MEGGiTT
smart engineering for
extreme environments

SE 120

Piezoresistive accelerometer

FEATURES

- 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

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.

SPECIFICATIONS

General

Input power requirements	
• *Voltage*	: +15 to +36 VDC
Load resistance	
• *24 VDC*	: 500 Ω max.
• *15 VDC*	: 150 Ω max.
Signal transmission	: 2-wire system, modulated current output
Standing current	: 12 mA
Modulation max.	: ±8 mA
Sensitivity (at 120 Hz)	: 2 mA/g ±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	: <±2%
Transverse sensitivity	: <4%
Frequency response (nominal)	
• *1 to 350 Hz*	: 5% with respect to 120 Hz
• *0.2 Hz*	: −3 dB
Resonance	: 800 Hz nominal
Temperature response	: ±0.1%/°C
• *Typical*	: ±1% from 0 to +50°C, with respect to +23°C
Calibration	
• *Dynamic calibration at factory*	: No subsequent calibration required

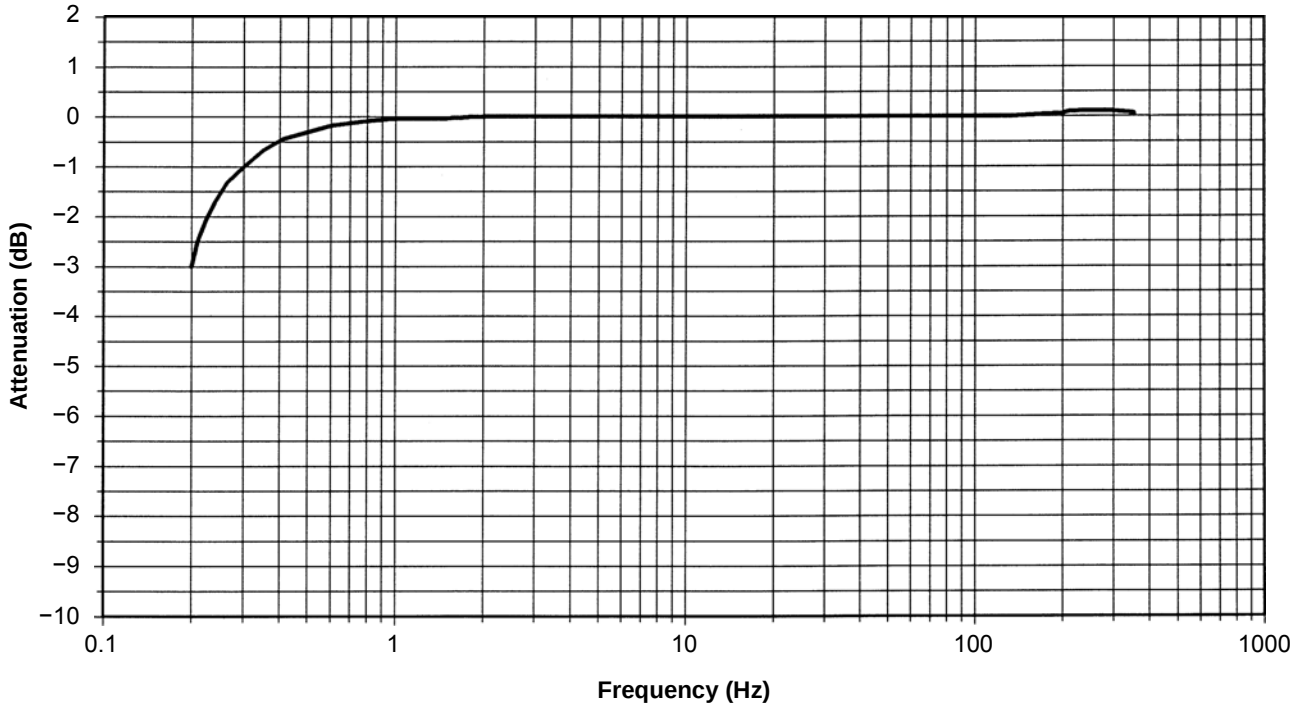
Environmental

Humidity	: Sealed, IP68 protection rating
Material	: Stainless steel
Temperature	
• *Operating*	: 0 to +75°C (32 to +167°F)
• *Storage*	: −20 to +90°C (−4 to +194°F)

