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[FA101-A1-2G](#)

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FA101 Accelerometer



- Full Scale range ± 2 g to ± 500 g
- DC Response
- Integrated Over-range Stops
- Solid State Reliability
- High Level Output Model with Integrated Amplifier



DESCRIPTION

The FA101 is a general purpose accelerometer which is especially useful for measuring low-level ranges. Packaged in a rugged metal case, the FA101 accelerometers are designed for easy handling to suit a wide range of environmental conditions. They are also available with built-in A1/A2 module, providing internal signal conditioning.

With many years of experience as a designer and manufacturer of sensors, Measurement Specialties Inc. 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.

FEATURES

- Full Scale Range ± 2 g to ± 500 g
- DC Response
- Integrated Over-range Stops
- Solid State Reliability
- High Level Output Model with Integrated Amplifier

APPLICATIONS

- Structure vibration analysis and control
- Monitoring of machinery
- Robotics and effectors
- Laboratory and Research

STANDARD RANGES

Measurement Range (g)	± 2	± 5	± 10	± 20	± 50	± 100	± 200	± 500
Over-range (g)	400	400	400	400	1000	2000	2000	2000
Frequency Response $\pm 5\%$ (Hz) FA101/FA101-24/FA101- A2	0-200	0-250	0-300	0-500	0-750	0-1000	0-1200	0-1250
Frequency Response $\pm 5\%$ (Hz) FA101-A1	0-100	0-150	0-250	0-400	0-700	0-700	0-700	0-700
Frequency Response $\pm 5\%$ (Hz) FA101-A3	0-200	0-250	0-300	0-500	0-750	0-1000	0-1000	0-1000



FA101 Accelerometer

PERFORMANCE SPECIFICATIONS

Ambient Temperature: $20 \pm 1^\circ\text{C}$ (unless otherwise specified)

Parameters	
Operating Temperature Range (OTR)	-20 to 80°C (0 to 176°F)
Compensated Temperature Range (CTR)	0 to 60°C (32 to 140°F)
Zero Shift in CTR	< 2 % F.S./ 50°C (100°F)
Sensitivity Shift in CTR	< 2 % of reading 50°C (100°F)
Range (F.S.)	± 2 to $\pm 500\text{g}$
Over-Range	From 400-2000g
Accuracy	
Non-Linearity	< $\pm 2\%$ F.S.
Transverse Sensitivity	<3%

Electrical Characteristics

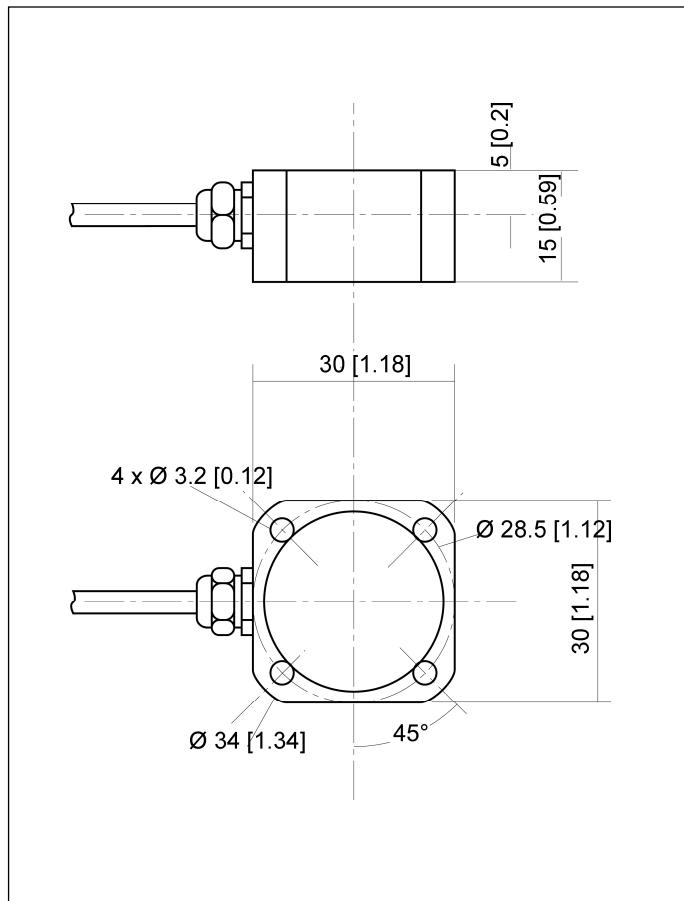
Model	FA101	FA101-24	FA101-A1	FA101-A2	FA101-A3
Supply Voltage	10Vdc	14 – 36Vdc	10 to 30Vdc	$\pm 15\text{Vdc}$	12 to 36Vdc
F.S. Output	± 20 to $\pm 100\text{mV}$	± 20 to $\pm 100\text{mV}$	$\pm 2\text{V}(\pm 250\text{mV})$	$\pm 5\text{V}\pm 5\%$ F.S.	4 to 20mA
Zero Offset	$<\pm 10\text{mV}$	$<\pm 10\text{mV}$	$2.5\text{V}(\pm 250\text{mV})$	$0\text{V}\pm 5\%$ F.S.	$12\text{mA}\pm 5\%$ F.S.
Input Impedance	$10\text{k}\Omega$	$10\text{k}\Omega$	$<30\text{mA}$	$<30\text{mA}$	-
Output Impedance	$<5\text{k}\Omega$	$<5\text{k}\Omega$	$<1\text{k}\Omega$	$<1\text{k}\Omega$ -	-
Insulation under 50Vdc	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$	$\geq 100\text{M}\Omega$

