

Integral cable accelerometers

CMSS 2100F

Accelerometer with integral cable, straight exit

The CMSS 2100F accelerometer is a good multi-purpose sensor with integral cable for light to medium-duty applications in the following industries:

- Food and Beverage

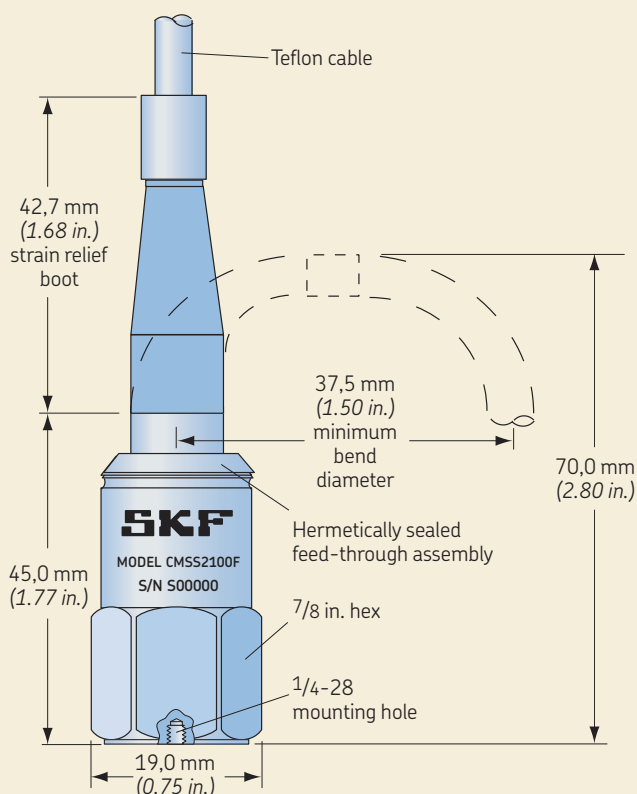
Common applications include general purpose machines such as pumps, motors and fans.

Features

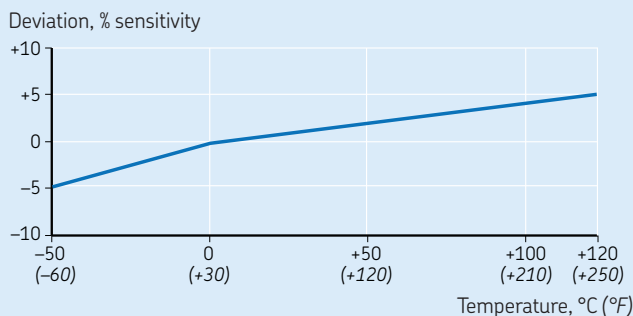
- For use with all SKF on-line systems, protection systems and the portable data collection instruments
- Economical, top exit design
- Rugged, corrosion resistant and hermetically sealed
- Case isolation
- Meets stringent CE, EMC requirements
- ESD protection
- Reverse wiring protection



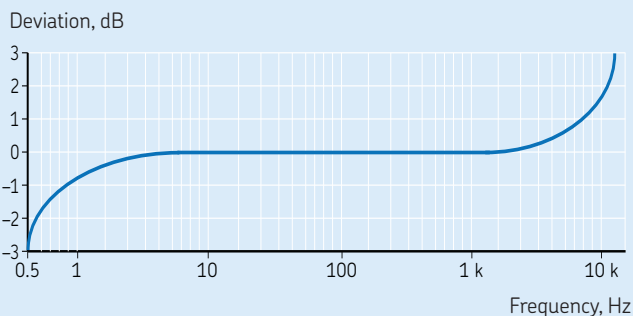
Dimensions



Typical temperature response



Typical frequency response



Specifications

Dynamic

- Sensitivity: 100 mV/g
- Sensitivity precision: $\pm 5\%$ at 25 °C (75 °F)
- Acceleration range: 80 g peak
- Amplitude linearity: 1%
- Frequency range:
 - $\pm 10\%$: 1,0 to 8 000 Hz
 - ± 3 dB: 0,5 to 13 000 Hz
- Resonance frequency, mounted, nominal: 30 kHz
- Transverse sensitivity: $\leq 5\%$ of axial
- Temperature response: See graph

Electrical

- Power requirements:
 - Voltage source¹⁾: 18 to 30 V DC
 - Constant current diode^{1), 2)}: 2 to 10 mA
- Electrical noise:
 - Broadband:
 - 2,5 Hz to 25 kHz: 700 μ g
 - Spectral:
 - 10 Hz: 10 μ g/ $\sqrt{\text{Hz}}$
 - 100 Hz: 5 μ g/ $\sqrt{\text{Hz}}$
 - 1 000 Hz: 5 μ g/ $\sqrt{\text{Hz}}$
- Output impedance: $< 100 \Omega$
- Bias output voltage: 12 V DC
- Grounding: Case isolated, internally shielded

Environmental

- Temperature range: -50 to +120 °C (-60 to +250 °F) operating temperature
- Vibration limit: 500 g peak
- Shock limit: 5 000 g peak
- Electromagnetic sensitivity, equivalent g maximum: 70 μ g/gauss
- Sealing: Hermetic
- Base strain sensitivity: 0,0002 g/ μ strain
- Hydrostatic pressure: 100 psi
- CE: According to the generic immunity standard for Industrial Environment EN 50082-2
 - Acceptance criteria: The generated “false equivalent g level” under the above test conditions should be less than 2 mg measured peak to peak

Physical

- Dimensions: See drawing
- Weight: 90 g (3.2 oz.)
- Case material: 316L stainless steel
- Mounting: Internal 1/4-28 thread
- Mounting torque: 2,9 Nm (24 in. lbs.)
- Connections:
 - Power/Signal: White
 - Common: Black
 - Case: Shield
- Integral cable: Teflon, 5 m (16.4 ft.) blunt cut

¹⁾ To minimize the possibility of signal distortion when driving long cables with high vibration signals, 24 to 30 V DC powering is recommended. The higher level constant current source should be used when driving long cables (please consult SKF).

²⁾ A maximum current of 6 mA is recommended for operating temperatures in excess of 100 °C (210 °F).

Ordering information

CMSS 2100F Accelerometer with integral cable, straight exit.

- 1/4-28 and M8 mounting studs provided. Calibration sensitivity is provided for each accelerometer package with nominal sensitivity etched on each unit.