

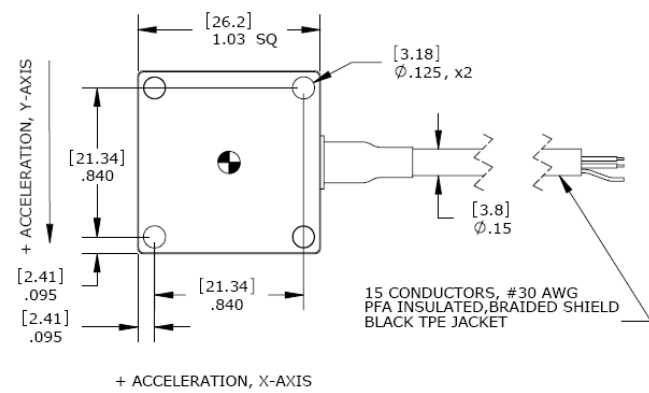
Model 4630 Accelerometer

MEMS Triaxial Accelerometer
DC Response
Accurate Temp Compensation
Signal Conditioned Output
5,000g Over-Range Protection



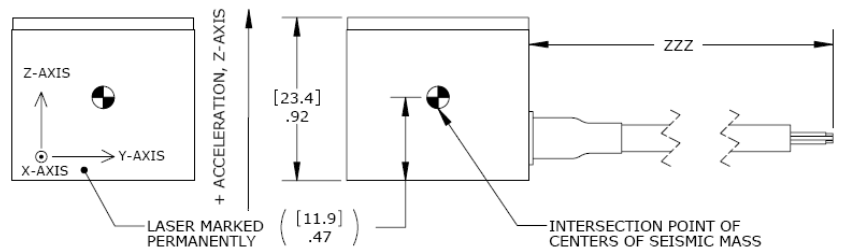
The **Model 4630** is a low noise triaxial accelerometer offering both static and dynamic response. The silicon MEMS accelerometer incorporates integral temperature compensation that provides a stable output over a wide operating range. The three independent circuit assemblies have independent signal conditioning and can operate on common or separate power supplies. The advanced MEMS sensing elements are gas damped in order to provide a wide stable frequency response.

dimensions



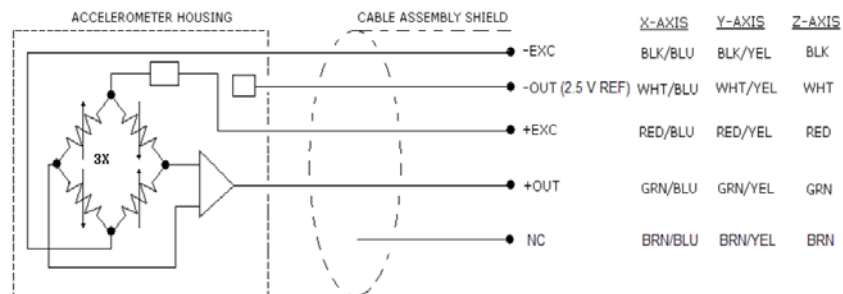
FEATURES

- Three Independent Circuits
- Lower Current Consumption
- Ranges: $\pm 2g$ to $\pm 500g$
- Gas Damped, DC Response
- High Over-Range Protection
- Temperature Compensation
- Low Transverse Sensitivity



APPLICATIONS

- Transportation
- Vibration/Shock Monitoring
- Road Vehicle Testing
- Low Frequency Applications
- Modal Analyses



