Economical accelerometers

CMSS 780C / CMSS 780C-M8

Small economical accelerometer, straight exit

The CMSS 780C is a cost-effective, small sensor for use with portable data collector routes found in the following industries:

- General Industry
- Food and Beverage

Common applications include general purpose machines such as pumps, motors, fans and gearboxes, where a trend of normal condition is the main measurement objective, rather than absolute sensitivity precision.

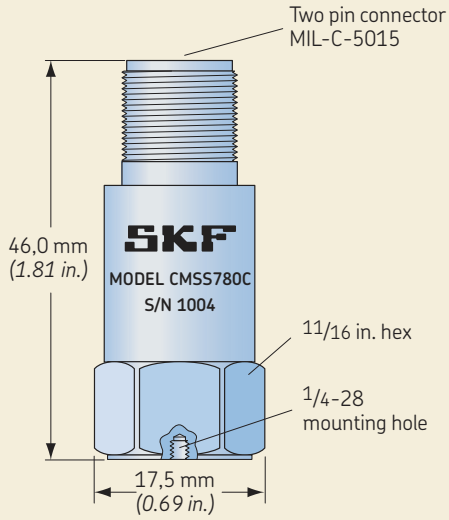
Features

- For use with all SKF on-line surveillance systems and portable data collection instruments
- Economical top-exit design
- Small physical size
- 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

Dimensions



Specifications

Dynamic

- Sensitivity: 100 mV/g
- Sensitivity precision: ±15% at 25 °C *(75 °F)*
- Acceleration range: 80 g peak
- Amplitude non-linearity: 1%
- Frequency range:
  - ±5%: 1,0 to 7 000 Hz
  - ±10%: 0,7 to 9 000 Hz
  - ±3 dB: 0,4 to 14 000 Hz
- Resonance frequency, mounted, nominal: 30 kHz
- Transverse sensitivity: ≤ 5% of axial
- Temperature sensitivity:
  - –50 °C *(–60 °F)*: –5%
  - +120 °C *(+250 °F)*: +5%

Electrical

- 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: 500 µg
  - Spectral:
    - 10 Hz: 7 µg/√Hz
    - 100 Hz: 4 µg/√Hz
    - 1 000 Hz: 2 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 peak
- Electromagnetic sensitivity, equivalent g, maximum: 70 µg/gauss
- Sealing: Hermetic
- Base strain sensitivity: 0,0002 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: 62 g *(2.2 oz.)*
- Case material: 316L stainless steel
- Sensing element design: PZT ceramic/shear
- Mounting:
  - CMSS 780C: 1/4-28 stud
  - CMSS 780C-M8: 1/4-28 to M8 stud
- Connections:
  - Sensor casing to ground
  - Pin A: Power/Signal
  - Pin B: Common
- Output connector: Two pin, MIL-C-5015 style
- Mating connector/cable: CMSS 932 series
- Recommended cable: CMSS 932-SY-XXM and CMSS 932-DY-XXM, two conductor, twisted pair, single or double shielded, yellow

Ordering information

CMSS 780C Small economical accelerometer, straight exit with 1/4-28 stud.
CMSS 780C-M8 Small economical accelerometer, straight exit with 1/4-28 to M8 stud.

- A calibration data certificate with the actual sensitivity of the accelerometer is included in each package. The nominal sensitivity is etched on each unit.