

# FA100-A1 SERIES

## High Performance Accelerometer



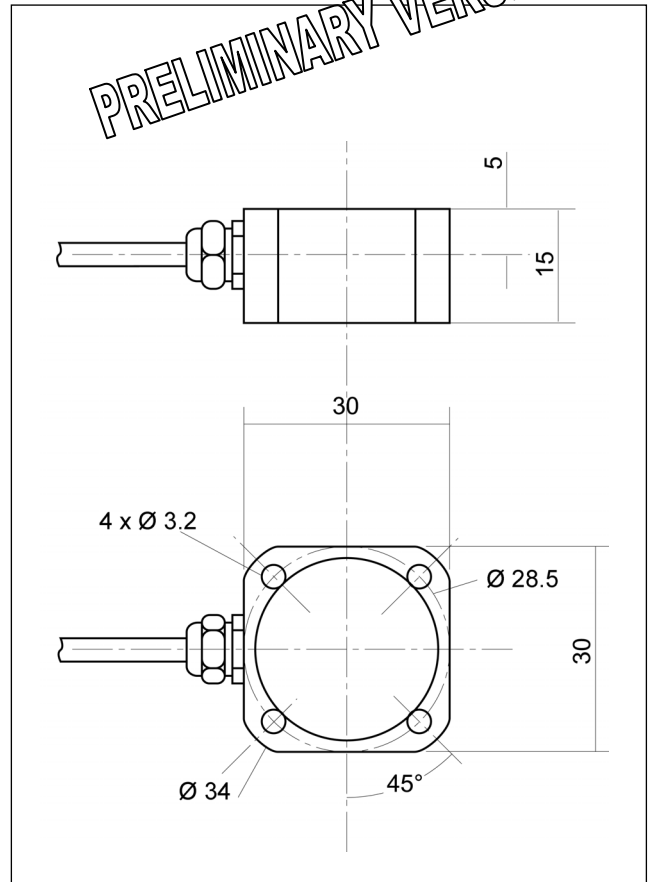
- Full Scale Range  $\pm 2$  g to  $\pm 100$  g
- DC Response
- Excellent Long Term Stability
- High Shock Tolerance
- Low Power, Analogue Voltage Output
- Integrated Temperature Sensor (optional)

Issued from the highly popular FA101 series of accelerometers from FGP Instrumentation the FA100-A1 is a high performance accelerometer designed for a wide range of complex applications including guidance, tilt sensing and vibration testing. The micro-machined silicon sensing element used in the FA100-A1 combines high resolution with an excellent zero stability and a near-zero temperature coefficient, thus guaranteeing superior performance and long term reliability of the accelerometer.

Packaged in a rugged metal case, and incorporating built-in mechanical stops to protect against over-ranging, the FA100-A1 accelerometers are designed for easy mechanical mounting and are suitable for use in adverse environmental conditions.

With many years of experience as a designer and manufacturer of sensors, FGP Sensors often works with customers to design or customize sensors for specific uses and testing environments.

To meet your needs we also offer complete turnkey systems. The matched components (sensor, power, amplifier and digital display) are formatted, calibrated and ready for immediate use.



### Application Areas

#### Guidance

- Avionic & Defence

#### Comfort Testing

- Automotive, Trucks & Buses
- Railway, Subway

#### Vibration Sensing

- Seismic measurement
- Noise Vibration Harshness
- Building structures

#### Harsh Environment

- Drilling
- Off-shore (tilt & vibration)

### Characteristics

| F.S. in g               | $\pm 2$  | $\pm 10$ | $\pm 30$ | $\pm 100$ |
|-------------------------|----------|----------|----------|-----------|
| Non-Linearity % of F.S. | <0.8     | <0.9     | <0.9     | <1        |
| Bandwidth in Hz at 3 dB | 0 to 200 | 0 to 200 | 0 to 100 | 0 to 200  |

## Technical Specifications

### Range (F. S.)

From  $\pm 2$  to  $\pm 100$  g (see table on reverse side)

### Shock Tolerance

Shock : 10000g (0.2 ms half-sine period, shocks in each direction o, p, i)

### Accuracy

Linearity : <1% F.S. (see table on reverse side)  
Transverse Sensitivity : 2% F.S.

### Temperature Range

Operating Temperature Range (OTR) : -40 to 85 °C  
Compensated Temperature Range (CTR) : -20 to 85 °C  
Zero Shift in CTR : <2% F.S. / 100 °C  
Sensitivity Shift in CTR :  $2 \cdot 10^{-4}$  / °C

### Electrical Characteristics

|                  |                 |
|------------------|-----------------|
| Supply Voltage   | 8 to 30 Vdc     |
| F.S. Output      | 0.5 to 4.5 Vdc  |
| Zero Offset      | 2.5 V $\pm 5\%$ |
| Output Impedance | <10 $\Omega$    |

### Electrical Termination

Cable Gland Termination, 2 m cable length standard

### Mechanical Characteristics

Material : Body in aluminium alloy, anodized  
IP Protection Index : IP50

### Temperature Sensor (Optional)

|                          |                      |
|--------------------------|----------------------|
| Output Voltage (nominal) | $\pm 1.65$ V at 20°C |
| Accuracy                 | $\pm 5$ °C           |

### Product References

#### High Level Output Sensor

##### Model

FA100-A1

2

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

In g

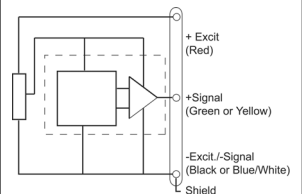
##### Option(s)

ET2 : CTR -40 to 120 °C (OTR=CTR)  
P5 : IP65 protection  
P7 : IP67 protection  
LC"X" : Additional cable length in m

LC2

"X" = Custom value

### Wiring Schematic



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All specifications are nominal. They are subject to change without notice and assume correct loading of the device. Current specifications see web-site. 19/10//2005



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