

Model 4630 Accelerometer

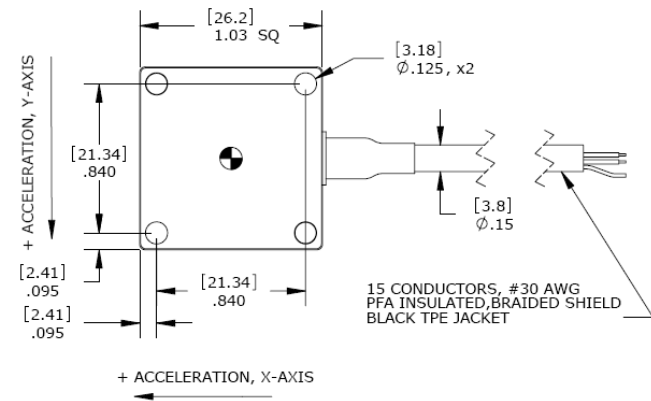


MEMS Triaxial Accelerometer
DC Response, Ultra-Stable
Accurate Temp Compensation
Signal Conditioned Output
5,000g Over-Range Protection



The **Model 4630** is an ultra-stable 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.

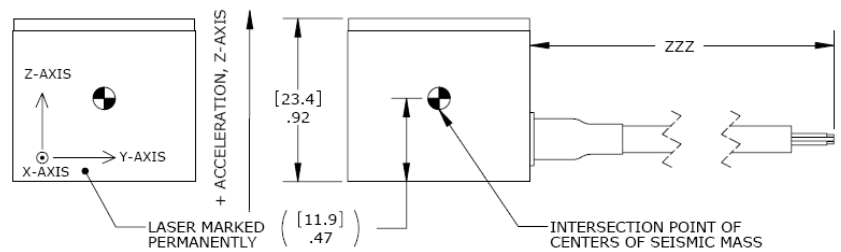
dimensions



15 CONDUCTORS, #30 AWG
PFA INSULATED, BRAIDED SHIELD
BLACK TPE JACKET

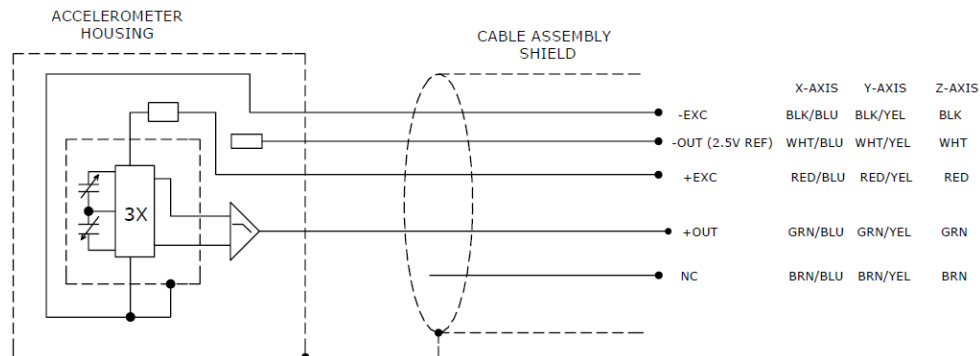
FEATURES

- Three Independent Circuits
- Low Current Consumption
- Ranges: $\pm 2g$ to $\pm 500g$
- Gas Damped, DC Response
- High Over-Range Protection
- -55°C to $+125^{\circ}\text{C}$ Operating Range
- 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

DYNAMIC

	±2	±5	±10	±20	±50	±100	±200	±500	Notes
Range (g)									
Sensitivity (mV/g)	1000	400	200	100	40	20	10	4	
Frequency Response (Hz)	0-200	0-600	0-800	0-800	0-800	0-1000	0-1000	0-1200	±5% ¹
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	
Residual Noise (µV RMS)	500	500	500	550	500	500	500	400	Passband
Spectral Noise (µg/√Hz)	35	72	125	208	316	516	1033	2582	Passband