Model 4630 Accelerometer

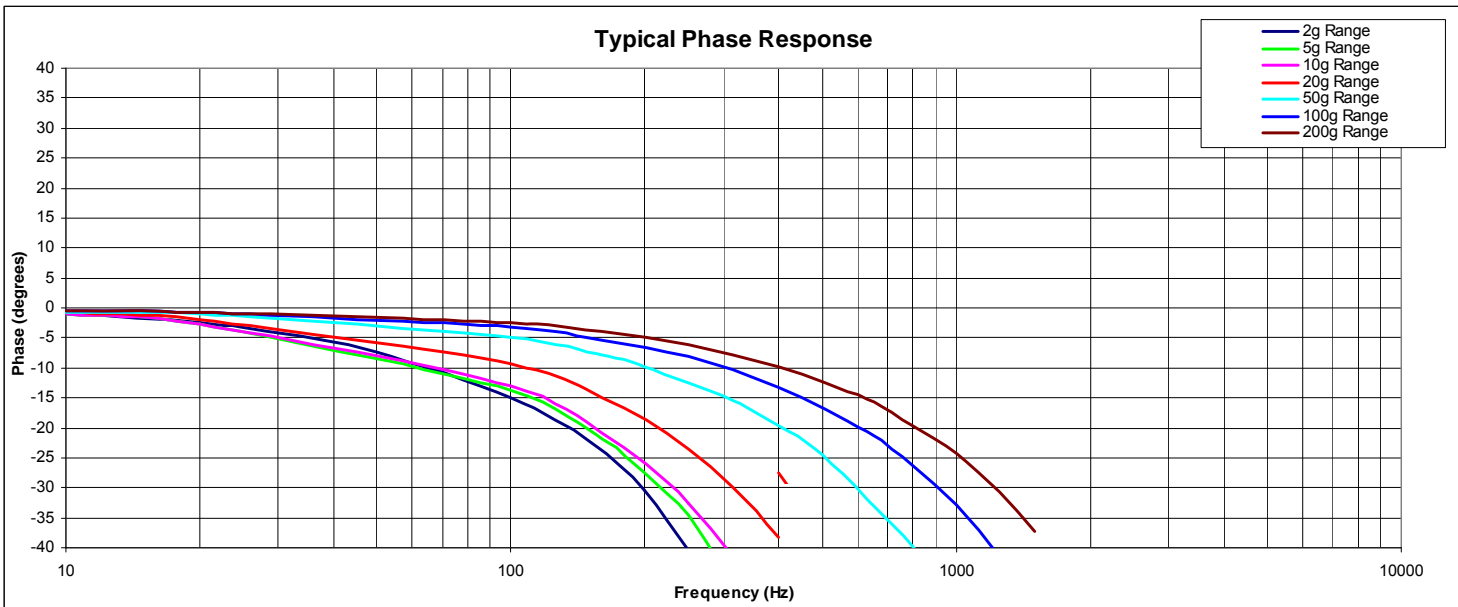
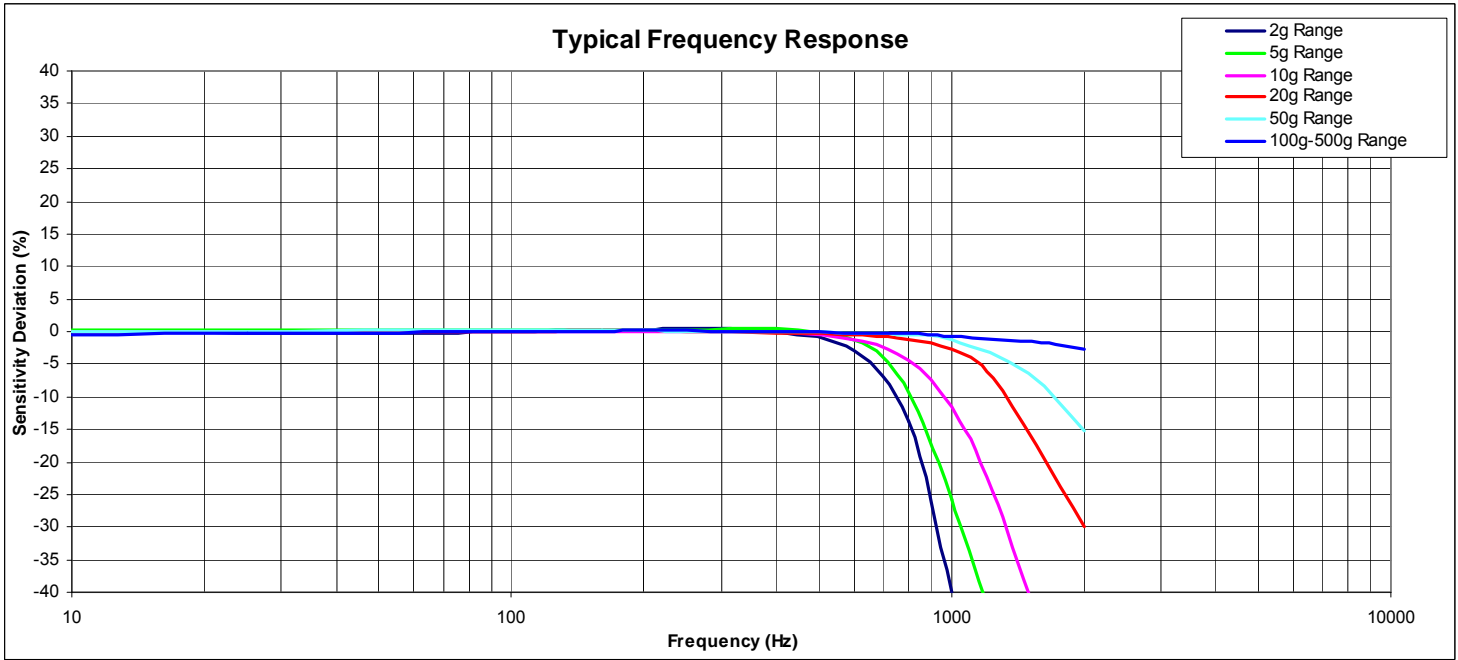
performance specifications

