



CMSS 2110

Industrial Acceleration Sensor with Integral
5 Meter (16.5 Feet) Over-Braided Cable ...

... Incorporating the latest in technology to meet demanding CE, EMC and low noise level requirements.

Using detailed knowledge acquired from many years of supplying high quality sensors to a broad spectrum of industry users, SKF Reliability Systems introduces this new series of rugged accelerometers designed for installation where cable protection is paramount without the luxury of cable trays or protective conduit.



Features

- **Recommended for use with the SKF Machine Condition Transmitters (MCT)**
- **Economical, rugged, general purpose**
- **Sensitivity, 100 mV/g to optimize use in most applications**
- **Designed to meet stringent CE, EMC requirements**
- **Cable shield and braid connected to sensor housing for better noise rejection**
- **Corrosion Resistant**
- **Miswiring Protection**



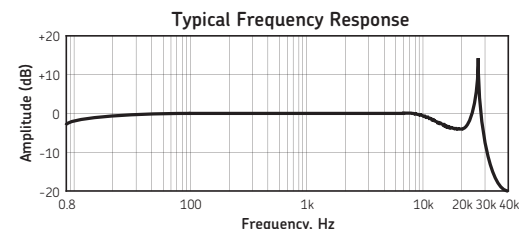
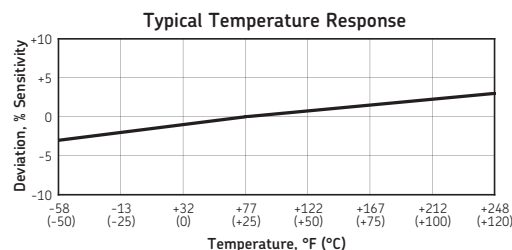
Machine Condition Transmitters (MCT)

Specifications

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

DYNAMIC

- Sensitivity:** 100 mV/g.
- Sensitivity Precision:** $\pm 10\%$.
- Sensitivity Deviation Over Full Temperature Range:** $\leq \pm 10\%$.
- Amplitude Linearity:** $\leq 1\%$ up to full scale.
- Transverse Sensitivity:** $\leq 5\%$ of axial.
- Frequency Range:** 0.8 Hz to 10.0 kHz, ± 3 dB.
- Sensor Resonance Frequency:** Nominal 25 kHz or higher. Controlled resonance amplitude. +15 dB maximum at resonance.
- Acceleration Output Range:** Minimum ± 8 V equivalent to 80 g peak. Turn on time to within 10% of final bias is ≤ 1.0 seconds.



CMSS 2110

Industrial Acceleration Sensor with Integral 5 Meter (16.5 Feet) Over-Braided Cable

Specifications *(continued)*

ELECTRICAL

Power Requirements:

Voltage Source: +24 Vdc nominal, $\pm 20\%$.

Constant Current Diode: 2 to 10 mA dc, recommend 4 mA.

Electrical Noise: Broadband (2.5 Hz to 25.0 kHz) < 0.6 milli g RMS.

Output Impedance: < 50 Ohms.

Grounding: Case isolated, internal shielding (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 MOhms over full temperature range.

V bias: 12.5 Vdc to 13.5 Vdc for +24 Vdc supply over temperature range -58°F to +211°F (-50°C to +99°C)
11.0 Vdc to 14.0 Vdc for +24 Vdc supply over temperature range +212°F to +248°F (+100°C to +120°C).

Over Voltage Protection

Reverse Polarity (Wiring) Protection

ENVIRONMENTAL

Temperature Range: -58°F to +248°F (-50°C to +120°C) operating temperature.

Vibration Limits: 500 g peak.

Shock Limit: 1,000 g peak.

Electromagnetic Sensitivity, Equivalent g:

< 100 $\mu\text{g}/\text{Gauss}$ at 50 to 60 Hz.

Base Strain Sensitivity: 200 $\mu\text{g}/\text{micro strain}$.

CE: According to the Generic immunity standard for Industrial Environment EN50082-2.

Acceptance Criteria: The generated "false equivalent g level" under the above test conditions should be less than 2 milli g peak to peak.

PHYSICAL

Dimensions: See drawing. Integral cable with shielded twisted pair, and stainless steel braid. Cable length is 5 meters (16 feet) long.

Weight: ≈ 12.25 oz. (350 gms) including 5 meters (16.5 feet) of cable.

Case Material: 316L stainless steel.

Mounting: Internal 1/4-28 thread. Mounting studs provided. One (1) 1/4-28 to 1/4-28 English thread and one (1) M8 x 1.25 Metric thread.

Mounting Torque: 24 in-pounds, 2.9 N-m.

Cable: Integral cable 5 meters (16 feet) long. Shielded twisted pair; 2 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 5mm (0.19").

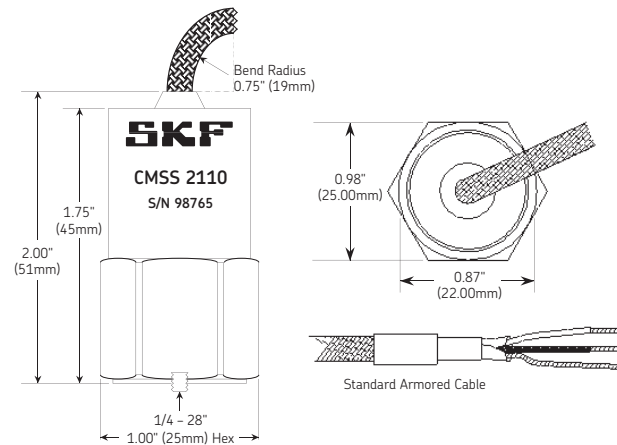
Cable Specifications: 2/C 20 AWG FEP/A/M/FEP 10-1254. Recommend two (2) wire, twisted, shielded.

Connector: *Power Signal:* White Wire.

Common: Black Wire.

Shielding: Drain Wire.

Diagrams



Ordering Information

CMSS 2110 General Purpose Industrial Standard Acceleration Sensor with integral 5 meter (16.5 feet) stainless steel over-braided twisted pair cable.

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



SKF Reliability Systems

5271 Viewridge Court • San Diego, California 92123 USA
Telephone: +1 858-496-3400 • FAX: +1 858-496-3531

Web Site: www.skf.com/reliability

Although care has been taken to assure the accuracy of the data compiled in this publication, SKF does not assume any liability for errors or omissions. SKF reserves the right to alter any part of this publication without prior notice.

- SKF is a registered trademark of SKF.
- All other trademarks are the property of their respective owners.

CM2237 (Revised 10-04) • Copyright © 2004 by SKF Reliability Systems. ALL RIGHTS RESERVED.

