model 430 is a miniature triaxial accelerometer designed for crash testing that require minimal mass weight and a wide frequency response. The accelerometer meets SAE J211 specifications for instrumentation for impact testing. It is available in two different acceleration ranges, 2000 g and 6000 g full scale. The tri-axial accelerometer is based on a latest piezo-resistive MEMS sensing element, which offers exceptional dynamic range and stability. This unit features the full bridge output configuration with a compensated temperature range from 0 to +50° C. Model 430 accelerometer has a standard transverse sensitivity accuracy of <3%. Advance MEMS structure provides outstanding shock survivability, a flat amplitude and phase response up to 7kHz.

Features

- Water proof
- DC response
- Miniature tri-axial
- Shock, low & high frequency
- Shock survivability
- 2-10Vdc Excitation
- Integrated 1 to 3 cable

Application

- Auto crash test
- Shock test
- Drop test



Specification

All values are typical at +24°C (+75°F), 100Hz, and 10Vdc excitation unless otherwise stated.

Dash No.	-2000	-6000	
Dynamic Range	±2000	±6000	g
Sensitivity	0.15	0.1	mV/g
Frequency Response ±5% (Z-axial)	0-4000	0-5000	Hz
Frequency Response ±5% (X/Y-axial)	0-3000	0-3000	Hz
Frequency Response ±1dB	0-7000	0-8000	Hz
Phase Response ±5°	0-2000	0-2000	Hz
Resonant Frequency	26000	28000	Hz
Damping Ratio	0.05	0.05	
Shock Limit	10000	12000	g

Parameters	Value	Units
Zero Acceleration Output	<±50	mV
Transverse Sensitivity (<1% by option)	<3	%
Non-Linearity	±1	%Reading
Thermal Zero Shift, 0-50°C (32-122°F)	±0.05 (±0.03)	%FSO/°C (%FSO/°F)
Thermal Sensitivity Shift, 0-50°C (32-122°F)	±0.1 (±0.06)	%/°C (%/°F)
Excitation Voltage	2 to 10	Vdc
Insulation Resistance (@100Vdc)	>100	MΩ
Input Impedance	2400 to 6000	Ω
Output Impedance	2400 to 6000	Ω
Operating Temperature	-20 to +85 (-4 to +185)	°C (°F)
Humidity	Epoxy Sealed	
Weight (Cable Not Included)	10	Grams
Mounting Torque	3 (0.3)	lb-in (Nm)

Accessories

Calibration certificate included.

Part Number	Description	Availability
PM0225	#4-40x3/4" socket head cap screws	Included
PJ0048	LEMO FGG-1B-307 connector	Optional
IN-01	Bridge piezo-resistive signal amplifier	Optional
IN-3062	8 channels data acquisition system	Optional

Measurement configuration

Sensor	LEMO connector	Data acquisition	Computer
			

Ordering information

430	-	2000	-	6C1
Model	-	Range	-	Cable length / Connector
430	-	2000=2000g 6000=6000g	-	6=6 meters C*=1 to 3 cable adapter + Connector options Blank=Pig tail cable

Connector options

C1	C2	C3	C4	
LEMO FGG-1B-307 Dallas Chip: DS2401	LEMO FGG-1B-307	LEMO FGG-1B-307 Dallas Chip: DS2401	LEMO FGG-1B-307	Blank
Pin1=N/C Pin2=Dallas pin2 Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=N/C Housing=Dallas pin1=Shield	Pin1=N/C Pin2=N/C Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=N/C Housing=Shield	Pin1=N/C Pin2=Dallas pin2 Pin3=+OUT (Green) Pin4=+EXC (Red) Pin5=-EXC (Black) Pin6=-OUT (White) Pin7=Housing=Dallas pin1=Shield	Pin1=-OUT (White) Pin2=-EXC (Black) Pin3=+EXC (Red) Pin4=+OUT (Green) Pin5= N/C Pin6=N/C Pin7= N/C Housing=Shield	No connector



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