

9 EGCS-D0/D1S ACCELEROMETER

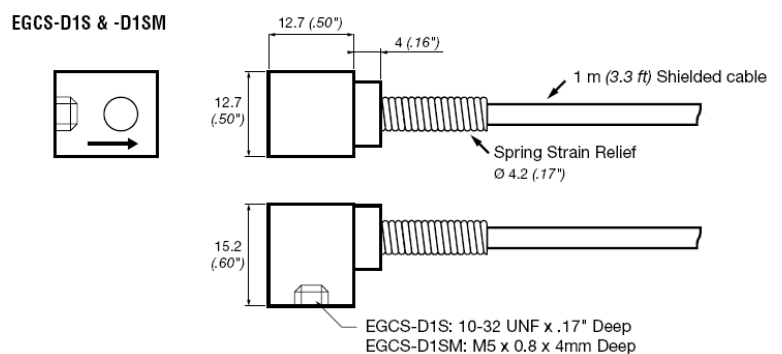
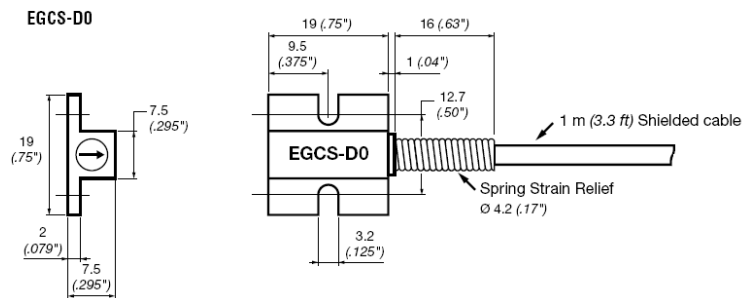
SPECIFICATIONS

- Rugged Design
- DC Response, Critically Damped
- $\pm 5g$ to $\pm 10,000g$ Range
- Broad Temperature Range

The Model EGCS-D0/D1S accelerometers are 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.



DIMENSIONS

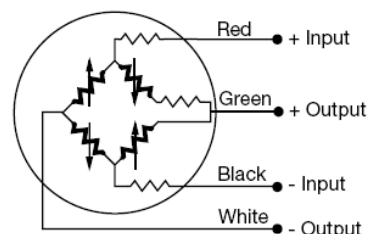


FEATURES

- $\pm 5g$ to $\pm 10,000g$ Dynamic Range
- Heavy Duty, Rugged
- Static and Dynamic Measurement
- DC to 4000Hz Frequency Response
- $\pm 1\%$ Non-Linearity
- -40°C to +100°C Temperature Range

APPLICATIONS

- General Purpose
- Impact & Shock Testing
- Vibration Monitoring
- Engine Testing
- Road Vehicle Testing



**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. Standard product parameters are described in PSC-1004 for Plug & Play DC Accelerometers.

Parameters**DYNAMIC**

| Range (g) | ±5 | ±10 | ±25 | ±50 | ±100 | ±250 | ±500 | ±1000 | ±2500 | ±5000 | ±10000 |
|---------------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Sensitivity (mV/g) ¹ | 40 | 20 | 8 | 4 | 2 | 0.8 | 0.4 | 0.2 | 0.08 | 0.04 | 0.016 |
| Frequency Response min. (Hz) +3%/-8% | 0-90 | 0-120 | 0-240 | 0-360 | 0-540 | 0-780 | 0-1050 | 0-1500 | 0-2100 | 0-2400 | 0-3000 |
| Frequency Response nom. (Hz) +3%/-18% | 0-150 | 0-200 | 0-400 | 0-600 | 0-900 | 0-1300 | 0-1750 | 0-2500 | 0-3500 | 0-4000 | 0-5000 |
| Natural Frequency (Hz) | 300 | 400 | 800 | 1200 | 1800 | 2600 | 3500 | 5000 | 7000 | 8000 | 16000 |
| Non-Linearity (%FSO) | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 | ±1 |
| Transverse Sensitivity (%) | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 |
| Damping Ratio, Nominal | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 |
| Shock Limit (g) | 500 | 1000 | 2000 | 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 Compensated | -40 to +100°C (-40 to +212°F) |
| 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 #28 AWG Leads, PFA Insulated, Braided Shield, Polyurethane Jacket |
| Weight | 10 grams for EGCS-D0, 12grams for EGCS-D1S |
| Mounting | Screw Mount for EGCS-D0, Stud Mount for EGCS-D1S |

¹ Output is ratiometric to excitation voltage

Calibration supplied: CS-FREQ-0100 NIST Traceable Amplitude Calibration from 20Hz to ±1/2dB Frequency Response Limit

Optional accessories: AC-A04686 Triaxial Mounting Block for EGCS-D0
121 3-Channel Precision Low Noise DC Amplifier
140 Auto-zero Inline Amplifier



ORDERING INFORMATION

EGCS – D0 – 100 – /Z1/L2M/C
+(70 to +170°F)
| | | Options, otherwise leave blank
contact factory
| | Range (100 is 100g)
| Housing (D0, D1S or D1SM)
contact factory
length in feet
length in meter
male or equivalent

Example: EGCS-D0-100-/L2M
Model EGCS, D0 Housing Configuration, 100g Range, 2 Meter Cable Length

Compensated Temp Ranges: Standard = +20 to +80°C
Z* = Non standard,
Excitation Voltage: Standard = 15Vdc
V* = Non standard,
Special Cable Length: L00F = Replace "00" with
L00M = Replace "00" with
Connector Wired to Cable: C = Microtech type