CMSS 793

Superior accelerometer, straight exit

The CMSS 793 sensor is a higher precision accelerometer mainly for use in the following industries:

- Oil and Gas
- Refining
- Petrochemicals
- Power Generation

This series of sensor is one of the most long-standing models from SKF, with over 25 years of installed experience, together with a long track record of proven reliability. It is recommended for use when the vibration signal is to be used for machinery protection applications, where a higher precision may be required.

Common applications include API 670 standard monitoring of gearboxes, pumps and compressors.

Features

- Optimal for use with SKF on-line system DMx, IMx-M and MCT when used with the appropriate safety barriers, accessories and/or methods as required by the particular hazardous area classification
- Rugged, corrosion resistant and hermetically sealed
- Case isolated
- Meets stringent CE, EMC requirements
- ESD protection
- Reverse wiring protection

Recommended connector/cable assembly

- CMSS 932 series

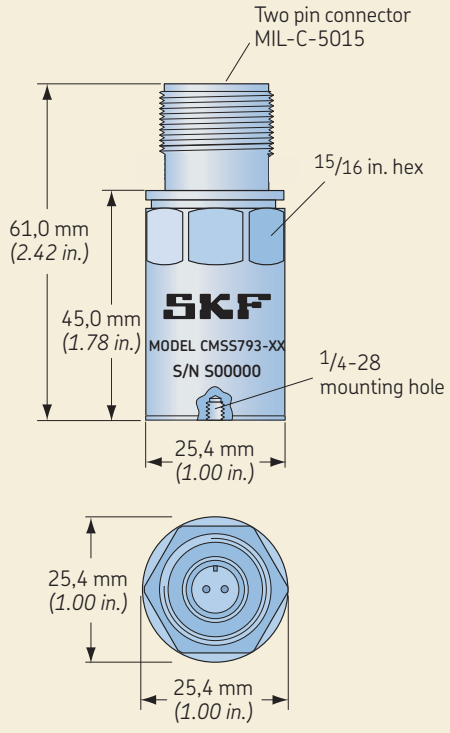
Specifications

Intrinsically safe certification. Installation must be in accordance with the appropriate Intrinsic Safety installation drawing.

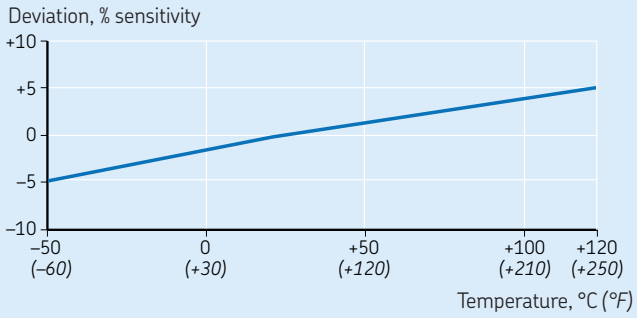
Dynamic

- Sensitivity: 100 mV/g
- Sensitivity precision: ±5% at 25 °C *(75 °F)*
- Acceleration range: 80 g peak
- Amplitude non-linearity: 1%
- Frequency range:
  - ±5%: 1,5 to 5 000 Hz
  - ±10%: 1,0 to 7 000 Hz
  - ±3 dB: 0,5 to 15 000 Hz
- Resonance frequency, mounted, nominal: 25 kHz
- Transverse sensitivity: ≤ 5% of axial
- Temperature response: See graph

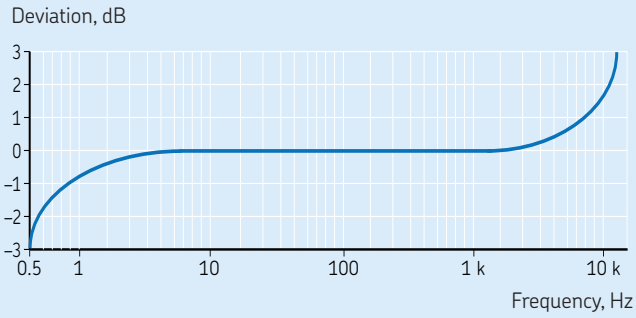
Dimensions



Typical temperature response



Typical frequency response



Electrical

- Power requirements:
  - Voltage source[1]: 18 to 30 V DC
  - Constant current diode[1), 2)]: 2 to 10 mA
- Electrical noise:
  - Broadband:
    - 2,5 Hz to 25 kHz: 600 µg
  - Spectral:
    - 10 Hz: 8 µg/√Hz
    - 100 Hz: 5 µg/√Hz
    - 1 000 Hz: 5 µg/√Hz
- Output impedance: < 100 Ω
- Bias output voltage: 12 V DC
- Grounding: Case isolated, internally shielded

Environmental

- Temperature range: –50 to +120 °C *(–60 to +250 °F)*
- Vibration limit: 500 g peak
- Shock limit: 5 000 g (CMSS 793-EE: 2 800 g peak, Group IIC; 4 900 g peak, Group IIB, IIA)
- Electromagnetic sensitivity, equivalent g, maximum: 10 µg/gauss
- Sealing: Hermetic
- Base strain sensitivity: 0,0005 g/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
- Weight: 112 g *(3.9 oz.)*
- Case material: 316L stainless steel
- Mounting: 1/4-28 tapped hole
- Mounting torque: 2,9 Nm *(24 in. lbs.)*
- Connections:
  - Shell: Ground
  - Pin A: Power/Signal
  - 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-SB-XXM, two conductor, twisted pair, shielded, yellow or blue

[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 793 Superior accelerometer, straight exit.
- All models with MIL-C-5015 style two pin connector. 1/4-28 mounting studs provided. A calibration data certificate with the actual sensitivity of the accelerometer is included in each package. The nominal sensitivity is etched on each unit.
- CMSS 793-CA, CMSS 793-EE or CMSS 793-FM agency approved, intrinsically safe (IS), superior accelerometers with straight exit are available; please see the *Hazardous Area Approved Sensor* section.