

MODEL EGCS-D5 ACCELEROMETER

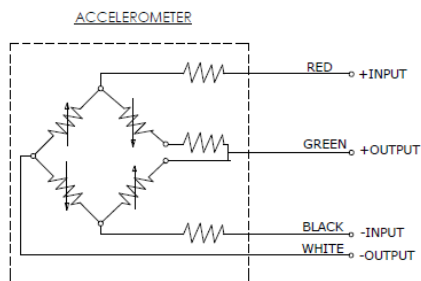
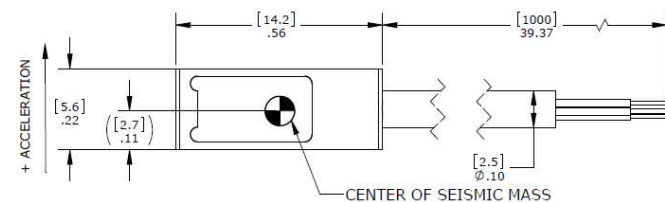
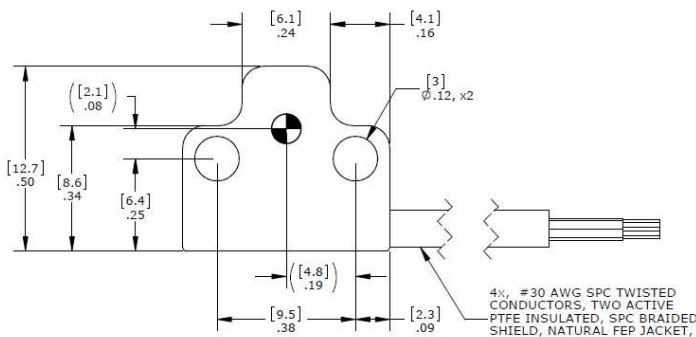
SPECIFICATIONS

- ◆ Rugged Piezoresistive Design
- ◆ DC Response, Critically Damped
- ◆ $\pm 50g$ to $\pm 10,000g$ Range
- ◆ DC to 10kHz Response
- ◆ Fits Popular Shock Accelerometer Mounting Bolt Pattern

The Model EGCS-D5 accelerometer is critically damped with built-in over-range stops that are set to protect the unit against up to 20,000g shocks. This is ideal for applications which may experience rough handling or in situations where the accelerometer must survive a high initial overload in order to make a low g measurement. These units feature a Wheatstone Bridge output with compensated temperature range of +20 to +80°C. An inline amplifier option is available for superior signal to noise performance.



dimensions



FEATURES

- ◆ $\pm 50g$ to $\pm 10,000g$ Dynamic Range
- ◆ Heavy Duty, Rugged
- ◆ Static and Dynamic Measurement
- ◆ DC to 10,000Hz Frequency Response
- ◆ $\pm 1\%$ Non-Linearity
- ◆ -40°C to +100°C Temperature Range
- ◆ Inline Amplifier Option

APPLICATIONS

- ◆ Metal-to-Metal Mechanical Shock
- ◆ Impact Testing
- ◆ Building Construction
- ◆ Pile Driving
- ◆ Weapons Testing

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PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 80Hz and 15Vdc excitation unless otherwise stated. Measurement Specialties reserves the right to update and change these specifications without notice.

Parameters									Notes
DYNAMIC									
Range (g)	±50	±100	±250	±500	±1000	±2500	±5000	±10000	
Sensitivity (mV/g) ¹	4	2	0.8	0.4	0.2	0.08	0.04	0.016	
Frequency Response (Hz)	0-360	0-540	0-780	0-1050	0-1500	0-2100	0-2400	0-5000	+3%/-8%
Frequency Response (Hz)	0-600	0-900	0-1300	0-1750	0-2500	0-3500	0-4000	0-10000	+3%/-18%
Natural Frequency (Hz)	1200	1800	2600	3500	5000	7000	8000	16000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<3	<3	<3	<3	<3	<3	<3	<3	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Nominal
Shock Limit (g)	5000	10000	10000	10000	10000	10000	20000	20000	

ELECTRICAL

Zero Acceleration Output (mV)	±20 Differential
Excitation Voltage (Vdc)	15 (can be used from 2 to 15Vdc but lower excitation voltage will decrease sensitivity accordingly)
Input Resistance (Ω)	2000 Nominal
Output Resistance (Ω)	1000 Nominal
Insulation Resistance (MΩ)	>100 @50Vdc
Ground Isolation	Isolated from Mounting Surface

ENVIRONMENTAL

Thermal Zero Shift	±2.0mV / 50°C (±2.0mV / 100°F)
Thermal Sensitivity Shift	±2.5% / 50°C (±2.5% / 100°F)
Operating Temperature	-40 to +100°C (-40 to +212°F)
Compensated Temperature	+20 to +80°C (+70 to +170°F), contact factory for other temperature compensation options
Storage Temperature	-40 to +100°C (-40 to +212°F)
Humidity	Epoxy Sealed, IP65

PHYSICAL

Case Material	Stainless Steel
Cable	4x #30 AWG Leads, PTFE Insulated, Braided Shield, FEP Jacket
Weight	8 grams
Mounting	Screw Mount, 2x #4-40 Socket Head Cap Screws

¹ Output is ratiometric to excitation voltage

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

Optional accessories: AC-D05201 Triaxial Mounting Block
121 3-Channel Precision Low Noise DC Amplifier
140A Auto-zero Inline Amplifier
145 Dedicated Inline Amplifier (see next page)



