



## SE 120

### Piezoresistive accelerometer

#### FEATURES

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- » From the Vibro-Meter® product line
- » High-sensitivity accelerometer
- » Low-frequency vibration monitoring
- » Suitable for hydraulic turbine applications
- » Integral cable
- » Built-in electronics
- » Isolated case



SE 120

#### DESCRIPTION

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The SE 120 transducer consists of a piezoresistive silicon machined acceleration sensor, providing four resistors in a Wheatstone bridge.

The output sensitivity is 2 mA/g.

The transducer has an integrally attached cable. The casing has a double screen.

The 2-wire current transmission output provides better immunity to electrical interference.



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## SPECIFICATIONS

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### General

Input power requirements	
• <i>Voltage</i>	: +15 to +36 VDC
Load resistance	
• <i>24 VDC</i>	: 500 $\Omega$ max.
• <i>15 VDC</i>	: 150 $\Omega$ max.
Signal transmission	: 2-wire system, modulated current output
Standing current	: 12 mA
Modulation max.	: $\pm 8$ mA
Sensitivity (at 120 Hz)	: 2 mA/g $\pm 5\%$
Dynamic measuring range	: 0.002 to 4 g peak
Maximum acceleration	: 400 g peak in each axis
Shock acceleration	: Withstands 400 g from 2 ms (1/2 sine wave)
Amplitude linearity	: $< \pm 2\%$
Transverse sensitivity	: $< 4\%$
Frequency response (nominal)	
• <i>1 to 350 Hz</i>	: 5% with respect to 120 Hz
• <i>0.2 Hz</i>	: -3 dB
Resonance	: 800 Hz nominal
Temperature response	: $\pm 0.1\%/^{\circ}\text{C}$
• <i>Typical</i>	: $\pm 1\%$ from 0 to $+50^{\circ}\text{C}$ , with respect to $+23^{\circ}\text{C}$
Calibration	
• <i>Dynamic calibration at factory</i>	: No subsequent calibration required

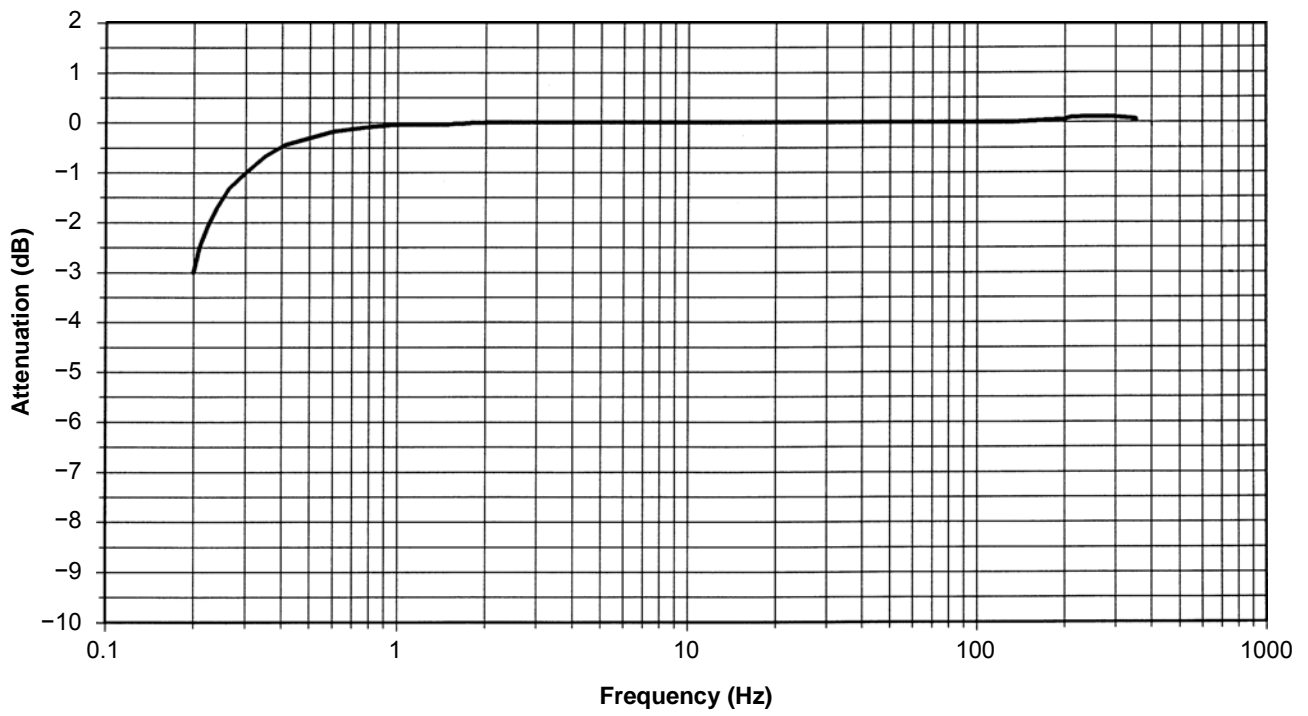
### Environmental

Humidity	: Sealed, IP68 protection rating
Material	: Stainless steel
Temperature	
• <i>Operating</i>	: 0 to $+75^{\circ}\text{C}$ (32 to $+167^{\circ}\text{F}$ )
• <i>Storage</i>	: $-20$ to $+90^{\circ}\text{C}$ ( $-4$ to $+194^{\circ}\text{F}$ )

