

# A545

## Multi Axis Series

DC-Operated, Bi-axial & Tri-axial  
Linear Accelerometer



### Features

- Ranges  $\pm 2g$  to  $\pm 50g$
- Integral overload protection
- Critical damping ratio 0.7 nominal for 2g, 5g, 10g & 20g versions (0.6 for 50g) with essentially zero temperature coefficient
- Integral temperature compensation
- DC input - DC output
- Suitable for DC and AC acceleration applications
- Available in 2 and 3 axis versions

### Applications

Data acquisition  
Systems

Railways

Crash recorders

Simulators

Roadbed analysis

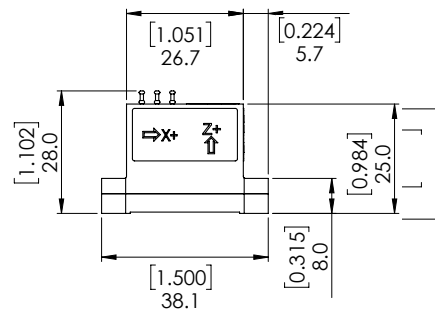
### Benefits

- Compact size
- Wide temperature range  $-40$  to  $+105$  °C
- Low weight 40 grams

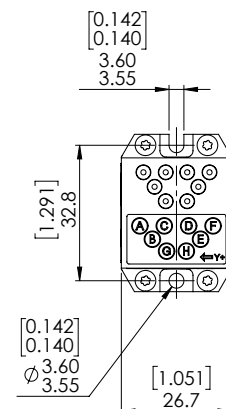
### Electrical Connections

Pin A	+ dc excitation
Pin B	0V dc excitation
Pin C	- Signal 'X' axis
Pin D	+ Signal 'X' axis
Pin E	- Signal 'Y' axis
Pin F	+ Signal 'Y' axis
Pin G	- Signal 'Z' axis (option)
Pin H	+ Signal 'Z' axis (option)

SIDEVIEW



PLAN VIEW



# Specifications

## Specifications by Range @25°C

± 2g    ± 5g    ± 10g    ± 20g    ± 50g

Output	mV	12 to 18 at rated g
Output Impedance	Ω (max)	1.2 to 6.5
Output Noise	V <sub>rms</sub> (max)	10
Non-linearity (see note 2)	% FRO(max)	±0.5
Hysteresis	% FRO(max)	0.02
Resolution	% FRO(min)	0.0005
Cross-axis Sensitivity (see note 3)	% FRO(max)	±1
Zero Offset (see note 4)	mV	±2
Damping Ratio		0.7 (±0.2)
Thermal Zero Shift	%FRO/°C(max)	±0.02
Thermal Sensitivity Shift	%Reading/°C (max)	±0.02
Weight	grams (max)	40

## Electrical

Input Voltage	Volts dc	5.00 ± 0.01 Regulated to 8ppm/V (Max)
Input Current	mA dc (max per axis)	5

## Environmental Characteristics

Operating Temperature Range	°C	-40 to 105
Compensated Temperature Range	°C	0 to 50
Storage Temperature Range	g	-55 to 130
Insulation Resistance	MΩ (@50Vdc)	20

## Notes

1. Full Range Output (FRO) is defined as the full acceleration excursion from positive to negative, i.e. ±2g = 4g
2. Non-linearity is determined by the method of least squares
3. Cross-axis sensitivity is the output of unit when subjected to full range acceleration in cross-axis
4. Zero offset is specified under

## Model Designation & Ordering Code

**A 5 45 - 000** □ - □ g

2 Dual-axis (X & Y)    ]    g Range  
3 Tri-axis (X, Y & Z)    ]