

# SCA220 Series

## Stand Alone Accelerometer



### FEATURES

- Stand alone accelerometer in plastic housing
- Available range:  $\pm 2g$
- Accurate over a wide temperature range  $-40^{\circ}C \dots +85^{\circ}C$  without any compensation
- Electrical connection with integrated connector
- Standard analogue output (ratiometric)
- Standard bracket and mating connector upon request

### BENEFITS

- Excellent overload durability (1.5 m drop proof)
- Plastic housing makes the accelerometer IP6K9K
- Meet typical automotive EMC requirements
- Easy to use

### APPLICATIONS

- Acceleration measurement
- Inclination measurement
- Motion measurement

For customised product please contact VTI Technologies

### ELECTRICAL CHARACTERISTICS

Parameter	Condition	Min.	Typ	Max.	Units
Supply voltage (I)		4,5		5,5	V
Current consumption			2,0	4,0	mA
Analogue output load		10			mOhm
Output	Analogue Voltage			20	nF

### PERFORMANCE CHARACTERISTICS

Parameter	Condition	SCA220-C24H1G	Units
Measuring range <sup>(1)</sup>		$\pm 2$	g
Offset <sup>(2, 3, 4)</sup>	Output at 0g @ 23 °C	2,5	V
Offset temperature error	$-40, 85^{\circ}C$	$\pm 60$	mg
Sensitivity <sup>(3)</sup>	@ 0g (offset position)	1	V/g
Sensitivity temperature error <sup>(3)</sup>	$-40, 85^{\circ}C$	$\pm 3$	%
Non-linearity	$\pm 2g$	$\pm 40$	mg
Frequency response -3dB <sup>(5)</sup>		45	Hz
Output noise		5	mVrms
Cross-axis sensitivity <sup>(6)</sup>		$\pm 4$	%

**Typical values unless otherwise specified.**

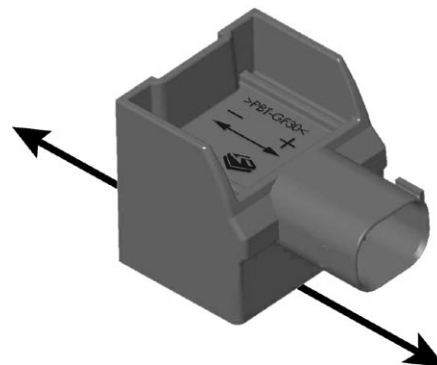
- Note 1. The measuring range is limited by the sensitivity and offset.  
 Note 2. Offset specified as Output @ 0g.  
 Note 3. Mounting position should be calibrated. See measuring positions.  
 Note 4. Vdd 5V, unless otherwise specified.

- Note 5. The frequency response is determined by the sensing element's internal gas damping. The output has true DC (0Hz) response.  
 Note 6. The cross-axis sensitivity determines how much acceleration or inclination, perpendicular to the measuring axis, couples to the output. The total cross-axis sensitivity is the geometric sum of the sensitivities of the two axes which are perpendicular to the measuring axis.

### ABSOLUTE MAXIMUM RATINGS

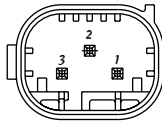
Parameter	Value	Units
Over voltage protection <sup>(1)</sup>	16	V
Reverse voltage protection	16	V
Acceleration (powered or non-powered)	$>20000$	g

### MEASURING DIRECTIONS



## ELECTRICAL CONNECTION

Pin	Function
1	Accsig (signal output)
2	GND
3	Vdd



Mating connector:

AMP 2-967642-1 MQS, Socket housing, SWS, 3 pos.assy  
 AMP 965907-1, Sn Plated socket terminal for 0.75mm<sup>2</sup> wire  
 AMP 967067-1, wire seal, green silicone for  $\phi 1.4...1.9$ mm wire

## MECHANICAL SPECIFICATION

Sensor weight: 23 grams  
 Total weight: 100 grams (with bracket)  
 Protection class: IP6K9K (DIN 400050)  
 Metal part : Housing: PBT + 30% glass fiber  
 Bracket: Yellow passivated steel

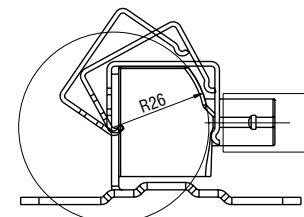
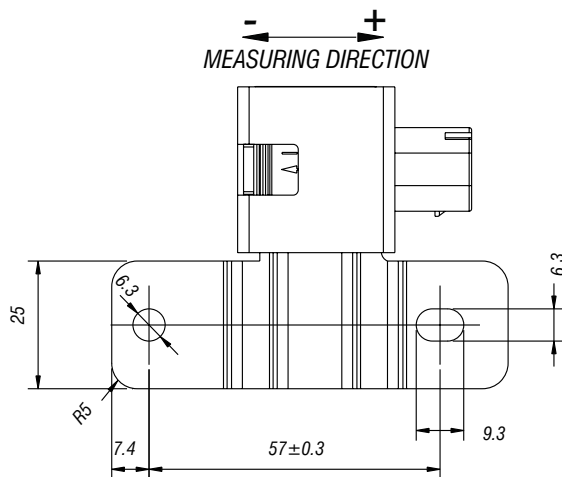
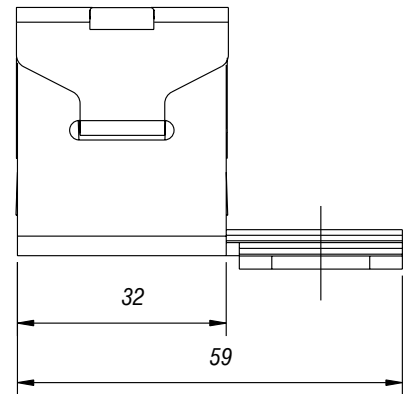
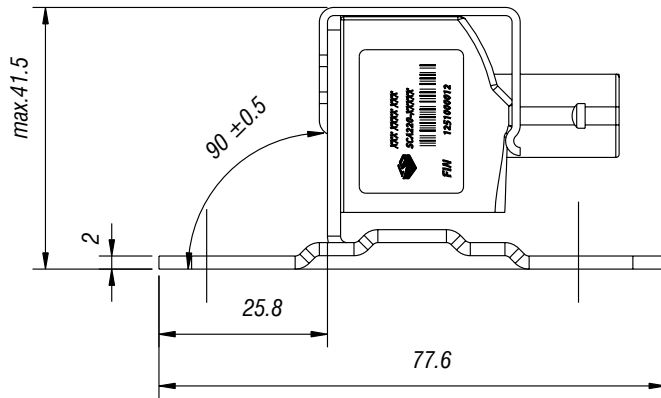
## MOUNTING

**Sensor mounting**  
 Bracket 37052  
 Clip 37053

**Bracket mounting**  
 Screws: M6  
 Torque:  $10 \pm 2$ Nm

## SENSOR DIMENSIONS

Dimensions in mm.



CLIP ASSEMBLY-ONLY FOR INFORMATION

Acceleration in the direction of the arrow will increase the output voltage