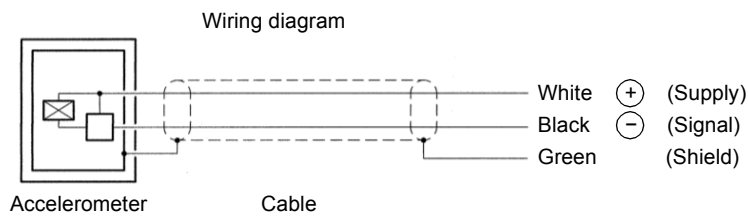
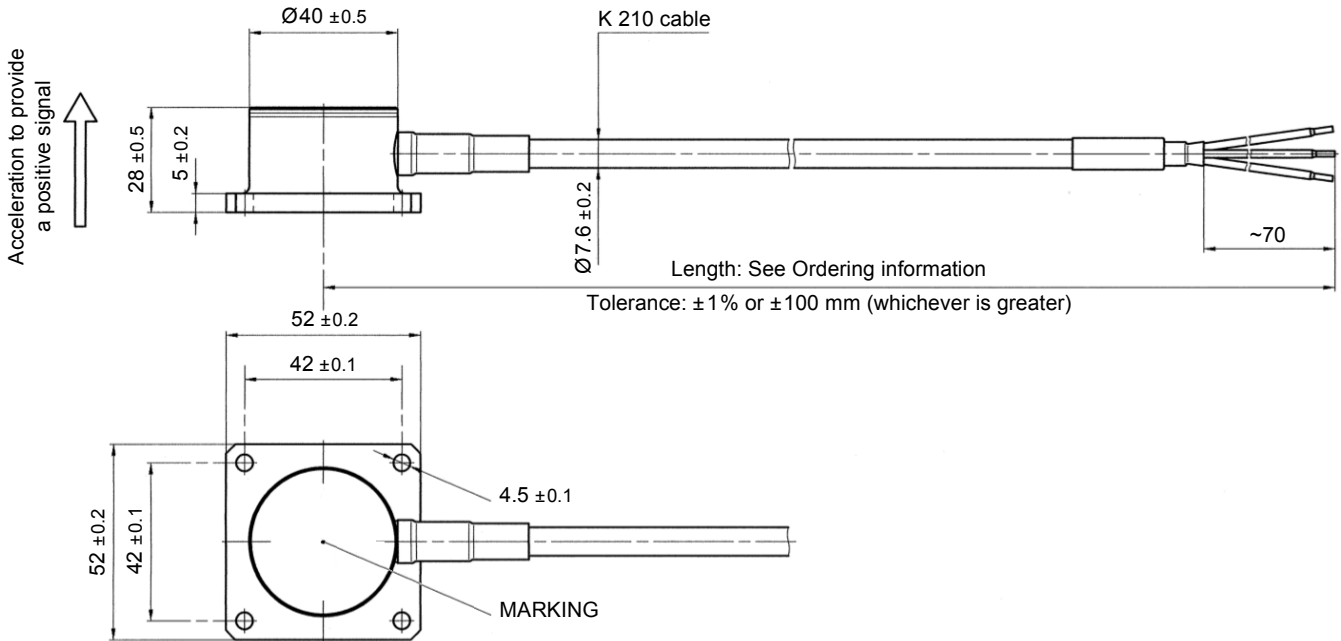
### Mechanical

Cable	: 2 pole twisted and shield (K 210)
Mounting	: The transducer has a 4-hole mounting base. Four M4x15 screws, with four M4 spring-lock washers and a fastening torque of 4.5 N•m.
Weight	: 0.32 kg (0.71 lb)

TYPICAL FREQUENCY RESPONSE



MECHANICAL DRAWINGS



Note: All dimensions are in mm unless otherwise stated.

ORDERING INFORMATION

To order please specify

Type	Designation	Ordering number
SE 120	Piezoresistive accelerometer with 10 m cable length	424-120-000-032

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The Meggitt Sensing Systems facility in Fribourg, Switzerland was formerly known as Vibro-Meter SA, but is now Meggitt SA. This site produces a wide range of vibration and dynamic pressure sensors capable of operation in extreme environments, leading-edge microwave sensors, electronics monitoring systems and innovative software for aerospace and land-based turbo-machinery.



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