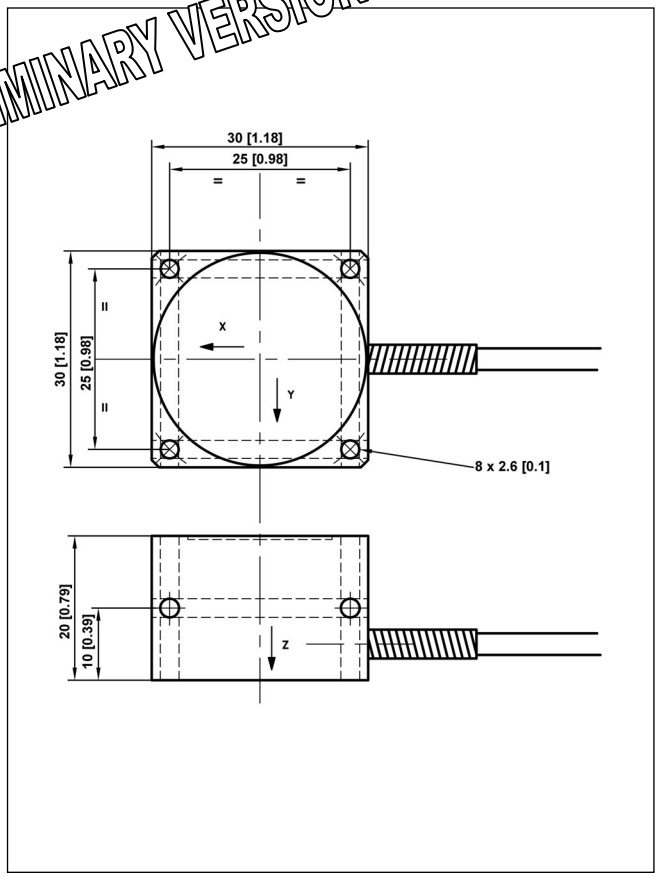
FA300-A1 SERIES

Tri-Axial High Performance Accelerometer

PRELIMINARY VERSION



- **Full Scale Range ±2 g to ±100 g for each direction**
- **DC Response**
- **Excellent Long Term Stability**
- **High Shock Tolerance**
- **Low Power, Analogue Voltage Output**
- **Integrated Temperature Sensor (optional)**

Issued from the highly popular FA3106 series of accelerometers from FGP Instrumentation the FA300-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 FA300-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 FA300-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	**±2**	**±10**	**±30**	**±100**
Bias in mg at 20 °C [68 °F]	<5	<25	<75	<250
Resolution / Threshold in mg	<0.25	<1.3	<3.82	<13
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

Performance specifications subject to change without notice. December 21, 2004

Technical Specifications

Range (F. S.)

From ±2 to ±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% of reading

Temperature Range

Operating Temperature Range (OTR) : -40 to 85 °C [-40 to 185 °F]
Compensated Temperature Range (CTR) : -20 to 85 °C [-4 to 185 °F]
Zero Shift in CTR : <2% F.S. / 100 °C [212 °F]
Sensitivity Shift in CTR : 2.10^{-4} / °C [34 °F]

Electrical Characteristics

Supply Voltage	8 to 30 Vdc
F.S. Output	0.5 to 4.5 Vdc
Zero Offset	2.5 V ±20 mV
Operating Current Consumption	<250 µA at 5 Vdc
Output Impedance	<10 kΩ

Electrical Termination

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

Mechanical Characteristics

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

Temperature Sensor (Optional)

Output Voltage	±1.396 V at 0 °C [32 °F] and 1.670 V at 23 °C [73 °F]
Accuracy	±5 °C

Product References

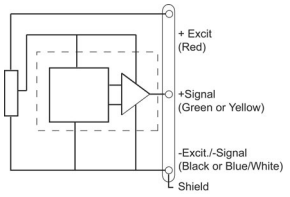
High Level Output Sensor

Model	Full Scale Range (F.S.) In g X/Y/Z	Option(s)
FA300-A1	2/2/2	LC2

Option(s):
ET2 : CTR -40 to 120 °C [-40 to 248 °F] OTR=CTR
P5 : IP65 protection
LC"X" : Additional cable length in ft

"X" = Custom value

Wiring Schematic / axis



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