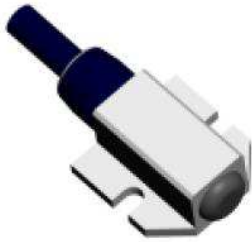


## MODEL EGAS-S398C PEDESTRIAN IMPACT ACCELEROMETER



### SPECIFICATIONS

- Euro NCAP Certified for Pedestrian Testing
- DC Response, Fluid Damped
- $\pm 50g$  to  $\pm 2000g$  Ranges
- Compliant to SAE-J211
- Compliant to ISO-6487

### FEATURES

- Standard  $<10mV$  ZMO
- Linearity  $<1\%$
- Transverse Sensitivity  $<1\%$
- 2-10Vdc Excitation
- 0.7 Critical Damping Ratio
- Flexible, Low Noise Cable

### APPLICATIONS

- Pedestrian Impact Testing
- ATD Head Form Test
- Shock and Impact Testing
- Transient Drop Testing
- Helmet Impact Testing

The **Model EGAS-S398C Accelerometer** is a critically fluid damped accelerometer designed specifically for ATD pedestrian impact and head form testing. The accelerometer has been certified by Euro NCAP for dummy impact and head form test applications.

The accelerometer is available in ranges from  $\pm 50g$  to  $\pm 2000g$  and features silicon semiconductor strain gages in a half-bridge configuration with a nominal  $1500\Omega$  impedance. The design also incorporates integral mechanical over-range stops for high-g protection.

The model EGAS-S398C accelerometer is temperature compensated for low drift performance. The thermal compensation circuit is installed in an in-line cable module.

## MODEL EGAS-S398C PEDESTRIAN IMPACT ACCELEROMETER

### PERFORMANCE SPECIFICATIONS

All values are typical at +24°C, 100Hz and 10Vdc excitation unless otherwise stated. TE Connectivity reserves the right to update and change these specifications without notice.

#### PARAMETERS

| DYNAMIC                      |        |        |         |         |         |         | NOTES             |
|------------------------------|--------|--------|---------|---------|---------|---------|-------------------|
| Range (g)                    | ±50    | ±100   | ±250    | ±500    | ±1000   | ±2000   |                   |
| Channel Class Frequency      | CFC180 | CFC600 | CFC1000 | CFC1000 | CFC1000 | CFC1000 |                   |
| Full Scale Output (mV)       | 54-72  | 54-72  | 54-72   | 54-72   | 54-72   | 54-72   | @10Vdc Excitation |
| Frequency Response (Hz)      |        |        |         |         |         |         |                   |
| Attenuation at Fh            | 180    | 600    | 1000    | 1000    | 1000    | 1000    | ±0.5dB            |
| Attenuation at Fn            | 300    | 1000   | 1650    | 1650    | 1650    | 1650    | +0.5dB / -2dB     |
| Attenuation at 2Fh           | 360    | 1200   | 2000    | 2000    | 2000    | 2000    | +0.5dB / -4dB     |
| Natural Frequency (Hz)       | >1000  | >1500  | >2500   | >4000   | >6000   | >10000  |                   |
| Transverse Sensitivity (%)   | <1     | <1     | <1      | <1      | <1      | <1      | Nominal           |
| Non-Linearity (% of reading) | ±1     | ±1     | ±1      | ±1      | ±1      | ±1      |                   |
| Damping Ratio                | 0.7    | 0.7    | 0.7     | 0.7     | 0.7     | 0.7     |                   |
| Shock Limit (g)              | 5000   | 5000   | 10000   | 10000   | 10000   | 10000   |                   |

