



Capacitive Accelerometer



ASC 4521 / ASC 4525

Uniaxial
4 wire system
Amplified Output
Aluminium Housing

Uniaxial
4 wire system
Amplified Output
Stainless Steel Housing



Features

- Range 1g to 200g
- High Shock Resistant
- Gas Damping
- DC Response
- Excellent Bias Stability
- Excellent Scale Factor Stability

Options

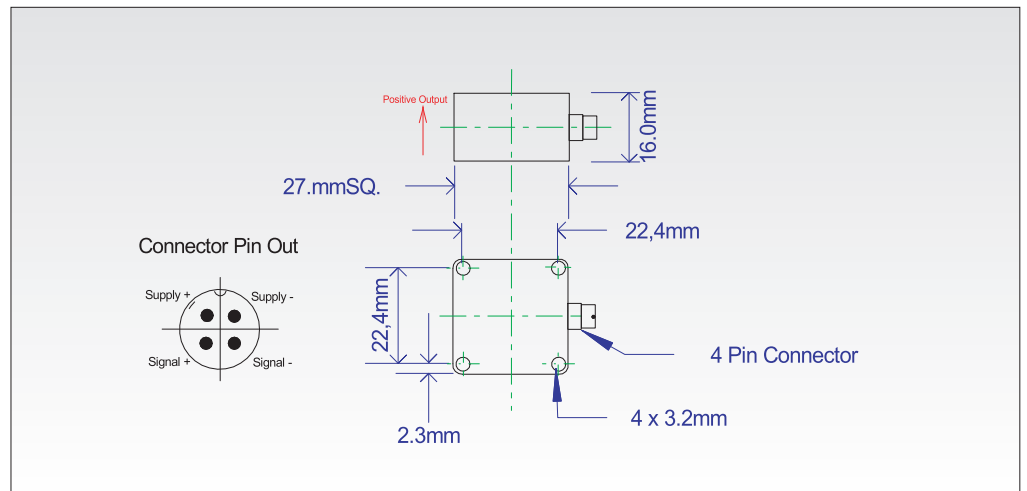
- Customized Cable Length
- Customized Connector
- Dallas ID Module
- ASC-Teds ID Module

Applications

- Vibration Monitoring
- General Vibrations
- Automotive Comfort Measurements
- High Speed Trains
- Seismic Measurements
- Military Applications

Capacitive MEMS Technology

The accelerometers are based on a capacitive MEMS technology and can be used in a low frequency response up from 0 Hz. Inside the sensor element, the seismic mass is connected with two conductive capacitor plates. If the seismic mass oscillates between the two capacitor plates the capacitance will change. This capacitance change is converted via an ASIC (Application Specific Integrated Circuit) into an analog signal.



Description

The models **ASC 4521** and **ASC 4525** have been developed for the demanding requirements of different applications. The highly robust housing and the connecting cables are suitable for the rough application areas in automotive, train, military and so on.

These ASC accelerometers benefit from the high stability of the chip technology with a low bias and an excellent scale factor temperature coefficient.

The **ASC 4521** and **ASC 4525** are fully compensated over a wide temperature range and are factory calibrated. As capacitive technology is used, extremely small measuring ranges are possible. The amplified output is easy to use with a data acquisition unit. The signal is independent from the power between +8 VDC to +30 VDC.

A very high flexible and rugged cable provides a simple mounting. **ASC 4521** and **ASC 4525** are equipped with 2 meter cable as standard.

General Technical Data

Supply Voltage	8 VDC - 30 VDC
Operation Current	2 mA max.
Linearity FSO	< 0.8% typ.
Damping Ratio	0.7 typ.
Transvers Sensitivity	2% typ.
Signal Output	+/- 2000 mVDC FSO
Zero Output	2500 mVDC +/- 10 mV
Reference Output	2500 mVDC
Output Impedance	10 kOhm
TC Span	all 100 ppm/°C typ.
Noise	17 µVRootHz
Shock Resistant	7000g
Operating Temperature	-20 °C to +100 °C
Storage Temperature	-40 °C to +120 °C

Calibration

- Pendulum Calibration
- Sinusoidal Calibration

Calibration Data incl.:

- Sensitivity
- Frequency
- Offset
- Phase

Individual Technical Data

	Sensitivity	Frequency +/- 5%	TC Zero
Range +/-1g	2000 mV/g	100 Hz	0.05 mg/ °C typ.
Range +/-2g	1000 mV/g	100 Hz	0.1 mg/ °C typ.
Range +/-5g	400 mV/g	100 Hz	0.3 mg/ °C typ.
Range +/-10g	200 mV/g	800 Hz	0.5 mg/ °C typ.
Range +/-30g	66 mV/g	1000 Hz	1.5 mg/ °C typ.
Range +/-50g	40 mV/g	1500 Hz	2.5 mg/ °C typ.
Range +/-100g	20 mV/g	1500 Hz	5.0 mg/ °C typ.
Range +/-200g	10 mV/g	1700 Hz	10 mg/ °C typ.

At 10 VDC Supply and 25 °C

Order Information ASC 4521-XXX-2A

1 2 3 4

- ① Model: ASC 4521: Aluminium
ASC 4525: Stainless Steel
- ② Range: e.g. 050 is 50g
- ③ Cable: Length in Meter
- ④ Connector and Pinout /
„A“ is for No Connector

	Weight	Material	Dimensions
Housing			
ASC 4521	20 gram	Aluminium	27.0 mm x 27.0 mm x 16.0 mm
ASC 4525	68 gram	Stainless Steel	27.0 mm x 27.0 mm x 16.0 mm
Cable			
4 Wire System	12 gram/meter	AWG 30, Polyurethane (PUR)	Diameter 3.0 mm

Cable Code 4 Wire System:

Red Supply +
Black Supply -
Green Signal +
White Signal -

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