790A

Tri-axial IEPE seat pad accelerometer

Description

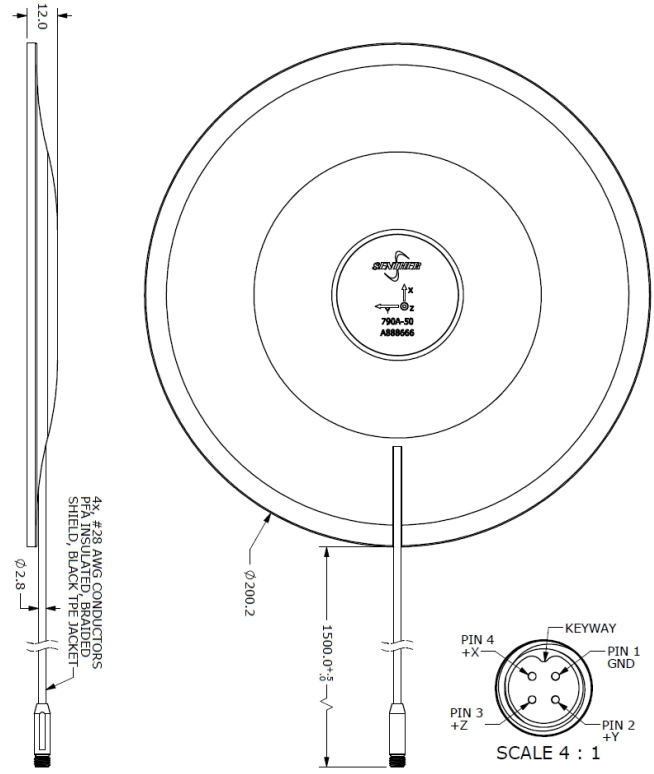
Model 790A is an IEPE triaxial seat pad accelerometer designed especially for characterizing whole body vibration in accordance with ISO 2631-1 and ISO 8041. The seat pad incorporates a removable triaxial accelerometer with 5000mV full scale output. The model 790A is designed for low frequency measurements with a measurement resolution of <1mg. A flexible cable is includes with three BNC connectors for simple interface. The accelerometer uses shear piezo electronical element which provides a wide operating frequency range. The IEPE sensor combines outstanding crystals and low noise integral microelectronics to achieve very low sensitivity variation over the operating temperature range, compared to other sensing element designs. The accelerometer enables the test engineer or technician to measure the accelerations of three orthogonal axes of vibration simultaneously on vehicle or platform. All variations provide reliable measurements and long-term stability.

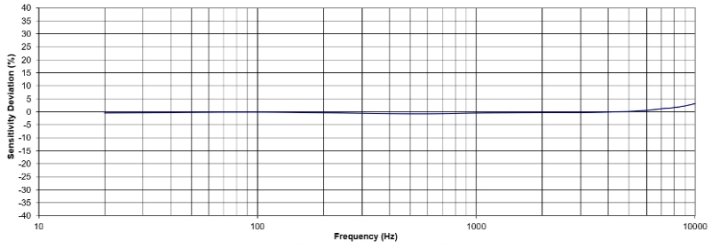
Features

- High frequency response
- 50g full scale
- Stable voltage output
- 5K g shock survivability
- Plug and play configuration

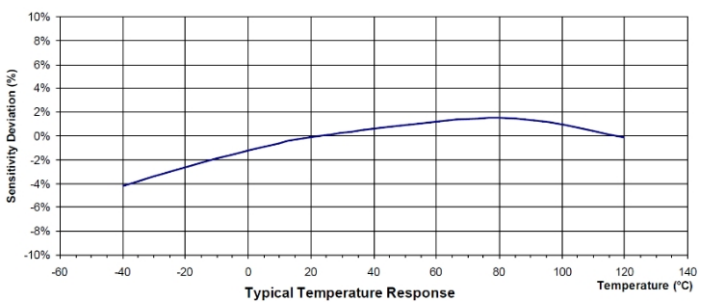
Application

- Vehicle drive testing
- Aerospace grounding
- Human motion
- Automotive platform motion test





Typical Frequency Response



Typical Temperature Response

Specification

Typical at +24°C (+75°F), 24Vdc, 4 mA and 100Hz, unless otherwise stated.

Measurement range	±50	g
Sensitivity, ±15%	100	mV/g
Frequency response, ±5%	0.5~5000	Hz
Frequency response, ±10%	0.3~8000	Hz
Resonant frequency	42	kHz
Transverse sensitivity	<5	%
Temperature response, -55 to +85°C	±10	%
Non-linearity	±1	%FSO
Residual noise (2 Hz to 20 KHz)	0.001	Equiv. g RMS
Shock limit	5000	g

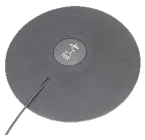
Parameters	Value	Units
Bias voltage (room temperature)	8 to 12	Vdc
Bias voltage (-55°C to 85°C)	6 to 13	Vdc
Output impedance	<100	Ω
Full scale output voltage	±5	V
Insulation resistance (@100Vdc)	>100	MΩ
Supply (compliance) voltage	18 to 30	Vdc
Supply current	2 to 10	mA
Operating & storage temperature	-55 to +85°C	°C
Case material	Anodized aluminum	
Pad material	Nitrile Rubber	
Sensing element	IEPE	
Weight(W/O cable)	380	Grams

Accessories

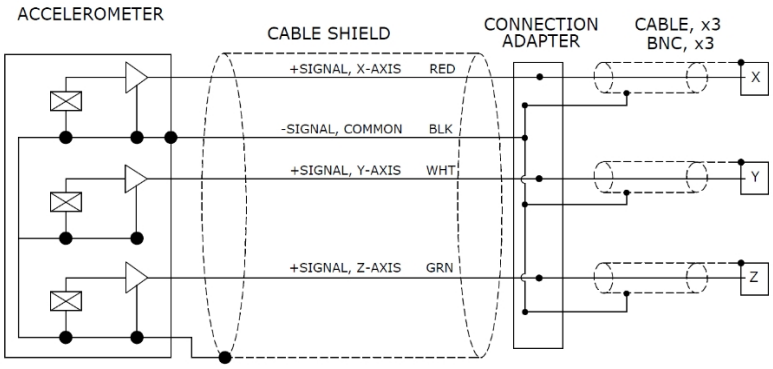
Calibration certificate included.

Part Number	Description	Availability
13-3	3 meter mating cable with 4 pins mating connector to 3x BNC(male) connector	Optional
IN-03	3 channels IEPE signal conditioner	Optional
IN-91	Portable vibration analyzer	Optional
IN-3062	8 channels data acquisition system	Optional

Measurement configuration

Sensor	Mating cable	Signal conditioner	BNC cable	Data acquisition	Computer
					

Wiring configuration (with mating cable)



Ordering information

790	**A**	**-**	**50**	**1**
Model	Output signal	-	Range	Cable length
790	A=IEPE output E=IEPE output with TEDS	-	50=50g	1=1 meters 2=2 meters