



## FAA545 Multi series DC-Operated, Bi-axial & Tri-axial Linear Accelerometer



- Ranges  $\pm 2g$  to  $\pm 500g$
- Integral overload protection
- Critical damping ratio 0.7 nominal 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

The Altheris' FAA545 range of multi-axis accelerometers measure vector acceleration in three mutually perpendicular planes with high accuracy and incorporate piezo-resistive strain gauge bridge sensors incorporating air damping. Unlike fluid damped devices, the air damping employed is essentially independent of temperature. The transducer also incorporates positive mechanical stops conferring excellent shock resistance.

The accelerometer is compensated for the effects of temperature on both sensitivity and zero.

Typical applications include biomechanical investigations, data acquisition systems, crash test, impact, shock and vibration analysis.

Designed for operation from a DC power source, the FAA545 is packaged in a robust light alloy housing with solder pin connections. The accelerometer has a wide-range useable frequency response from DC to several kHz.

In addition to the instruments offered in this bulletin Altheris design and develop accelerometers for specific applications. These custom design units can be manufactured and tested to conform to specific requirements and standards.

## ■ General specification

### Input

Ranges(±g) 2; 5; 10; 20; 50; 100; 200; 500  
 Excitation 5.00 ± 0.01Vdc. Regulated to 8ppm/V(Max)

Input Current.....5m Adc max per axis

### Output at 25°C

Zero Offset.....≤ ± 2 mV  
 Non linearity .....≤ ± 0.5% FRO  
 Hysteresis .....≤ 0.02 % FRO  
 Resolution.....≤ 0.0005% FRO  
 Cross Axis Sensitivity.....≤ ± 1% FRO  
 Noise Output.....1∞V(p-p) max  
 Damping Ratio.....0.7 (±0.2) @ 25°C  
 Output Impedance.....2.5 to 6.5 ki

Range (g)	Full Range Output (Min/Max) (mV)	Resonant Frequency (Hz)	Frequency Response (Hz ± 5%)
±2	12/18	700	0t o2 50
±5	12/18	800	0t o3 00
±1 0	12/18	1000	0t o4 00
±2 0	12/18	1500	0t o6 00
±5 0	12/18	2000	0t o1 000
±1 00	12/18	3000	0t o1 500
±2 00	30/60	4000	0t o2 000
±5 00	30/60	5000	0t o2 400

Note: The full range output is that obtained using 5 volt excitation

### Environmental

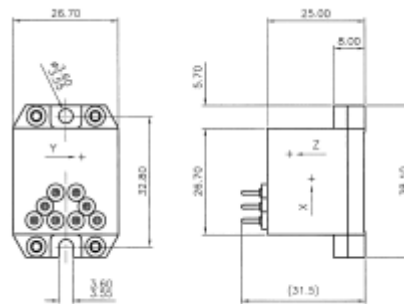
Temp. Operating..... -40°C to +105°C  
 Temp. Compensated..... 0°C to +50°C  
 Temp. Storage ..... -55°C to +130°C  
 Thermal Sensitivity Shift.... ≤ ± 0.02% FRO/°C  
 Thermal Zero Shift..... ≤ ± 0.02% FRO/°C  
 Acceleration limit 400g for 2 to 10g versions, 20x range or 2000g, which ever is lower for other versions (any direction)  
 Humidity / Immersion..... IP65  
 Insulation Resistance ..... ≥ 20Mi at 50 Vdc

### Physical

Sensitive Axis Alignment See diagram  
 Weight.....40grams max

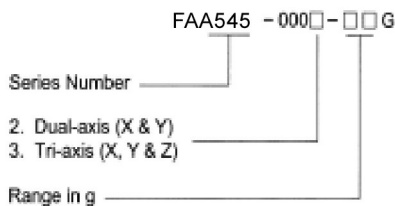
### Electrical Connections

Solder Pin Connections..... PinA:+dc excitation  
 PinB:0Vdc excitation  
 PinC: -Signal 'X' axis  
 PinD: +Signal 'X' axis  
 PinE:-Signal 'Y' axis  
 PinF:+Signal 'Y' axis  
 PinG:-Signal 'Z' axis(option)  
 PinH:+Signal 'Z' axis(option)



## ■ Ordering code

### DESIGNATION & ORDERING CODE



## ALTHERIS bv

Scheveningseweg 15  
 2517 KS DEN HAAG  
 The Netherlands

+31 (0)70 3924421

+31 (0)70 3644249

Offices in : Benelux | Germany | France | UK | Italy | USA

www.altheris.com

sales@altheris.nl

LEADERS IN SENSORS & HEAVY DUTY JOYSTICKS

**ALTHERIS**  
 SENSORS & CONTROLS