

# MODEL EGAS ACCELEROMETER

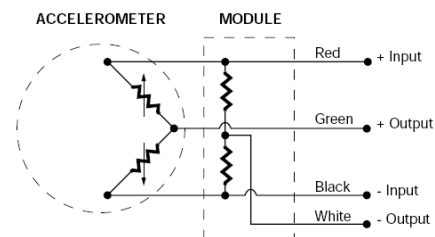
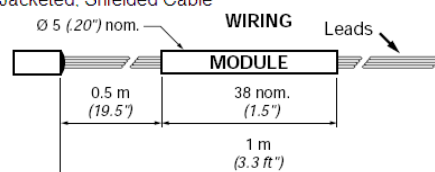
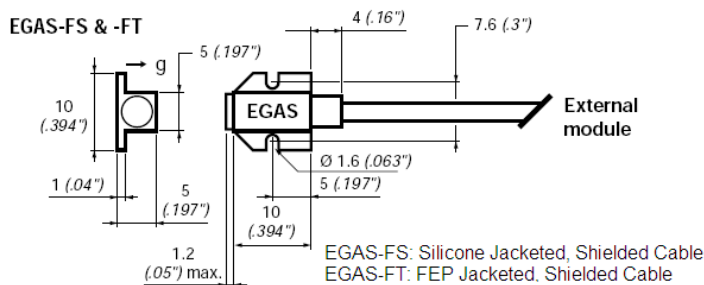
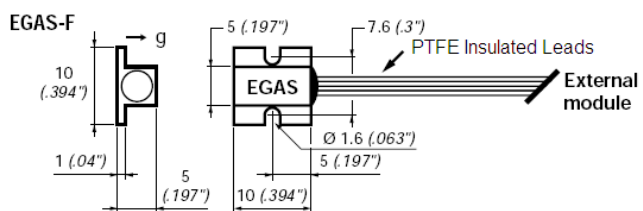
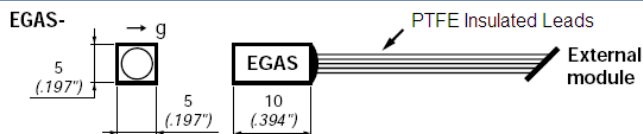
## SPECIFICATIONS

- ◆ Miniature Design, Light Weight
- ◆ DC Response, Critically Damped
- ◆ 10,000 g Over-range Stops
- ◆ Broad Temperature Range

The Model EGAS is a miniature, uniaxial accelerometer featuring ranges from  $\pm 5g$  through  $\pm 2500g$ . This rugged unit weighs less than 1 gram (without leads) and has an over-range limit of 10,000g's. The  $\frac{1}{2}$  active bridge is suitable for shunt calibration. With an operating temperature range of  $-40^{\circ}C$  to  $+120^{\circ}C$ , the EGAS is the unit of choice for measurement professionals in the automotive, military, aerospace and transportation industries. Its combined nonlinearity and hysteresis of  $\pm 1\%$  makes the EGAS well-suited for on-site testing as well as laboratory use.



## dimensions



## FEATURES

- ◆ 2-15Vdc Excitation Voltage
- ◆ Weighs < 1 gram
- ◆ Static and Dynamic Measurement
- ◆ Frequency Response through 3500 Hz
- ◆ 2% Transverse Sensitivity
- ◆ Damping Ratio 0.7

## APPLICATIONS

- ◆ Sports and Recreation
- ◆ Modeling and Entertainment
- ◆ Biodynamics
- ◆ Automotive Testing
- ◆ Laboratory Usage

**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**

**DYNAMIC**

	±5	±10	±25	±50	±100	±250	±500	±1000	±2500	Notes
Range (g)										
Sensitivity (mV/g)	20	10	4	2	1	0.4	0.2	0.1	0.04	
Frequency Response min. (Hz)	0-80	0-120	0-240	0-350	0-500	0-750	0-	0-	0-	±1/2dB
Frequency Response nom. (Hz)	0-150	0-200	0-400	0-600	0-900	0-1300	1000	1500	2000	±1/2dB
Natural Frequency (Hz)	300	400	800	1200	1800	2600	3500	5000	7000	
Non-Linearity (%FSO)	±1	±1	±1	±1	±1	±1	±1	±1	±1	
Transverse Sensitivity (%)	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Damping Ratio	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	Nominal
Shock Limit (g)	500	1000	2000	5000	10000	10000	10000	10000	10000	

**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)	1300	Nominal
Output Resistance (Ω)	1500	Nominal
Insulation Resistance (MΩ)	>100	@50Vdc
Ground Isolation	Isolated from Mounting Surface	

**ENVIRONMENTAL**

Thermal Zero Shift	±1.0mV / 50°C (±1.0mV / 100°F)
Thermal Sensitivity Shift	±2.5% / 50°C (±2.5% / 100°F)
Operating Temperature Compensated	-40 to +120°C (-40 to +250°F)
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

**PHYSICAL**

Case Material	Stainless Steel
Cable	4x #34 AWG Conductors PTFE Insulated, Shielded & Jacketed on -FS & -FT Options
Weight	1 grams
Mounting	Screw Mount for EGAS-F, Adhesive Mount for EGAS

**Wiring color code:** +Excitation = Red; -Excitation = Black; +Output = Green; -Output = White

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

**Optional accessories:** MTG-F2 Triaxial Mounting Block for EGAS-FS & -FT  
 MTG-F3 Triaxial Mounting Block for EGAS-F  
 121 3-Channel Precision Low Noise DC Amplifier  
 140 Auto-zero Inline Amplifier

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## ORDERING INFO

### EGAS – F – 100 – /Z1/L2M/C

| | | Options, otherwise leave blank  
| | Range (100 is 100g)  
| Housing (-F, -FS, -FT or leave blank)

### Compensated Temp Ranges:

Standard = +20 to +80°C (+70 to +170°F)  
Z1 = -20 to +40°C (0 to +100°F)  
Z2 = 0 to +60°C (+32 to +140°F)  
Z4 = +40 to +90°C (+100 to +200°F)  
Z\* = Non standard, contact factory

### Excitation Voltage:

Standard = 15Vdc  
V\* = Non standard, contact factory  
L00F = Replace "00" with length in feet  
L00M = Replace "00" with length in meter  
C = Microtech type male or equivalent  
R = RJ Telephone Male, for EGAS & -F  
RS = RJ Telephone Male, for -FS & -FT

### Special Cable Length:

### Connector Wired to Cable:

Example: EGAS-F-100-/L2M

Model EGAS, F Housing Configuration, 100g Range, 2 Meter Cable Length

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