Notes

1. Electrical Termination: Cable gland termination; 2 m [6.5ft] cable length standard
2. Material: Housing in aluminum alloy
3. Weight w/o cable: <25g [0.055 lb]
4. CE conformance according to EN 61010-1, EN 50081-1, EN 50082-1

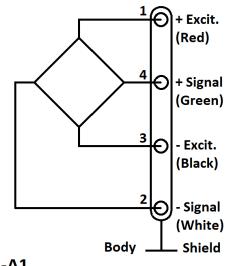
FA101 Accelerometer

DIMENSIONS & WIRING SCHEMATIC (IN METRIC AND IMPERIAL)

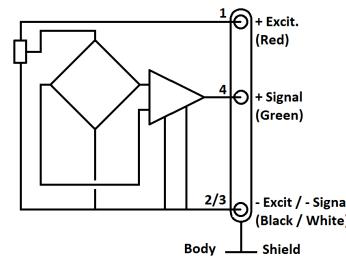


Wiring Schematic

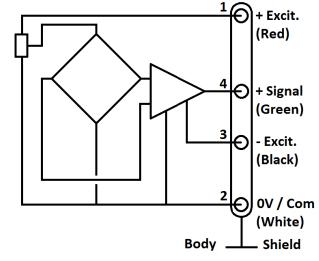
FA101 / FA101-24



Version -A1



Version -A2



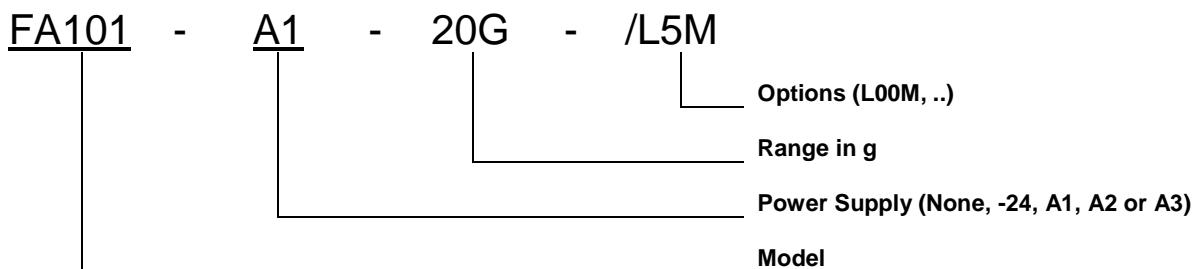


FA101 Accelerometer

OPTIONS

-24 : Regulated excitation
A1 : Amplified Tension output with unipolar power supply
A2 : Amplified Tension output with bipolar power supply
A3 : Amplified Current loop output
ET1 : CTR -20 to 100°C [-4 to 212°F] OTR=CTR (Option unavailable with version A3)
ET2 : CTR -40 to 120°C [-40 to 248°F] OTR=CTR (Option unavailable with version A3)
L : Linearity $\leq \pm 1\%$ F.S.
ZI : Zero shift $\leq \pm 1\%$ F.S. / 50°C (100°F)
L00M : special cable length, replace "00" with total length in meters

ORDERING INFO



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