

CMSS 793T-3

Superior sensor, straight exit, acceleration and temperature

The CMSS 793T-3 is a higher precision accelerometer that also offers an in-built measurement of the temperature of the mounting point surface. The sensor is most applicable in the following industries:

- Power Generation (Fossil, Nuclear, Hydro) – pumps and fans, where regulatory expectations may require a higher vibration precision

The surface temperature measurement is good for rolling element (anti-friction) bearing housings and small journal bearing housings. Temperature measurements in large journal bearings should use established measurement locations.

Features

- Optimal for use with the SKF on-line system DMx, IMx-S, IMx-M and all portable data collection instruments
- Measures both temperature and acceleration
- Rugged construction
- Hermetically sealed
- Case isolated
- Meets stringent CE, EMC requirements
- ESD protection
- Miswiring protection

Recommended connector/cable assembly

- CMSS 933 series

Specifications

Dynamic

- Sensitivity: 100 mV/g
- Sensitivity precision: $\pm 5\%$ at 25 °C (75 °F)
- Peak amplitude (24 V supply): 80 g
- Frequency range:
 - $\pm 5\%$: 1,5 to 5 000 Hz
 - $\pm 10\%$: 1,0 to 7 000 Hz
 - ± 3 dB: 0,5 to 15 000 Hz
- Resonance frequency, mounted, nominal: 24 kHz
- Transverse sensitivity: $\leq 5\%$ of axial
- Temperature response: See graph
- Temperature output sensitivity: $\pm 5\%$ of 10 mV/°C
- Temperature measurement range: -50 to +120 °C (-60 to +250 °F)

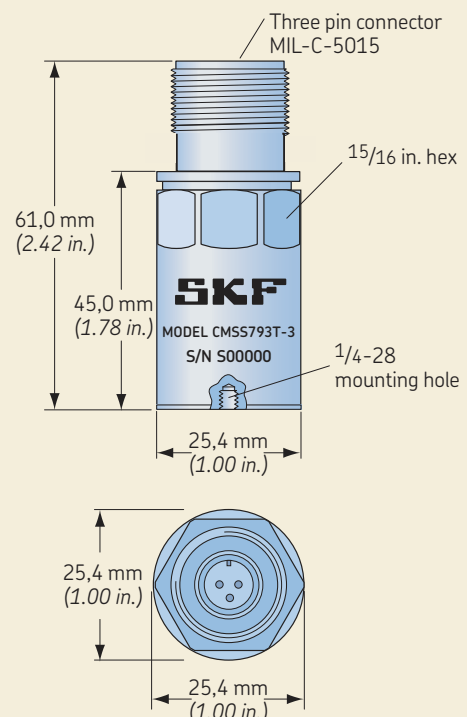


Electrical

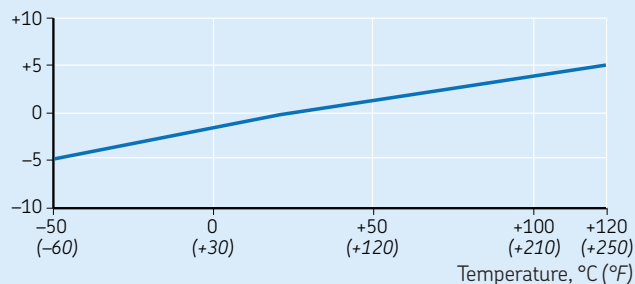
Temperature sensor

- Power requirements:
 - Voltage source: 18 to 30 V DC
 - Constant current diode: 2 to 4 mA
- Grounding: Case isolated, internally shielded

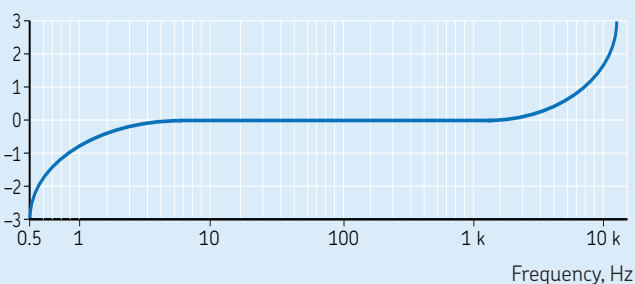
Dimensions



Deviation, % sensitivity



Deviation, dB



- Power requirements:
 - Voltage source: 18 to 30 V DC
 - Constant current diode: 2 to 10 mA
- Electrical noise:
 - Broadband:
 - 2,5 Hz to 25 kHz: 600 μ g
 - Spectral:
 - 10 Hz: 8 μ g/ $\sqrt$ Hz
 - 100 Hz: 5 μ g/ $\sqrt$ Hz
 - 1 000 Hz: 5 μ g/ $\sqrt$ 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 peak
- 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

- Dimensions: See drawing
- Weight: 115 g (4 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 and accelerometer signal
 - Pin B: Accelerometer, temperature common
 - Pin C: Power and temperature signal
- Mating connector: CMSS 933-68LC or CMSS 933-68TL, three pin, IP 68, locking collar or twist lock
- Recommended cable: CMSS 933-SY-XXM, three conductor, triad cable, single shielded, yellow

Piezofet Amplifier

Pin A
Power and accelerometer signal

Pin C
Power and temperature signal

Pin B
Accelerometer return, temperature common

CMSS 793T-3 Superior sensor, straight exit, acceleration and temperature, with MIL-C-5015 three pin connector.

- 1/4-28 and M6 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.