#### ELECTRICAL

|                               |                                |              |
|-------------------------------|--------------------------------|--------------|
| Zero Acceleration Output (mV) | <±10                           | Differential |
| Excitation Voltage (Vdc)      | 2 to 10                        |              |
| Input Resistance (Ω)          | 1300 nominal                   |              |
| Output Resistance (Ω)         | 1500 nominal                   |              |
| Insulation Resistance (MΩ)    | >100                           | @100Vdc      |
| Residual Noise (μV RMS)       | <10                            |              |
| Ground Isolation              | Isolated from mounting surface |              |

#### ENVIRONMENTAL

|                                  |                    |                     |
|----------------------------------|--------------------|---------------------|
| Thermal Zero Shift (%FSO/°C)     | ±0.02              | From -10°C to +50°C |
| Thermal Sensitivity Shift (%/°C) | ±0.05              | From -10°C to +50°C |
| Operating Temperature (°C)       | -20 to +80         |                     |
| Storage Temperature (°C)         | -20 to +80         |                     |
| Humidity                         | Epoxy Sealed, IP62 |                     |

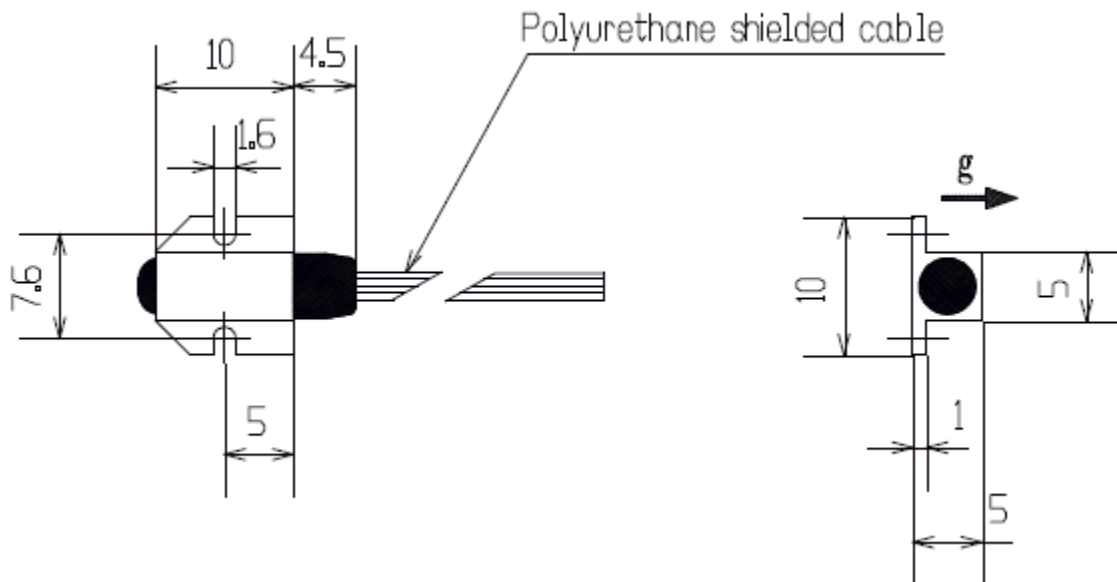
#### PHYSICAL

|                |                                                              |                    |
|----------------|--------------------------------------------------------------|--------------------|
| Case Material  | Anodized Aluminum                                            |                    |
| Cable          | 4x #32 AWG Leads, PTFE Insulated, Braided Shield, TPU Jacket |                    |
| Weight (grams) | <4                                                           | Cable not included |
| Mounting       | Screw mounting                                               |                    |

