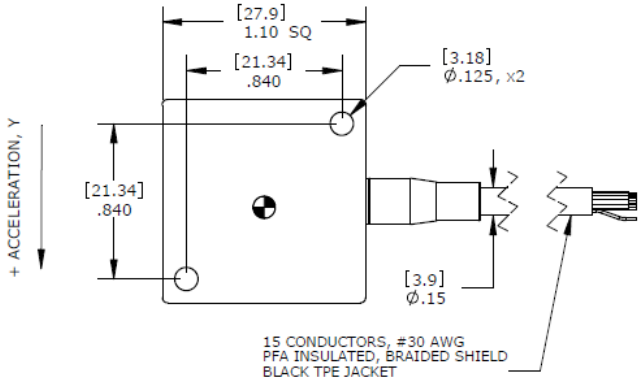
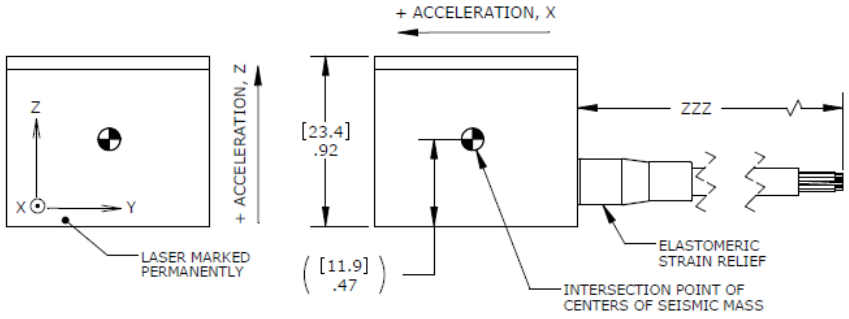
Model 4630 Accelerometer