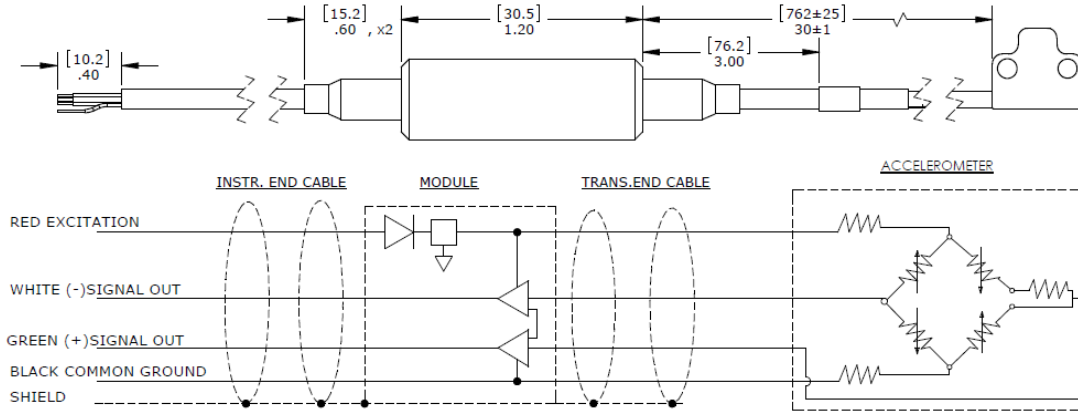
Optional 145 Inline Amplifier Module

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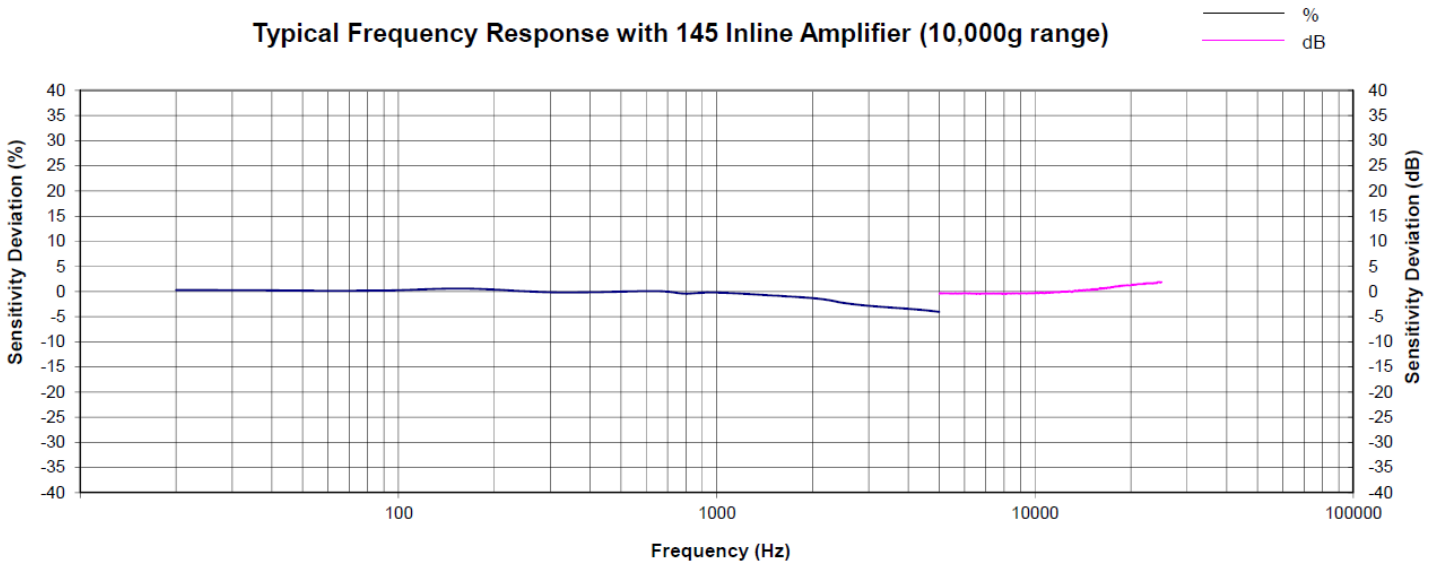
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Unit with model 145 Inline Amplifier can be powered with 8-20Vdc. The sensor is supplied with regulated 5Vdc from the amplifier. The output is differential with a 2.5Vdc common mode. The amplifier has a 30x gain and a 20kHz low-pass filter and is intended for high-g ranges.

145 AMP OPTION



Typical Frequency Response with 145 Inline Amplifier (10,000g range)



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ORDERING INFO

EGCS-D5L-100-/Z1/L2M/145

| | | Options, otherwise leave blank

| | Range (100 is 100g)

| Sensitive axis rotated 90°, otherwise blank

Compensated Temp Ranges:

Standard = +20 to +80°C (+70 to +170°F)

Z* = Non standard, contact factory

Excitation Voltage:

Standard = 15Vdc

V* = Non standard, contact factory

Special Cable Length:

L00F = Replace "00" with length in feet

L00M = Replace "00" with length in meter

Standard Unit with 145 Amplifier:

145 = Inline amplifier added

Example: EGCS-D5-10000-/L2M

Model EGCS-D5, 10,000g Range, 2 Meter Cable Length