

A320L Series

Gravity Referenced, Ultra-Low Range
Linear Servo Accelerometer, 4-20mA

Features

- Ultra Low Range $\pm 1/10 g$ to $\pm 1g$
- 4-20mA output signal
- Fully self-contained - connect to a DC power source and a readout or control device for a complete operating system
- Extremely rugged, withstands 1500g shock

Applications

- Geophysical, seismic and civil engineering studies
- Flight test monitoring
- Structural monitoring
- Low acceleration analysis



Description

The A320L Series are high precision, closed loop, servo balance, ultra-low range accelerometers with 4-20mA outputs that can be used for a wide variety of industrial and aerospace applications. Despite its very low measuring range, the A320L Series are extremely robust and shock resistant. Electrical terminations are via 6-pin, bayonet lock connector or solder pins.

DESIGNATION & ORDERING CODE

A320L 01 - G

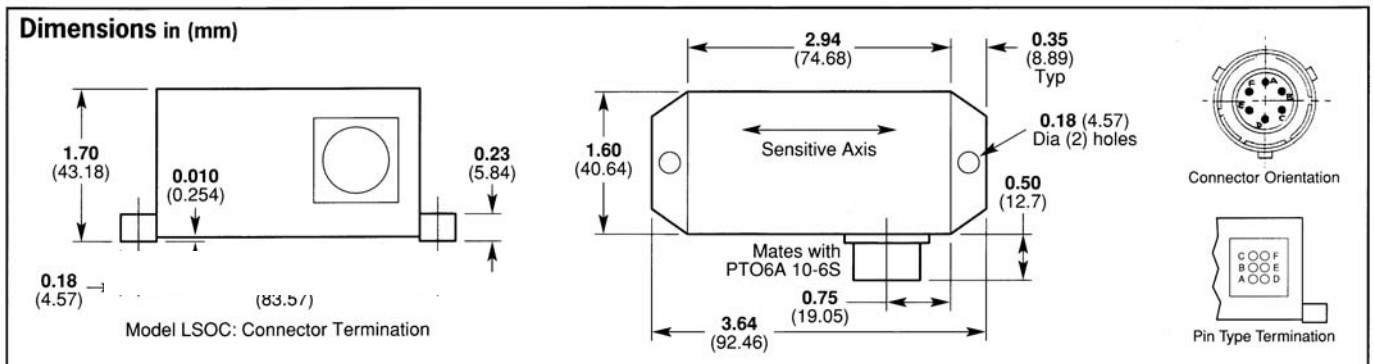
Series Number

3 Electrical Connector
5 Solder Pins

0 Standard Unit

0 Standard Unit
1 Customer Special

RANGE $\pm g$



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Sherborne Sensors, a Nova Metrix company

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Environmental Characteristics

Operating Temperature Range	°C	-18 to 70
Survival Temperature Range	°C	-40 to 70
Constant Acceleration Overload	g	50
Shock Survival		1500g, 0.5msec, ½ sine
Vibration Endurance		35g rms, 20 Hz to 2000 Hz sinusoidal
Environmental Sealing		IP65

Specifications by Range @ 20°C

Ranges		± 0.10g	± 0.25 g	± 0.5 g	± 1.0 g
Excitation Voltage	Volts dc		20 to 30		
Current Consumption	mA (nom)		35		
Full Range Output (FRO) (see notes 1 & 5)	mA		4 to 20		
Output Standardisation	% FRO (max)		± 2		
Output Load Resistance	Ω (max)		400		
Output Noise (DC to 10kHz)	Vrms (max)		0.02		
Non-Linearity (see note 2)	% FRO (max)		0.08		
Non-Repeatability	% FRO (max)		0.02		
Resolution	% FRO (min)		0.01		
Frequency Response (-3dB)	Hz (nom)	20	30	40	55
Cross-axis sensitivity (see note 4)	g/g (max)		± 0.002		
Zero Offset (see note 3)	mA (nom)		12		
Thermal Zero Shift	%FRO/°C (max)	± 0.05	± 0.02	± 0.01	± 0.01
Thermal Sensitivity Shift	%Reading/°C (max)	± 0.05	± 0.02	± 0.01	± 0.01
EMC Directive	EN61326: 1998				
EMC Emissions	EN55022: 1998			30 MHz to 1 GHz	
EMC Immunity	EN61000-4-2: 1995 inc A1: 1998 & A2: 2001			± 4 kV	
	EN61000-4-3: 2002			10 V/m	
	EN61000-4-4: 2004			± 1 kV	
	EN61000-4-6: 1996 inc A1: 2001			3 Vrms	
	EN61000-4-6: 2007			10 Vrms	
	EN61000-4-8: 1994 inc A1: 2001			30 A/m	

Notes

1. Full Range Output is defined as the peak-to-peak acceleration, i.e. ±1g = 2g peak-to-peak
2. Non-linearity is determined by the method of least squares under constant acceleration conditions.
3. Zero offset is specified under static conditions with no vibration inputs
4. Cross-axis Sensitivity is the output at 90 degrees in cross-axis when tested under static acceleration conditions

How to Order

Specify model type with appropriate range; e.g. an A323L-0001-0.5G is an accelerometer with connector and a range of ±½g; an A325L-0001-0.25G is an accelerometer with pins and a range of ±¼g
Specify Mating Connector 3CON-0009 if required.



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