

# FA1105 SERIES

## Miniature Accelerometer

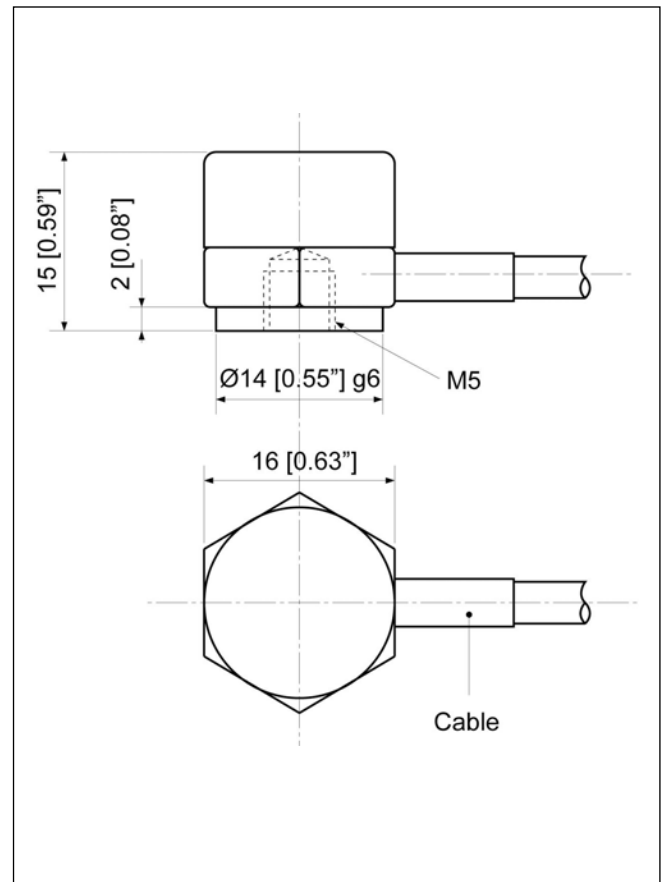


- Full Scale Range from  $\pm 2$  g to  $\pm 500$  g
- Small Footprint
- Lightweight and rugged:  $\leq 8$  grams
- Bandwidth from DC
- Over-range Stops
- M5 Thread for easy mounting
- Integrated Amplifier

The FA1105 is a general purpose accelerometer for studies, which require low frequency response and minimum mass loading. With its M5 mounting thread and shielded cable output, it is extremely easy to implement and use. The FA1105 includes an internal amplifier for direct high level voltage output. It operates from unipolar voltage supply.

Model **FA1105-A1** offers  $\pm 2$  Vdc F.S output with an offset of 2.5 Vdc, whereas model **FA1105-A9** offers differential  $\pm 4$  Vdc F.S. output. Mechanical stops ensure over-range protection up to  $\pm 2000$  g for all ranges.

With many years of experience as a designer and manufacturer of sensors, FGP Sensors has the expertise to customize and/or design sensors for specific uses and testing environments. To meet your needs we also offer complete turnkey systems. Our conditioning electronics can power the sensor, amplify the electronic signal, and display the data digitally. A turnkey measurement system arrives with matched components, formatted, calibrated and ready for your immediate use.



### Characteristics

Measurement Range (g)	$\pm 2$	$\pm 5$	$\pm 10$	$\pm 20$	$\pm 50$	$\pm 100$	$\pm 200$	$\pm 500$
Frequency Response $\pm 5\%$ (Hz)	0-100	0-150	0-250	0-400	0-700	0-700	0-700	0-700

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## Technical Specifications

### Range (F. S.)

From  $\pm 2$  to  $\pm 500$  g (see table on reverse side)

### Over-range

$\pm 2000$  g (0.1 ms)

### Accuracy

Linearity :  $< \pm 2\%$  F.S.  
 Transverse Sensitivity :  $< 3\%$  F.S.

### Temperature Range

Operating Temperature Range (OTR) :  $-20$  to  $80$  °C [ $-4$  to  $176$  °F]  
 Compensated Temperature Range (CTR) :  $0$  to  $60$  °C [ $32$  to  $140$  °F]  
 Zero Shift in CTR :  $< 2\%$  F.S. /  $108$  °F  
 Sensitivity Shift in CTR :  $< 2\%$  of reading /  $108$  °F

### Electrical Characteristics

Model	FA1105-A1	FA1105-A9
Supply Voltage	10 to 30 Vdc	10 to 30 Vdc
F.S. Output	$\pm 2$ Vdc ( $\pm 250$ mV)	$\pm 4$ Vdc ( $\pm 250$ mV)
Zero Offset	2.5 Vdc ( $\pm 250$ mV)	0 Vdc ( $\pm 250$ mV)
Consumption	$< 30$ mA	$< 30$ mA
Output Impedance	$< 90$ $\Omega$	$< 90$ $\Omega$
Insulation under 50 Vdc	$\geq 100$ M $\Omega$	$\geq 100$ M $\Omega$

### Electrical Termination

Shielded cable, standard length 2 m [6.5 ft] with strain relief spring

### Mechanical Characteristics

Housing Material : Anodized aluminium  
 M5 Mounting thread  
 Weight w/o cable :  $\leq 8$  grams

#### Product References

##### High Level Output Sensor

##### Model

##### F.S. Output Reference

A1 : Single Ended Output  
 A9 : Differential Output

##### Full Scale Range (F.S.)

In g

##### Option(s)

L : Linearity  $\leq \pm 1\%$  F.S.  
 ZI : Zero shift  $\leq \pm 1\%$  F.S. /  $108$  °F  
 ET1 : CTR  $-20$  to  $100$  °C [ $-4$  to  $212$  °F] OTR=CTR  
 ET2 : CTR  $-40$  to  $120$  °C [ $-40$  to  $248$  °F] OTR=CTR  
 ET5 : CTR  $-40$  to  $80$  °C [ $-40$  to  $176$  °F] OTR=CTR  
 LC"X" : Additional cable length in ft

FA1105

A1

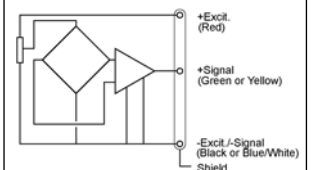
$\pm 2$

ET1

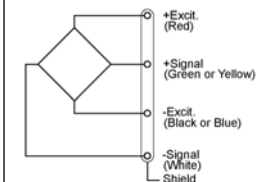
"X" = Custom value

#### Wiring Schematic

##### FA1105-A1



##### FA1105-A9



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Performance specifications nominal and subject to change without notice. Current specifications see web-site. December 15, 2005

**FGP Sensors, Inc.**

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