

# Model EGCS-D0/D1S Accelerometer

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.

## FEATURES

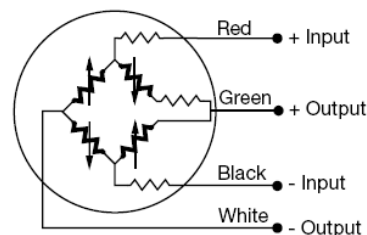
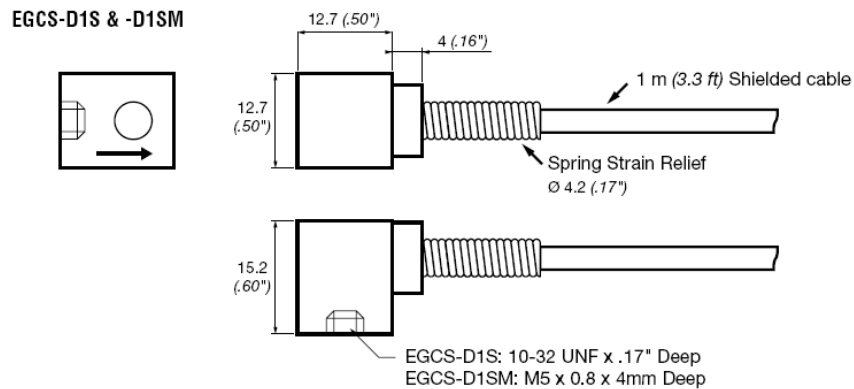
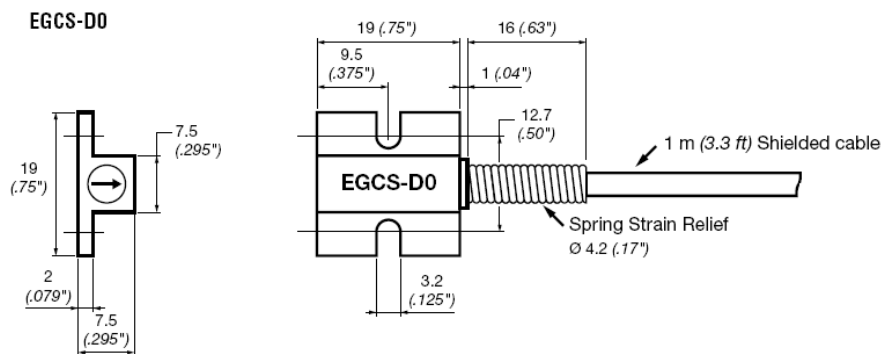
- $\pm 5g$  to  $\pm 10,000g$  Dynamic Range
- Heavy Duty, Rugged
- Static and Dynamic Measurement
- DC to 4000Hz Frequency Response
- $\pm 1\%$  Non-Linearity
- -40 °C to +120 °C Temperature Range

## APPLICATIONS

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



## dimensions



# Model EGCS-D0/D1S Accelerometer

## performance specifications

All values are typical at +24°C, 100Hz 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

| <b>DYNAMIC</b>                  |       |       |       |       |       |        |        |        |        |        |        |
|---------------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| Range (g)                       | ±5    | ±10   | ±25   | ±50   | ±100  | ±250   | ±500   | ±1000  | ±2500  | ±5000  | ±10000 |
| Sensitivity (mV/g) <sup>1</sup> | 40    | 20    | 8     | 4     | 2     | 0.8    | 0.4    | 0.2    | 0.08   | 0.04   | 0.016  |
| Frequency Response min. (Hz)    | 0-90  | 0-120 | 0-240 | 0-360 | 0-540 | 0-780  | 0-1050 | 0-1500 | 0-2100 | 0-2400 | 0-3000 |
| +3%/-8%                         |       |       |       |       |       |        |        |        |        |        |        |
| Frequency Response nom. (Hz)    | 0-150 | 0-200 | 0-400 | 0-600 | 0-900 | 0-1300 | 0-1750 | 0-2500 | 0-3500 | 0-4000 | 0-5000 |
| +3%/-18%                        |       |       |       |       |       |        |        |        |        |        |        |
| 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) | ±15 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 +120°C (-40 to +250°F)  |
| Compensated Temperature   | +20 to +80°C (+70 to +170°F), contact factory for other temperature compensation options |
| Storage Temperature       | -40 to +120°C (-40 to +250°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                     |

<sup>1</sup> Output is ratiometric to excitation voltage

|                              |                         |   |
|------------------------------|-------------------------|---|
| <b>Calibration supplied:</b> | CS-FREQ-0100            | NIST Traceable Amplitude Calibration from 20Hz to ±1/2dB Frequency Response Limit                               |
| <b>Optional accessories:</b> | AC-A04686<br>121<br>140 | Triaxial Mounting Block for EGCS-D0<br>3-Channel Precision Low Noise DC Amplifier<br>Auto-zero Inline Amplifier |

## ordering info

### EGCS – D0 – 100 – /Z1/L2M/C

| | | Options, otherwise leave blank  
| | Range (100 is 100g)  
| Housing (D0, D1S or D1SM)

### 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

### Connector Wired to Cable:

C = Microtech type male or equivalent

Example: EGCS-D0-100-/L2M

Model EGCS, D0 Housing Configuration, 100g Range, 2 Meter Cable Length

## 联系方式



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