Crash test accelerometer

Features

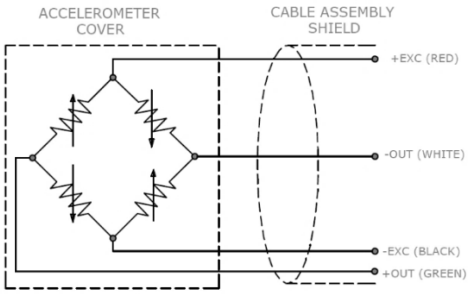
- Water proof
- DC response
- 200 g full scale
- Impact resistance
- 10K g shock survivability
- Light weight
- Critical damping

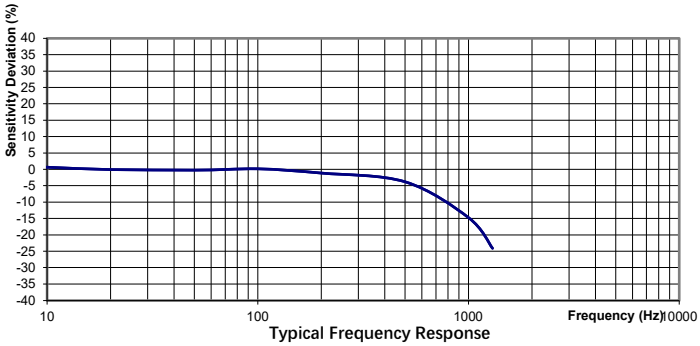
Application

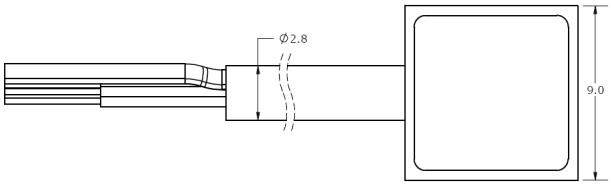
- Motion monitoring
- Crash test
- Shock recorder

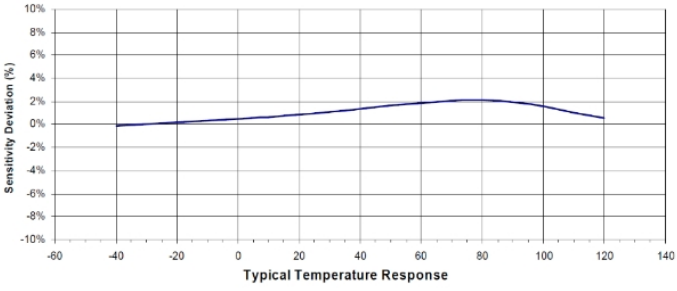
Description

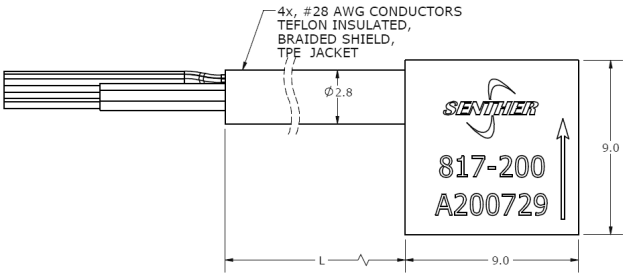
Model 817 is a high sensitivity accelerometer which measures shock acceleration and low-frequency vibration. 817 is an accelerometer utilizes a silicon Micro-Electro-Mechanical System (MEMS) sensing element. The sensing element consists of a very small inertial mass, as the mass deflects under acceleration, the sensing element generates an analog output signal proportional to the applied acceleration. This output signal is scaled as a voltage which is proportional to the applied acceleration. The accelerometer is powered by a single regulated supply between 5 to 10 Vdc. Thermal drift has been compensated by internal circuit for the best environment stability. The sensing element and electronics are contained in a miniature housing with an integral cable terminated by pigtails or specified connector. Signal ground is isolated from the test object that benefit from the anodized aluminum housing. The accelerometer can be mounted by adhesive. 817 is well-suited for a wide variety of R&D applications requiring shock survivability and precision measurements.











Specification

All values are typical at +24°C (+75°F), 10Vdc excitation and apply to each axis unless otherwise stated.

PARAMETERS	VALUE	UNITS
DASH NO.	-200	
DYNAMIC RANGE	±200	g
SENSITIVITY ±10%	6.5	mV/g
FREQ RESPONSE ±10%	0-500	Hz
FREQ RESPONSE ±3dB	0-1300	Hz
NOISE DENSITY	2.7	mg/√Hz
RESIDUAL NOISE (PASSBAND)	1	mVrms
DAMPING RATIO	>0.7	
SHOCK LIMIT (any direction)	10,000	g

PARAMETERS	VALUE	UNITS
ZERO ACCELERATION OUTPUT	±150	mV
TRANSVERSE SENSITIVITY	<3	%
NON-LINEARITY (BFSL)	±1	%FSO
THERMAL ZERO SHIFT, -40 to +85°C, REF 24°C	±1	%FSO
THERMAL SENSITIVITY SHIFT, -40 to +85°C, REF 24°C	±2	%
EXCITATION VOLTAGE	5 to 10	Vdc
EXCITATION CURRENT	<7	mA
OUTPUT IMPEDANCE	32K	Ω
INSULATION RESISTANCE (@100Vdc)	>100	MΩ
TURN ON TIME	<100	mSEC
OPERATING AND STORAGE TEMPERATURE	-40 to +85	°C (°F)
HUMIDITY (HOUSING)	Epoxy Sealed	
HOUSING MATERIAL	Al Alloy Anodized Black	
WEIGHT (CABLE NOT INCLUDED)	1.3	Grams

Accessories

Calibration certificate included.

Part Number	Description	Availability
PJ0048	LEMO FGG-1B-307 connector	Optional
PF0095	Quick dry adhesive epoxy-Loctite® #401	Optional
IN-3062	8 channels data acquisition system	Optional

Measurement configuration

Sensor	Connector	Data acquisition	Computer
			

Ordering information

817	-	20	-	9	C1
Model	-	Range	-	Cable length	Connector
817	-	200=200g	-	6=6 meters 9=9 meters	C*=Connector options Blank=No connector

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