All values are typical at +24°C, 100Hz and 12Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters									Notes
DYNAMIC									
Range (g)	±2	±5	±10	±20	±50	±100	±200	±500	
Sensitivity (mV/g)	1000	400	200	100	40	20	10	4	
Frequency Response (Hz)	0-150	0-300	0-400	0-600	0-800	0-1000	0-1000	0-1200	±5% ¹
Frequency Response (Hz)	0-400	0-500	0-600	0-1000	0-1400	0-1600	0-2000	0-2000	±1dB
Natural Frequency (Hz)	700	800	1000	1500	4000	6000	8000	10000	
Non-Linearity (%FSO)	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	±0.5	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<3	<1 Typical
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.6	0.5	
Shock Limit (g)	5000	5000	5000	5000	5000	5000	5000	5000	
ELECTRICAL									
Zero Acceleration Output (mV)	±50	±50	±50	±50	±50	±50	±50	±50	Differential
Excitation Voltage (Vdc)	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	8 to 36	
Excitation Current (mA)	<5	<5	<5	<5	<5	<5	<5	<5	
Bias Voltage (Vdc)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	
Output Resistance (Ω)	<100	<100	<100	<100	<100	<100	<100	<100	
Insulation Resistance (MΩ)	>100	>100	>100	>100	>100	>100	>100	>100	@100Vdc
Turn On Time (msec)	<100	<100	<100	<100	<100	<100	<100	<100	
Residual Noise (μV RMS)	500	300	300	350	400	400	400	400	Passband
Spectral Noise (μg/√Hz)	35	38	75	132	316	516	1033	2582	Passband
Ground Isolation	Isolated from Mounting Surface								
ENVIRONMENTAL									
Thermal Zero Shift (%FSO/°C)	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	±0.008	Typical
Thermal Sensitivity Shift (%/°C)	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	±0.010	Typical
Operating Temperature (°C)	-55 to 125								
Compensated Temperature (°C)	-40 to 100								
Storage Temperature (°C)	-55 to 125								
PHYSICAL									
Case Material	Anodized Aluminum								
Cable	Teflon Insulated Leads, Braided Shield, TPE Jacket								
Weight (grams)	40								
Mounting	2x #4 or M3 Screws								
Mounting Torque	6 lb-in (0.7 N-m)								
AWG	#30								
Wiring color code:	X-axis: +Excitation = Red/Blu; -Excitation = Blk/Blu; +Output = Grn/Blu; -Output = Wht/Blu; Programming = Brn/Blu Y-axis: +Excitation = Red/Yel; -Excitation = Blk/Yel; +Output = Grn/Yel; -Output = Wht/Yel; Programming = Brn/Yel Z-axis: +Excitation = Red; -Excitation = Black; +Output = Green; -Output = White; Programming = Brown (brown wires are used for programming and are not to be connected)								
Calibration supplied:	CS-FREQ-0100	NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit ¹							
Supplied accessories:	AC-D02855	2x #4-40 (1 ^{1/8} length) Socket Head Cap Screw and Washer							
Optional accessories:	101	Three Channel DC Signal Conditioner Amplifier							

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performance specifications



PART NUMBERING Model Number+Range+Cable Length

4630-GGG-CCC

| |
 | | Cable (060 is 60 inches)
 | Range (020 is 20g)

Example: 4630-020-060

Model 4630, 20g, 60" (5ft) Cable