CMSS 2110-3

Accelerometer with integral, braided cable, straight exit

The CMSS 2110-3 is a rugged accelerometer designed for installation where cable protection is paramount without the luxury of cable trays or protective conduit. The CMSS 2110-3 is typically used in the following industries:

- Pulp and Paper
- Food and Beverage

Common applications include motors and bearings on conveyor systems.

Features

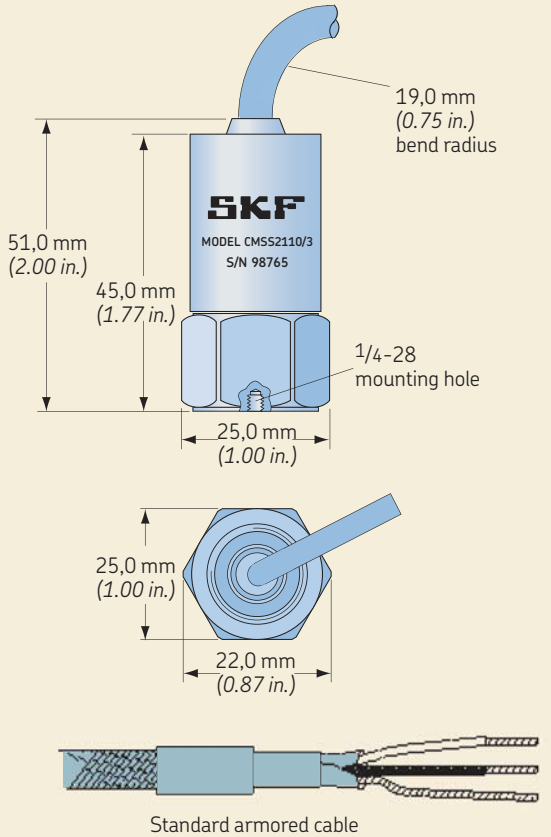
- For use with all SKF on-line systems, protection systems and the portable data collection instruments
- Economical, top exit design
- 30 mV/g sensitivity to optimize use in most applications
- Rugged, corrosion resistant and hermetically sealed
- Case isolated
- Meets stringent CE, EMC requirements
- ESD protection
- Cable shield and braid connected to sensor housing
- Reverse wiring protection

Specifications

Dynamic

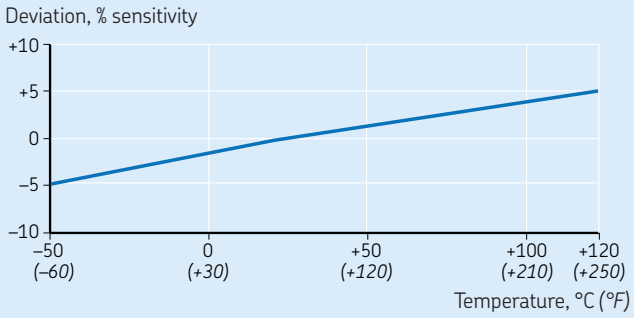
- Sensitivity: 30 mV/g
- Sensitivity precision: ±10% at 20 °C *(70 °F)*
- Sensitivity deviation over full temperature range: ≤ ±10%
- Acceleration range: Minimum ±6 V equivalent to 200 g peak; turn-on time for one time constant is 0,5 s
- Amplitude linearity: ≤ 1%, up to full scale
- Frequency range:
  - ±10%: 3,0 to 8,0 kHz
  - ±3 dB: 0,8 to 10,0 kHz
- Resonance frequency:
  - Nominal 20 kHz or higher
  - Controlled resonance amplitude
  - Second order Q limiting filter
- Transverse sensitivity: ≤ 5% of axial
- Temperature response:See graph

Dimensions

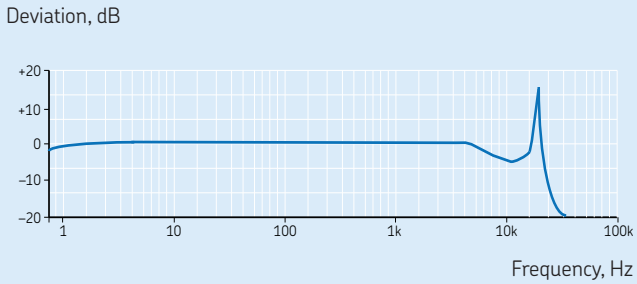


Standard armored cable

Typical temperature response



Typical frequency response



Electrical

- Power requirements:
  - Voltage source: 24 V DC, ±20%
  - Constant current diode: 2 to 6 mA
- Electrical noise:
  - Broadband (2,0 to 20,0 kHz): < 0,7 mg RMS
- Output impedance: < 50 Ω
- Bias output voltage: 11,5 V DC (±10%) for 24 V DC supply voltage over the temperature range from –50 to +100 °C *(–60 to +210 °F)*
- Grounding:
  - Case isolated, internally shielded (Faraday cage)
  - The internal Faraday cage is connected to the signal return of the shielded twisted pair
  - The internal shield, as well as the stainless steel braid, is connected to the sensor housing
- Isolation to sensor housing: > 10 MΩ over full temperature range
- Over-voltage protection
- Reverse polarity (wiring) protection

Environmental

- Temperature range: –50 to +120 °C *(–60 to +250 °F)* operating temperature
- Vibration limit: 500 g peak
- Shock limit: 1 000 g peak
- Electromagnetic sensitivity, equivalent g, maximum: < 100 µg/gauss at 50 to 60 Hz
- Base strain sensitivity: 200 µg/µstrain
- 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
- Cable length: 5 m *(16.4 ft.)*
- Weight: 350 g *(12.3 oz.)*, including cable
- Case material: 316L stainless steel
- Mounting: 1/4-28 to M8 and 1/4-28 to 1/4-28 mounting studs provided
- Mounting torque: 2,9 Nm *(24 in- lbs.)*
- Connections:
  - Integral cable
  - Power/Signal: White
  - Common: Black
  - Shielding: Drain
- Cable:
  - Integral cable, 5 m *(16.4 ft.)* long
  - Shielded twisted pair; two times AWG 20
  - Shield grounded to sensor housing
  - Cable armored with stainless steel braid
  - Braid also connected to sensor housing
  - High temperature cable
  - Cable diameter less than 5 mm *(0.19 in.)*
- Cable specifications: 2/C 20 AWG FEP/A/M/FEP 10-1254
- Cable capacitance: 25 pF/m *(80 pF/ft.)*

Ordering information

CMSS 2110-3 Accelerometer with integral, braided 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.