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



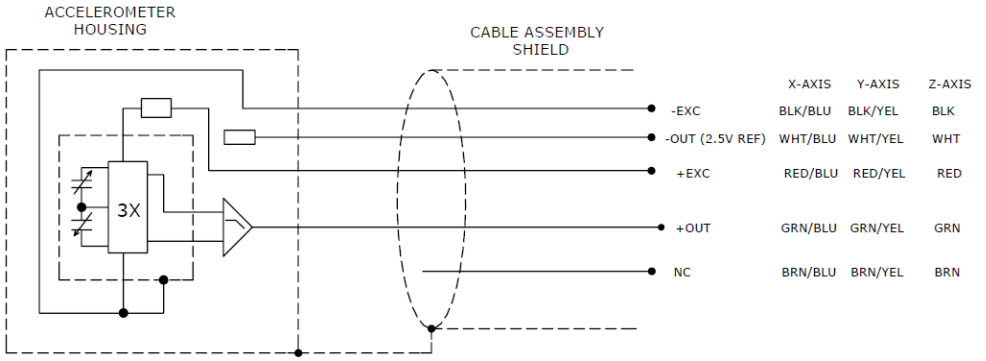


FEATURES

- Three Independent Circuits
- Low Current Consumption
- Ranges: ±2g to ±200g
- Gas Damped, DC Response
- High Over-Range Protection
- -55°C to +125°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, 80Hz 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									**Notes**
Range (g)	±2	±5	±10	±20	±30	±50	±100	±200	
Sensitivity (mV/g)	1000	400	200	100	67	40	20	10	
Frequency Response (Hz)	0-200	0-600	0-800	0-800	0-800	0-800	0-1000	0-1000	±5%[1]
Natural Frequency (Hz)	700	800	1000	1500	1500	4000	6000	8000	
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	0.7	0.6	
Shock Limit (g)	2000	5000	5000	5000	5000	5000	5000	5000	
Residual Noise (µV RMS)	550	700	750	1100	750	750	800	800	Passband
Spectral Noise (µg/√Hz)	38	71	126	379	378	632	1265	2530	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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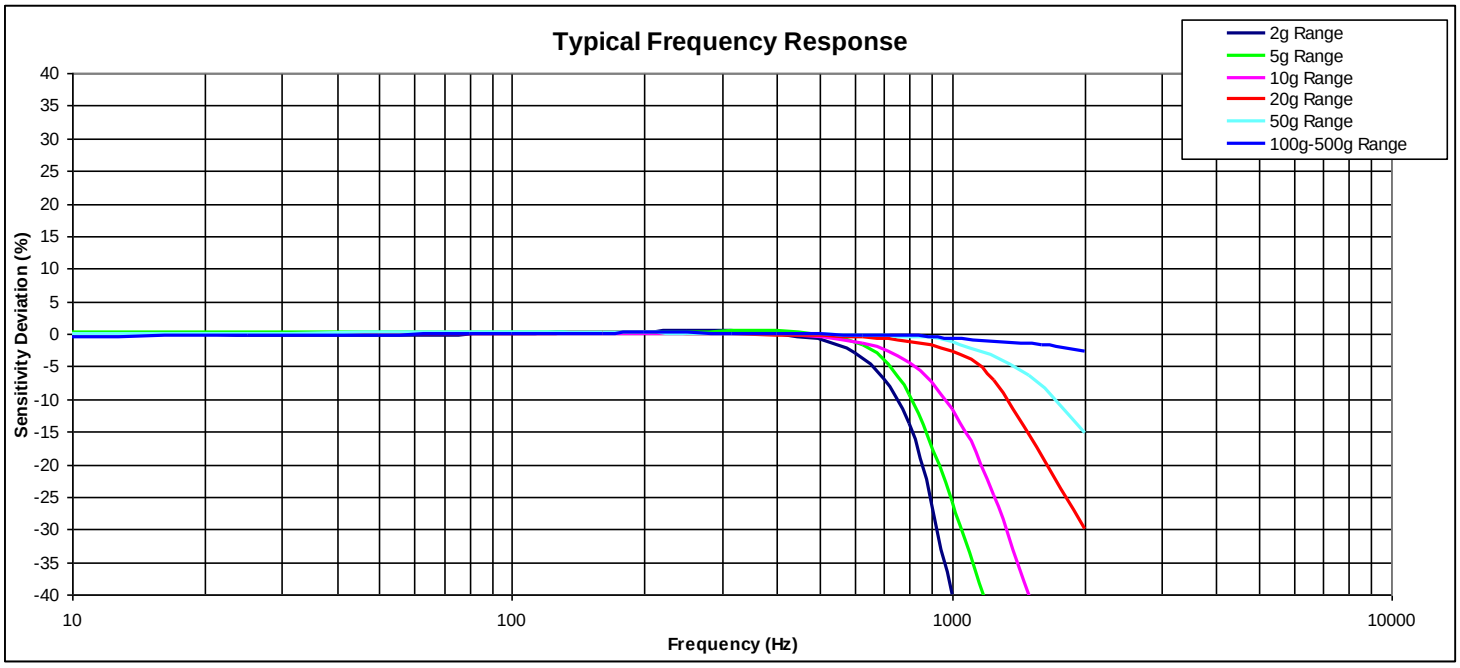

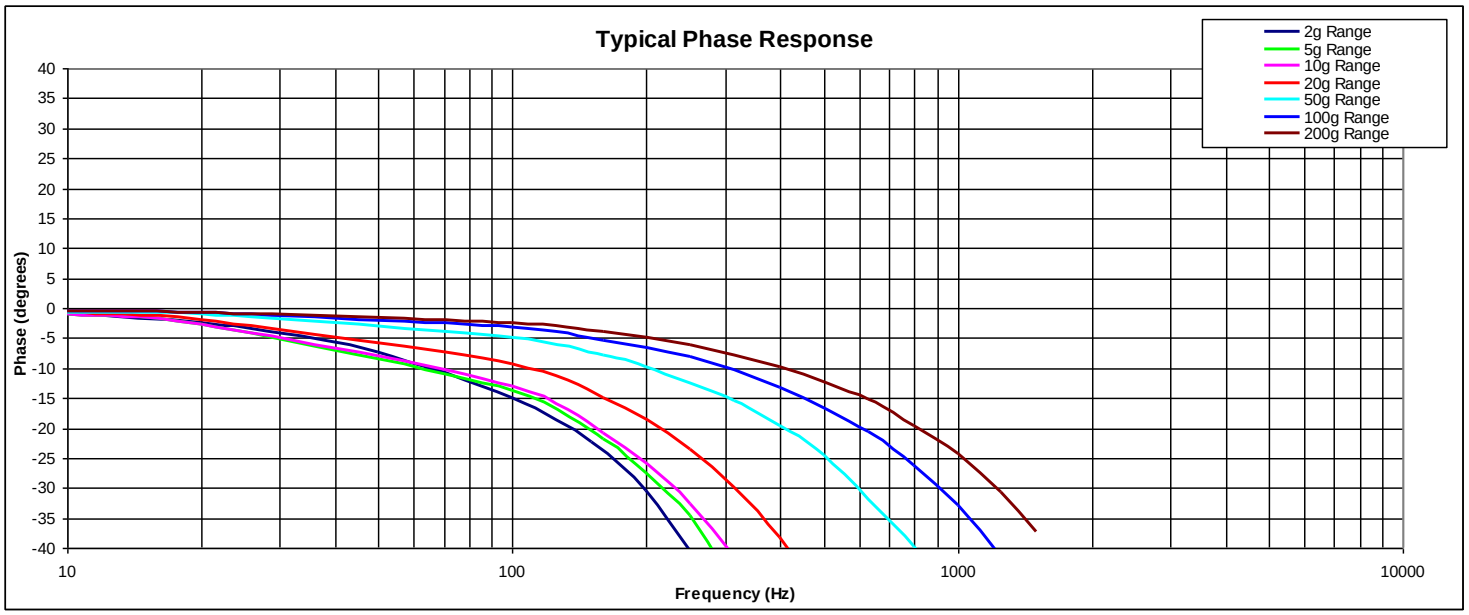

ordering info

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