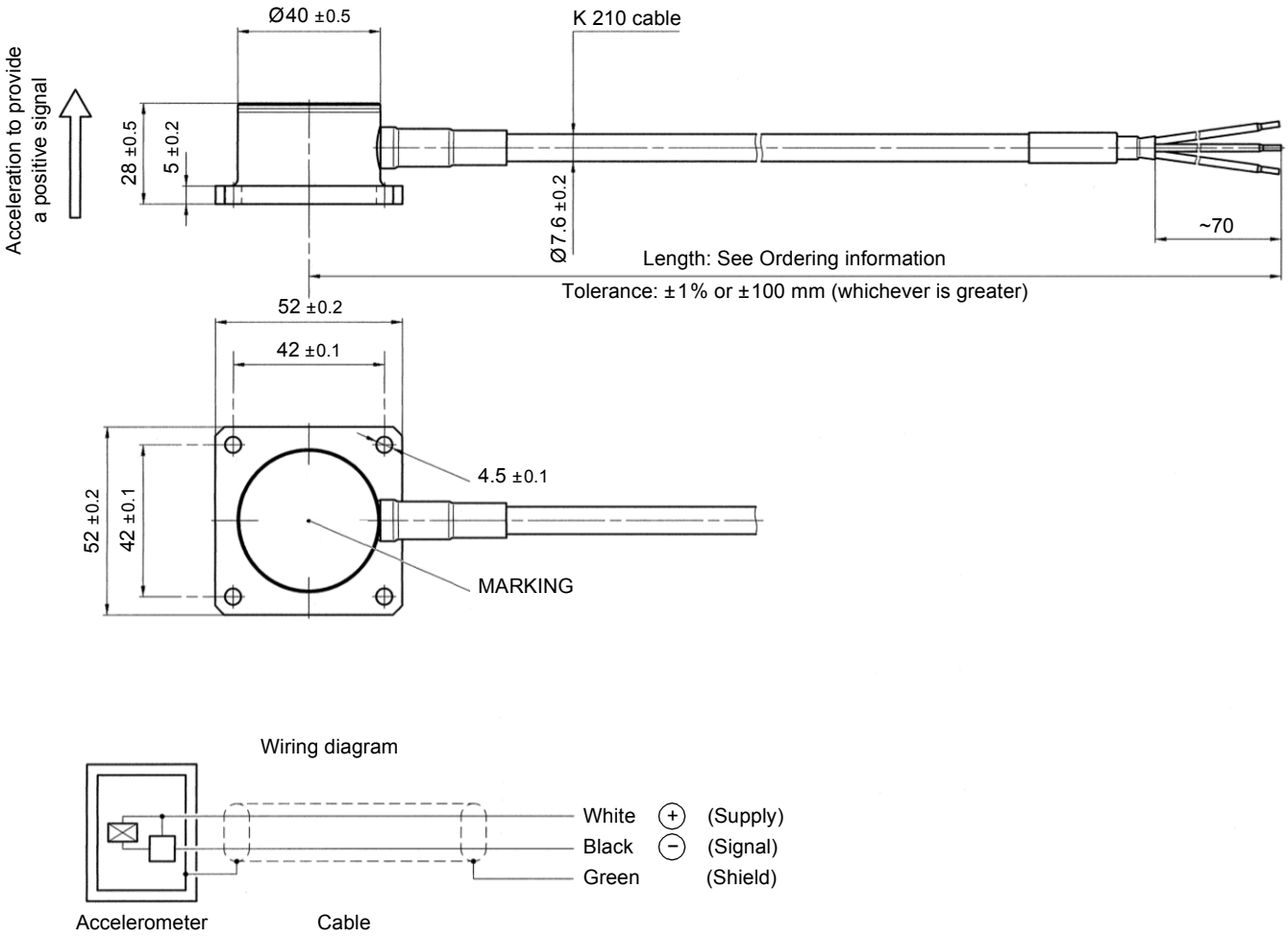
Mechanical

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

Headquartered in the UK, Meggitt PLC is a global engineering group specializing in extreme environment components and smart sub-systems for aerospace, defence and energy markets.

Meggitt Sensing Systems is the operating division of Meggitt specializing in sensing and monitoring systems, which has operated through its antecedents since 1927 under the names of ECET, Endevco, Ferroperm Piezoceramics, Lodge Ignition, Sensorex, Vibro-Meter and Wilcoxon Research. Today, these operations are integrated under one strategic business unit called Meggitt Sensing Systems, headquartered in Switzerland and providing complete systems, using these renowned brands, from a single supply base.

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.

In this publication, a dot (.) is used as the decimal separator and thousands are separated by thin spaces. Example: 12345.67890.

Sales offices

Meggitt Sensing Systems has offices in more than 30 countries. For a complete list, please visit our website.

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