

EGCS-A2/B2

Miniature Acceleration Sensor

- Ranges ± 5 g up to 5000 g
- Non-linearity ± 1 % FSO
- Output [supply voltage]:
 - A2: 5 V [± 15 VDC]
 - B2: 2.5 V [24 ... 32 VDC]



The Models EGCS-A2 and -B2 accelerometers are critically damped with built-in over-range stops that are set to protect the unit against 10000 g shocks. The accelerometers incorporate signal conditioning with optional ± 5 VDC or ± 2.5 VDC amplified full-scale output and are offered in ranges from ± 5 g to ± 5000 g. The accelerometers are ideal for low frequency measurements and feature temperature compensation from +20 ... +80 °C.

■ Features

- ± 5 g to ± 5000 g Dynamic Range
- Heavy Duty, Rugged
- Static and Dynamic Measurement
- DC to 4000 Hz Frequency Response
- ± 1 % Non-Linearity
- -40 °C to +120 °C Temperature Range
- 10000g Over-range Protection

■ Applications

- Road Vehicle Testing
- Machine Control
- Downhole
- Engine Testing
- General Purpose

■ Specification

All values are typical at 24 °C and at $\pm 15/28$ VDC excitation unless otherwise stated.

| Dynamic | Unit | | | | | | | | | | | Notes |
|-------------------------|-------|---------|----------|----------|----------|-----------|-----------|-----------|------------|------------|------------|--------------|
| | g | ± 5 | ± 10 | ± 25 | ± 50 | ± 100 | ± 250 | ± 500 | ± 1000 | ± 2500 | ± 5000 | |
| Range | | | | | | | | | | | | |
| Sensitivity, A2 | mV/V | 1000 | 500 | 200 | 100 | 50 | 20 | 10 | 5 | 2 | 1 | |
| Sensitivity, B2 | mV/V | 500 | 250 | 100 | 50 | 25 | 10 | 5 | 2.5 | 1 | 0.5 | |
| Frequency Response, min | Hz | 0-80 | 0-120 | 0-240 | 0-350 | 0-500 | 0-750 | 0-1000 | 0-1500 | 0-2000 | 0-2400 | $\pm 1/2$ dB |
| Frequency Response, nom | Hz | 0-150 | 0-200 | 0-400 | 0-600 | 0-900 | 0-1300 | 0-1750 | 0-2500 | 0-3500 | 0-4000 | $\pm 1/2$ dB |
| Natural Frequency | Hz | 300 | 400 | 800 | 1200 | 1800 | 2600 | 3500 | 5000 | 7000 | 8000 | |
| Non-linearity | % FSO | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 | |
| Transvers Sensitivity | % | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | <3 | |
| Damping Ratio, nom. | | 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 | 10000 | |

Electrical

| | | |
|---------------------------|--|--------------|
| Zero Acceleration Output | ± 250 mV | differential |
| Supply voltage | A2: ± 15 VDC; B2: 24 ... 32 VDC (28 VDC nominal) | |
| Supply current | 15 mA max | nominal |
| Full Scale Output Voltage | A2: ± 5 VDC; B2: ± 2.5 VDC | |
| Output Impedance | A2: 1 Ω nominal, B2: 1000 Ω nominal | |
| Insulation Resistance | >100 M Ω | @50 VDC |
| Ground Isolation | Isolated from Mounting Surface | |

Environmental

| | |
|---------------------------|---------------------------------------|
| Thermal Zero Shift | ± 50 mV/50°C (± 50 mV/100°F) |
| Thermal Sensitivity Shift | ± 2.5 %/50°C (± 2.5 %/100°F) |

| | |
|-------------------------|--|
| Operating Temperature | -40 ... +120 °C (-40 ... +250 °F) |
| Compensated Temperature | +20 ... +80 °C (+70 ... +170°F), call for other temperature compensation options |
| Storage Temperature | -40 ... +120 °C (-40 ... +250 °F) |
| Humidity | Epoxy Sealed |

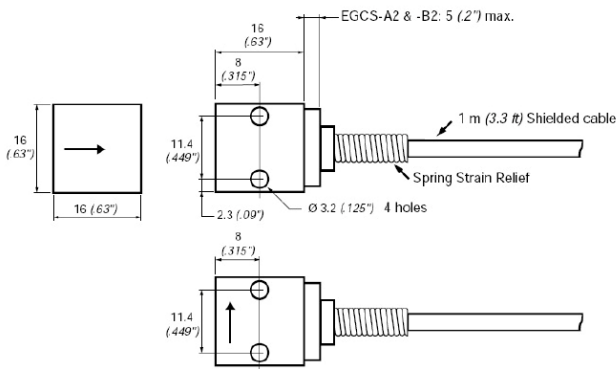
Physical

| | |
|---------------|--|
| Case Material | Anodized Aluminium |
| Cable | PFA Insulated Leads, Braided Shield, Silicone Jacket |
| Weight | <15 grams |
| Mounting | Screw mount |
| AWG | #28 |

| | |
|---------------------------|--|
| Wiring color code: | + Supply = Red; - Supply = Black; + Output = Green; - Output = White |
|---------------------------|--|

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

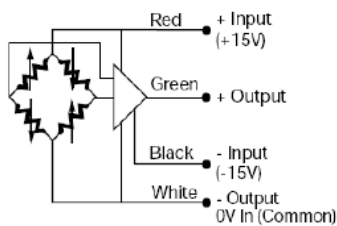
Dimensions



All dimensions in mm (inches), approx. values.
These drawings are for information only and not intended for construction purpose.
Please ask for detailed drawings.

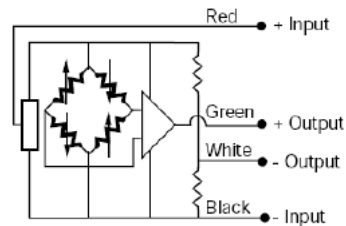
Wiring

A2:



It is recommended that "0 V COMMON" of the power supply be grounded if consistent with proper operation of the instrumentation system

B2:



Common mode output voltage of +5 V nom. referred to -Input.

Ordering Information

| | | | | | | |
|-------|---|----------|---|-------|---|------------------|
| EGCS | - | A2 | - | 100 | - | /Z1/L2M/C |
| Model | | A2 or B2 | | Range | | Options or blank |

| | | | |
|----------------------------------|-----------------|---|--|
| Comp. temperature ranges: | Standard | = | 20 ... +80 °C (70 ... +170 °F) |
| | Z* | = | Non-Standard, contact factory |
| Supply voltage: | Standard | = | A2: ± 15 VDC; B2: 28 VDC |
| | V* | = | Non-standard, contact factory |
| Special cable length: | L00F | = | Replace "00" with total length in ft |
| | L00M | = | Replace "00" with total length in m |
| Connector wired to cable: | C | = | Microtech type male or equivalent |

Due to continual product development, ALTHEN and partners reserve the right to vary the foregoing details without prior notice.

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ALTHEN GmbH Mess- und Sensortechnik

Frankfurter Str. 150 - 152 +49 6195 70060
65779 Kelkheim / Germany +49 6195 700666

<http://www.althensensors.com>
info@althen.de

ALTHEN
MESS- UND SENSORTECHNIK