

MODEL 53AF ACCELEROMETER

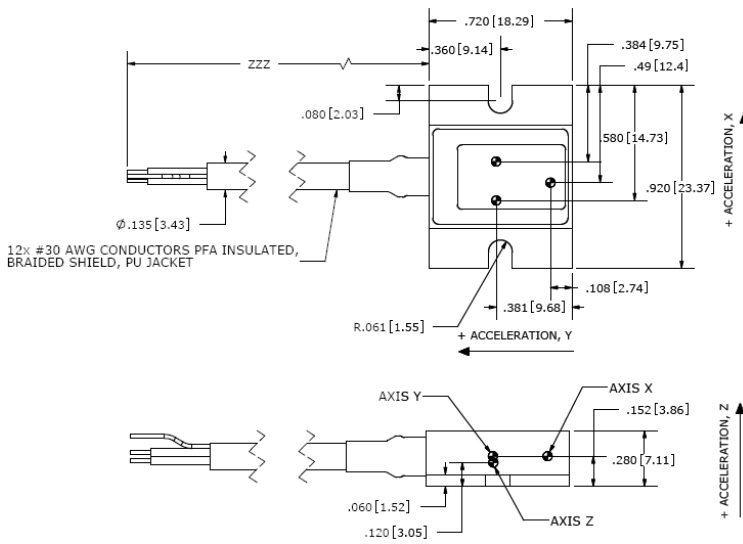
SPECIFICATIONS

- Triaxial DC Accelerometer
- Low Cost, High Performance
- $\pm 50g$ to $\pm 2000g$ Range
- Low Profile, Flange Mount

The Model 53AF Accelerometer is a small, compact triaxial device designed for vehicle impact and road testing. Its mechanical overload stops provide high shock protection in rugged applications. Featuring ranges from $\pm 50g$ to $\pm 2000g$ and frequency response to 5000 Hz, this sensor is easily mounted in hard to reach places on vehicles under test.



DIMENSIONS

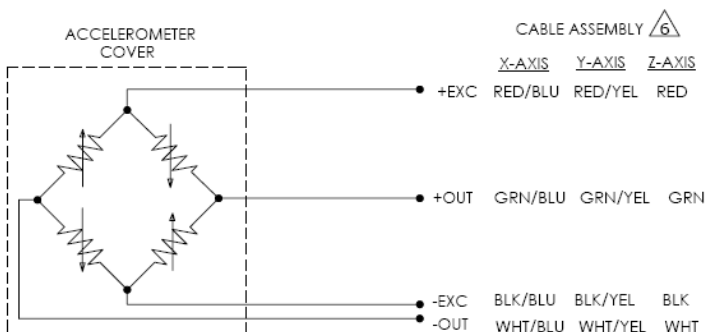


FEATURES

- $\pm 50g$ to $\pm 2000g$ Dynamic Range
- 2-10 Vdc Excitation
- -20 to +85°C Operating Range
- ± 50 mV Zero Measurand Output
- Gas Damping
- Mechanical Overload Stops
- Designed for Screw Mounting

APPLICATIONS

- Crash Testing
- Impact Testing
- Off Road Testing
- Road Testing



PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 10Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters

DYNAMIC

	±50	±200	±500	±2000	Notes
Range (g)	±50	±200	±500	±2000	
Sensitivity (mV/g) ¹	2.0	0.9	0.4	0.15	@10Vdc Excitation
Frequency Response (Hz), Z-Axis	0-1000	0-2000	0-3000	0-4500	±1dB ²
Frequency Response (Hz), X&Y Axis	0-500	0-1000	0-1500	0-2500	±1dB ²
Phase Response	0-300	0-500	0-1000	0-2000	±5°
Resonant Frequency (Hz)	4000	8000	16,000	26,000	
Non-Linearity (%FSO)	±1.0	±1.0	±1.0	±1.0	% of Reading
Transverse Sensitivity (%)	<3	<3	<3	<3	
Damping Ratio	0.6	0.5	0.3	0.1	
Shock Limit (g)	5000	5000	5000	5000	

ELECTRICAL

Zero Acceleration Output (mV)	±50				Differential
Excitation Voltage (Vdc)	2 to 10				
Input Resistance (Ω)	2400-5000				
Output Resistance (Ω)	2400-5000				
Insulation Resistance (MΩ)	>100				@100Vdc
Residual Noise (µV RMS)	10				Maximum
Ground Isolation	Isolated from Mounting Surface				

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.05
Thermal Sensitivity Shift (%/°C)	-0.20 ±0.05
Operating Temperature (°C)	-20 to +85
Storage Temperature (°C)	-20 to +85
Humidity	Epoxy Sealed, IP65

PHYSICAL

Case Material	Anodized Aluminum
Cable	12x #30 AWG PFA Insulated Leads, Braided Shield, Polyurethane Jacket
Weight (grams)	3.5
Mounting	2x #4-40 Socket Head Cap Screws
Mounting Torque	8 lb-in (0.9 N-m)

¹ Output is ratiometric to excitation voltage

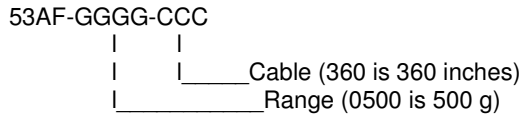
Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±1dB Frequency Response Limit²

Optional accessories: 121 Three Channel DC Signal Conditioner Amplifier
140A Auto-zero Inline Amplifier

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ORDERING INFORMATION

PART NUMBERING Model Number+Range+Cable Length



Example: 53AF-0500-360
Model 53AF, 500g, 360" (30 ft.) cable, No Options

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