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

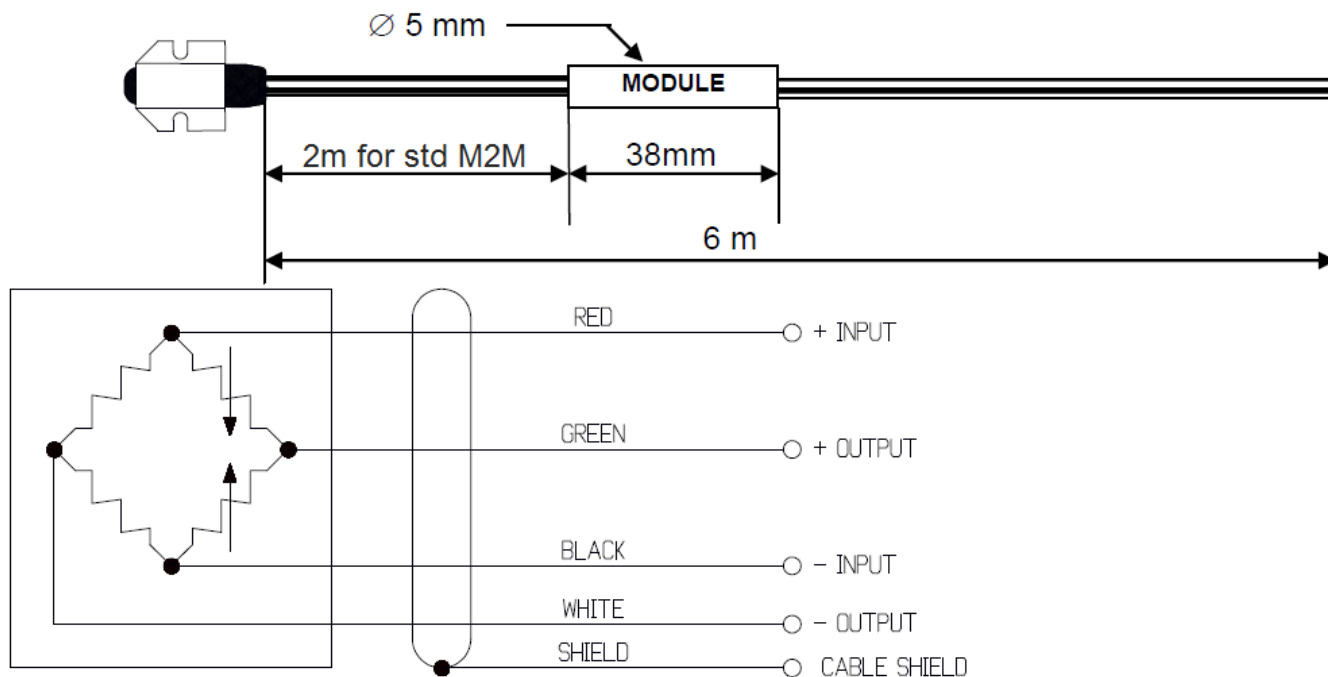
**Optional accessories:** 121 3-Channel Precision Low Noise DC Amplifier  
140A Auto-Zero Inline Amplifier

## DIMENSIONS



## SCHEMATIC

- Insulated shielded cable
- Four conductors AWG32 PTFE insulated leads
- TPU jacket (Diameter: 2.3 mm)



ORDERING INFORMATION

| EGAS-S398C                                                                                         | GGGG | /MXM | /LXM | /VY |
|----------------------------------------------------------------------------------------------------|------|------|------|-----|
| <b>Range</b><br>50 = 50g<br>100 = 100g<br>250 = 250g<br>500 = 500g<br>1000 = 1000g<br>2000 = 2000g |      |      |      |     |
| <b>Inline Module Location</b><br>M2M = 2 meter which is standard                                   |      |      |      |     |
| <b>Cable length</b><br>Blank = 6 meter standard length<br>L3M = 3 meter<br>L9M = 9 meter           |      |      |      |     |
| <b>Excitation Voltage Option</b><br>Blank = 10Vdc<br>V5 = 5Vdc                                     |      |      |      |     |

Example;EGAS-S398C-500-/M2M  
Model EGAS-S398C, 500g range, standard 6meter cable length

Example;EGAS-S398C-2000-/M2M/L3M/V5  
Model EGAS-S398C, 2000g range, 3meter cable length, 5Vdc excitation