**TYPE: DA-Series**

**Miniature Capacitive Accelerometers**

- Single to triaxial versions available
- Ranges from ±2 to ±500 g
- Extremely cost effective
- Rugged anodised aluminium housing
- Very small dimensions

The Accelerometers of the DA-Series fill the gap between cheap MEMS chips and expensive housed accelerometers with special filters and damping.

The variable capacitance Accelerometers are in an elegant and robust aluminium housing. The small dimensions allow the use in locations which are difficult to access. The sensors can be used for static (DC-Response, 0 Hz) and dynamic applications. Versions with one to three axes are available.

The sensors are supplied without calibration curves.

**Dimensions (mm)**

<table>
<thead>
<tr>
<th>Axes Inscription</th>
<th>Monoaxial</th>
<th>Triaxial</th>
<th>Biaxial</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Z</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

**Direction of Acceleration:**

The arrows show the direction of acceleration of the sensor or object which it is attached to and not the direction of acceleration of the mass of the equivalent force-cantileverbeam-diagram.

On sensors of the first Generation (DA-xxx) the arrows showed the direction of acceleration of the seismic mass.
**Mechanical specifications**
- Range: See table
- Overrange: 4,000 g
- Housing: anodized aluminium
- Mounting: with two M2 counter-sunk screws M2x12 / M2x20 (encl.)
- Protection: IP 65
- Non-Linearity: 0.3 %
- Cross-Sensitivity: ±2 % (±5 % > 33 g)
- Weight: < 10 gr. (15x15x15 mm housing <15 gr.)

**Electrical Specifications**
- Excitation: 5 VDC regulated
- Current consumption: 0.5 mA
- Electrical outlet: 2 m shielded cable
  - Cable assignment:
    - Red: + Excitation
    - Black: - GND
    - Green: + Signal X-Axis
    - Yellow: + Signal Y-Axis
    - Blue: + Signal Z-Axis
    - White: + Self test
  - Cable shield is connected to sensor housing
- Output impedance < 20 g: approx. 35 kΩ
- Output impedance > 20 g: < 500  Ω

**Thermal Specifications**
- Compensated Temperature Range (CTR): -20 to +70 °C
- Thermal Zero Drift in CTR: < ±0.03 % F.S./°C
- Thermal Sensitivity Drift in CTR: < ±0.02 % F.S./°C
- Operating Temperature Range (OTR): -55 to +125 °C
- Storage Temperature: -55 to +150 °C

**Options**
The Z-Axis of the cubical triaxial sensors is optionally available in all ranges.

<table>
<thead>
<tr>
<th></th>
<th>single axis</th>
<th>biaxial (Housing height ≥ 100 g; 15 mm)</th>
<th>triaxial (Housing height ≥ 5 g; 15 mm)</th>
<th>Range (g)</th>
<th>Output nom. (±15 %)</th>
<th>Bandwidth (Hz, ±3dB)</th>
<th>RMS Noise (% v.B.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DA 1102–002g</td>
<td>DA 2102–002g</td>
<td>±2</td>
<td>DA 3102–002g</td>
<td>±2</td>
<td>Y.Z: 2.5 ± 1.1 V</td>
<td>1.500</td>
<td>0.75</td>
</tr>
<tr>
<td>DA 1102–005g</td>
<td>DA 2102–005g</td>
<td>±5</td>
<td>DA 3802–005g</td>
<td>±15</td>
<td>2.5 ± 1.4 V</td>
<td>1.500</td>
<td>&lt; 0.25</td>
</tr>
<tr>
<td>DA 1202–015g</td>
<td>DA 2202–015g</td>
<td>±15</td>
<td>DA 3802–015g</td>
<td>±33</td>
<td>2.5 ± 1.8 V</td>
<td>400</td>
<td>&lt; 0.25</td>
</tr>
<tr>
<td>DA 1202–050g</td>
<td>DA 2202–050g</td>
<td>±50</td>
<td>DA 3502–050g</td>
<td>±50</td>
<td>2.5 ± 1.8 V</td>
<td>400</td>
<td>&lt; 0.25</td>
</tr>
<tr>
<td>DA 1202–100g</td>
<td>DA 3502–100g</td>
<td>±100</td>
<td>DA 3502–050g</td>
<td>±500</td>
<td>2.5 ± 1.6 V</td>
<td>10.000</td>
<td>&lt; 0.25</td>
</tr>
<tr>
<td>DA 1202–225g</td>
<td>DA 2202–225g</td>
<td>±225</td>
<td>DA 3502–050g</td>
<td>±500</td>
<td>2.5 ± 1.8 V</td>
<td>400</td>
<td>&lt; 0.25</td>
</tr>
<tr>
<td>DA 1202–500g</td>
<td>DA 2202–500g</td>
<td>±500</td>
<td>DA 3502–050g</td>
<td>±500</td>
<td>2.5 ± 1.6 V</td>
<td>10.000</td>
<td>&lt; 0.25</td>
</tr>
</tbody>
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