



Capacitive Accelerometer

ASC 3421



Uniaxial
Amplified Output
Temperature Compensated
Aluminum Housing

Features

- Ranges: 1g to 200g
- High Shock Resistant
- Gas Damping
- Frequency Response starting at 0 Hz
- Excellent Bias Stability
- Excellent Scale Factor Stability

Options

- Customised cable length
- Customised plug connector
- Dallas ID Module
- ASC-Teds Module

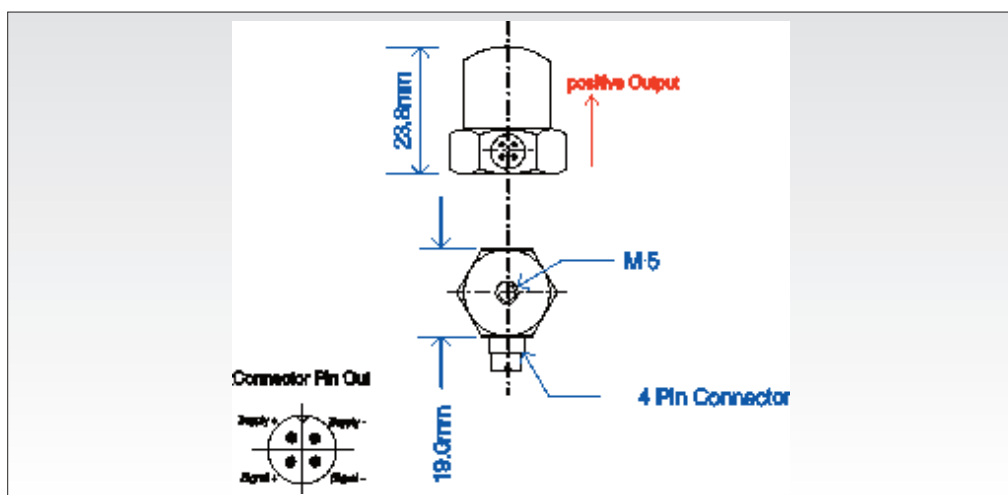
Applications

- TrainControl
- Train Engineering
- Wind Energy Engineering
- Automotive
- Aerospace flight testing
- Aerospace flutter testing
- Mechanical Engineering
- Truck Testing
- Geophysics



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 model **ASC 3421** is an uniaxial accelerometer based on capacitive MEMS technology. It is fully temperature compensated and factory calibrated. The sensor has specifically been developed for monitoring, tilt and comfort vibration measurements. The four wire output can be connected to all data management systems. The hard anodized aluminum housing is epoxy sealed and ground isolated. A 4-pin Comtronix connector is used as a standard and therefore the mounting can easily be handled.

The model **ASC 3421** is based on Low Noise technology which provides an excellent resolution.

Because 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. The **ASC 3421** is equipped as standard with 6 m cable.

General Technical Data

Supply Voltage	8 VDC - 30 VDC
Operation Current typ.	2 mA max.
Signal Output	+/- 2000 Vdc FSO
Zero Output	2500 mVDC
Reference Output	2500 mVDC
Output Impedance	10 kOhm
TCS	100 ppm/°C typ
Shock	5000g
Noise	17 µV/root Hz
Linearity	0.8% FSO
Operation Temperature	-20° C to 100° C
Storage Temperature	-40° C to 125° C

Calibration

- Pendulum Calibration
- Sinusoidal Calibration

Calibration Data incl.:

- Sensitivity
- Frequency
- Offset
- Phase

Order Information ASC 3421-XXX-6XX

1 2 3 4

- 1 Model: 3421 Aluminum
- 2 Range: e.g. 002 is 2 g
- 3 cable length in meter
- 4 Connector and pinout/
„A“ is for no connector

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Individual Technical Data

	Sensitivity	Frequency +/- 1dB	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	1700 Hz	5.0 mg/°C typ
Range +/- 200g	10 mV/g	2000 Hz	10.0 mg/°C typ

At 10 VDC Supply and 25° C

	Weight	Material	Dimensions
Housing	5 gram	Aluminium, hard anodized	19.0 x 23.8 mm
Cable:	12 gram/meter	AWG 30, Polyurethan (PUR)	diameter 3.0 mm

Cable Code:

Red	Excitation +	Green	Signal +
Black	Excitation -	White	Signal -

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