ELECTRICAL

Zero Acceleration Output (mV)	±50								Differential
Excitation Voltage (Vdc)	8 to 36								
Excitation Current (mA)	<15 (<5 per channel)								
Bias Voltage (Vdc)	2.5								
Output Resistance (Ω)	<100								
Full Scale Output Voltage (V)	±2								
Insulation Resistance (MΩ)	>100								@100Vdc
Turn On Time (msec)	<100								
Ground Isolation	Isolated from Mounting Surface								

ENVIRONMENTAL

Thermal Zero Shift (%FSO/°C)	±0.004								Typical
Thermal Sensitivity Shift (%/°C)	±0.010								Typical
Operating Temperature (°C)	-55 to 125								
Storage Temperature (°C)	-55 to 125								
Housing (Active Element & Electronics)	Hermetic Solder Seal								
Humidity (Housing)	Epoxy Seal, IP65								

PHYSICAL

Case Material	Anodized Aluminum
Cable	15x #30 AWG Conductors PFA Insulated Leads, Braided Shield, TPE Jacket
Weight (grams)	40
Mounting	2x #4 or M3 Screws
Mounting Torque	6 lb-in (0.7 N-m)

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±5% Frequency Response Limit ¹

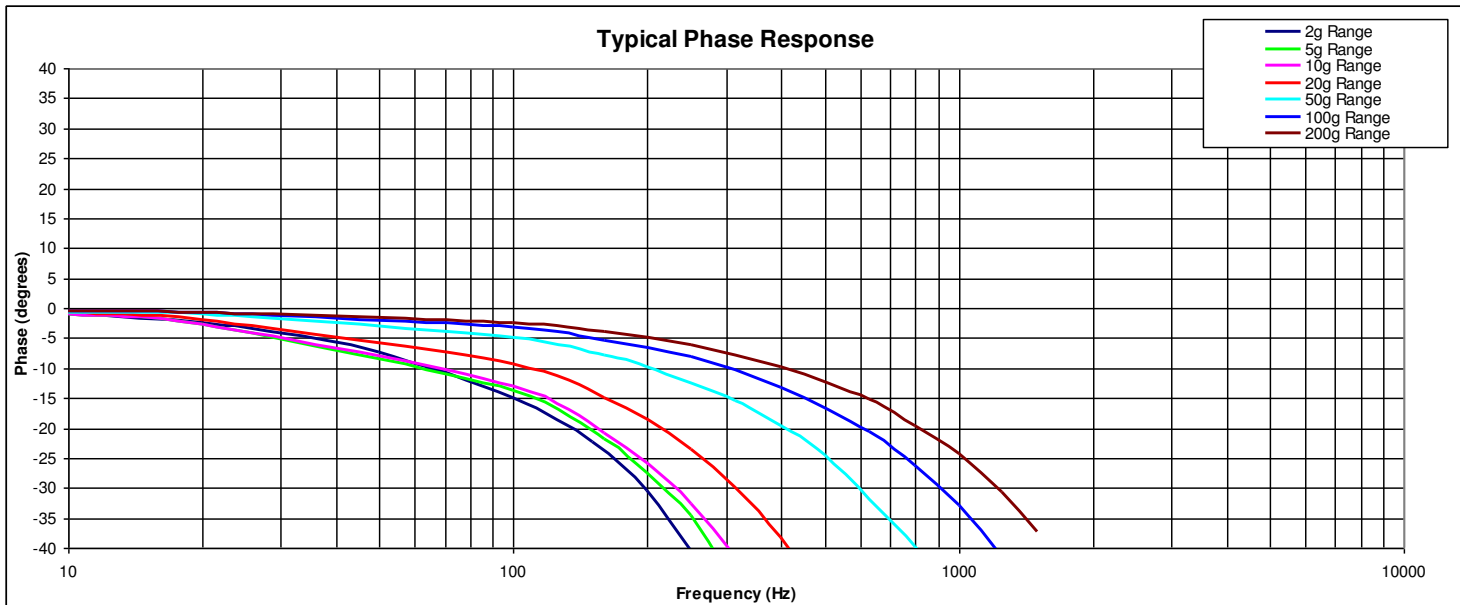
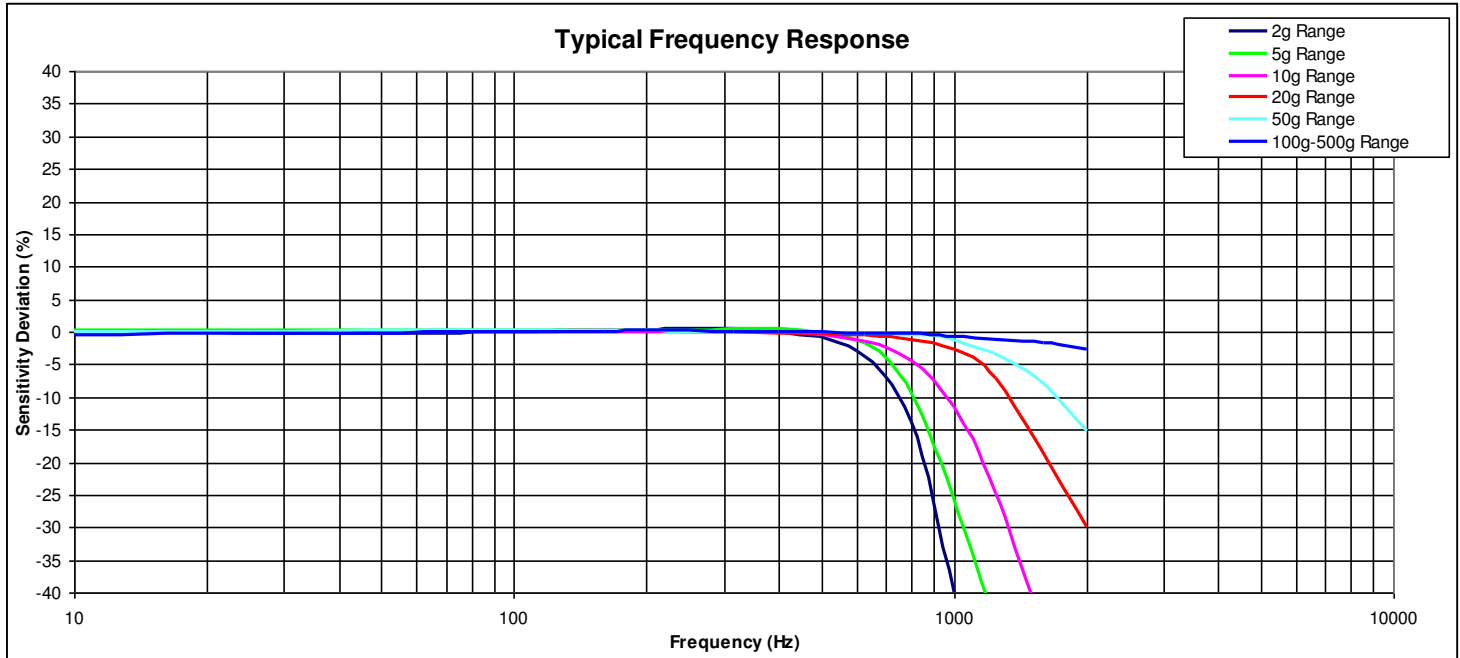
Supplied accessories: AC-D02855 2x #4-40 (1^{1/8} length) Socket Head Cap Screw and Washer

Optional accessories: 121 3-Channel Precision Low Noise DC Amplifier

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Model 4630 Accelerometer

performance specifications



ordering info

PART NUMBERING Model Number+Range+Cable Length

4630-GGG-ZZZ-C

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

Example: 4630-020-060-C
Model 4630, 20g, 60" (5ft) Cable