

CMSS 2100

Industrial accelerometer, straight exit

The CMSS 2100 accelerometer is a good multi-purpose sensor. The sensor is most commonly deployed in the following industries:

- Power Generation (Fossil, Nuclear, Hydro)
- Pulp and Paper
- Food and Beverage

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Features

- For use with all SKF on-line systems, protection systems and the portable data collection instruments
- Rugged, economical and all around general purpose sensor
- 100 mV/g sensitivity to optimize use in multiple applications
- Exceptional bias voltage (BV) stability at elevated temperatures
- Designed for exceptional low noise level over a wide temperature range
- Meets stringent CE, EMC requirements
- Two mounting studs (1/4-28 and M8 x 1,25) provided
- Corrosion resistant and hermetically sealed for installation in high humidity areas
- Reverse polarity wiring protection

Recommended connector/cable assembly

- CMSS 932 series

Specifications

Specifications conform to ISA-RP-37.2 (1-64) and are typical values referenced at 24 °C (75 °F), 24 V DC supply, 4 mA constant current and 100 Hz.

Dynamic

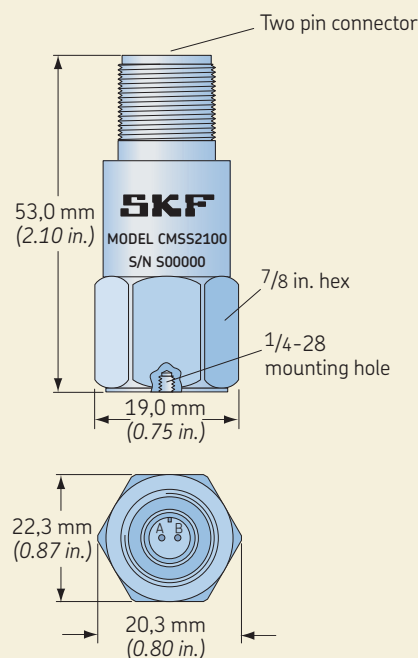
- Sensitivity: 100 mV/g
- Sensitivity precision: $\pm 5\%$ at 25 °C (75 °F)
- Acceleration range: 80 g peak
- Amplitude linearity: $\leq 1\%$, up to full scale
- Frequency range:
 - $\pm 5\%$: 3,0 to 5 000 Hz
 - $\pm 10\%$: 1,0 to 9 000 Hz
 - ± 3 dB: 0,5 to 14 000 Hz
- Resonance frequency, mounted, nominal: 30 kHz
- Transverse sensitivity: $\leq 5\%$ of axial
- Temperature response: See graph



Electrical

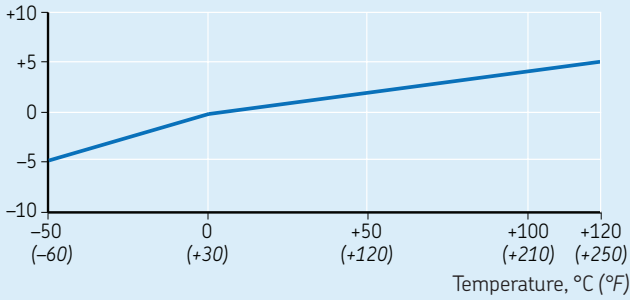
- Power requirements:
 - Voltage source: 24 V DC nominal, 18 to 30 V DC
 - Constant current diode: 2 to 10 mA, recommended 4 mA
- Electrical noise:
 - 2,0 Hz: 20 $\mu\text{g}/\sqrt{\text{Hz}}$
- Output impedance: $< 100 \Omega$
- Bias output voltage: 12 V DC
- Grounding: Case isolated, internally shielded

Dimensions



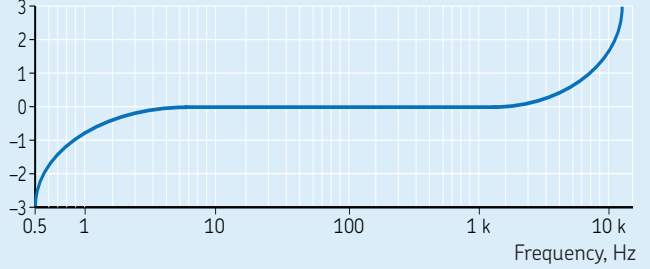
Typical temperature response

Deviation, % sensitivity



Typical frequency response

Deviation, dB



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 $\mu\text{g/gauss}$
- Sealing: Hermetic
- Base strain sensitivity: 200 $\mu\text{g}/\mu\text{strain}$
- 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
 - M8 \times 1,25 and $1/4$ -28 to $1/4$ -28 mounting studs provided
- Mounting torque: 2,9 Nm (24 in. lbs.)
- Connections:
 - Pin A: Signal/Power
 - Pin B: Common
- Mating connector: CMSS 932-68LC or CMSS 932-68TL, two pin, IP 68, locking collar or twist lock
- Recommended cable: CMSS 932-SY-XXM and CMSS 932-DY-XXM, two conductor, twisted pair, single or double shielded, yellow

Ordering information

CMSS 2100 Industrial accelerometer, straight exit with MIL-C-5015 two pin connector.

- $1/4$ -28 and M8 mounting studs provided. Calibration sensitivity and nominal sensitivity is provided for each accelerometer package.
- For corresponding cables, refer to the section *Vibration sensor cables and accessories* (\rightarrow page 127).