

CMSS WIND-100-10

Small accelerometer for wind turbines, with integral cable, side exit

The CMSS WIND-100-10 is an accelerometer optimized for use with wind turbine applications:

- Wind turbine gearboxes
- Wind turbine generators

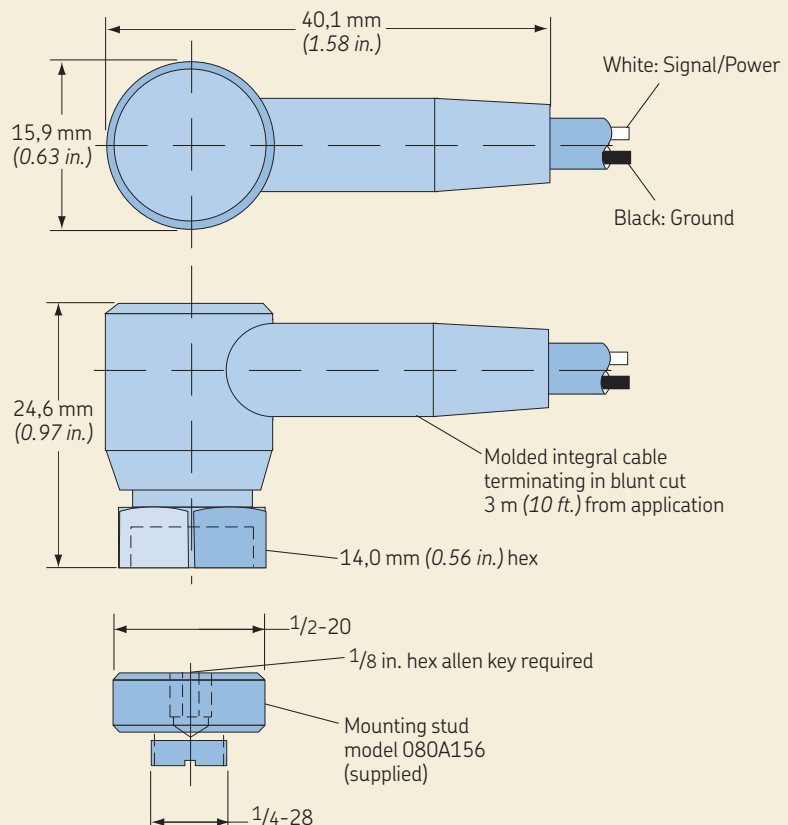
The small-size accelerometer is specially configured for unobtrusive mounting on wind turbine drive components, within the relatively protected environment of the turbine's cupola. A specific low frequency response is designed to meet the requirements of wind turbine insurers, and an integral cable is used to eliminate any cause to travel to a remote site to fix a loose connector.

Features

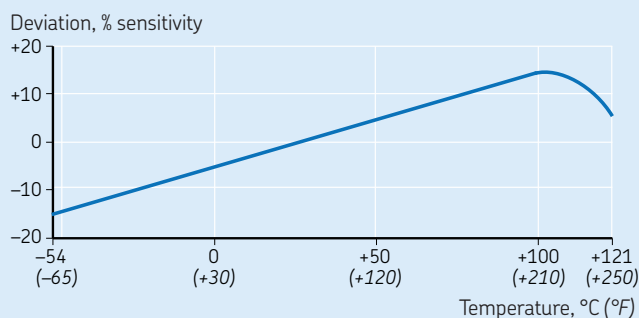
- For use with the SKF on-line system IMx-W
- Low frequency response to meet Germanischer Lloyd requirements
- 100 mV/g sensitivity
- Meets CE, EMC requirements
- High resistance to electrical noise
- Low profile integral cable accelerometer
- Compact design ideal for mounting with limited space
- Corrosion resistant



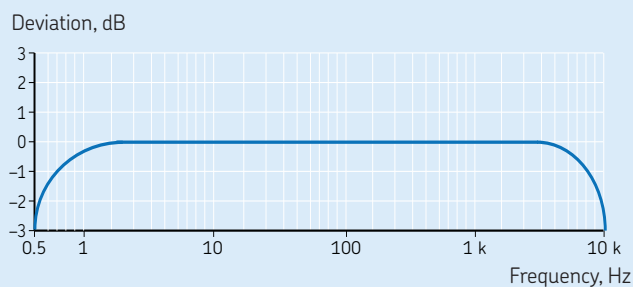
Dimensions



Typical temperature response



Typical frequency response



Specifications

Specifications based on low profile industrial constant current accelerometer, 100 mV/g, 0,5 to 10 000 Hz, side exit, 3 m (10 ft.) integral cable and swiveled base.

Dynamic

- Sensitivity: 100 mV/g
- Sensitivity precision: $\pm 15\%$
- Acceleration range: $\pm 490 \text{ m/s}^2$ ($\pm 50 \text{ g}$)
- Amplitude linearity: $\pm 1\%$
- Frequency range: 0,5 Hz to 10 kHz (30 to 600 000 cpm)
- Resonance frequency, mounted, nominal: 25 kHz (1 500 kcpm)
- Transverse sensitivity: $\leq 7\%$
- Temperature response: See graph

Electrical

- Power requirements:
 - Voltage source: 18 to 28 V DC
 - Constant current diode: 2 to 20 mA
- Electrical noise:
 - Spectral:
 - 10 Hz: $78,5 (\mu\text{m/s}^2)/\sqrt{\text{Hz}}$ ($8 \mu\text{g}/\sqrt{\text{Hz}}$)
 - 100 Hz: $49,1 (\mu\text{m/s}^2)/\sqrt{\text{Hz}}$ ($5 \mu\text{g}/\sqrt{\text{Hz}}$)
 - 1 kHz: $39,2 (\mu\text{m/s}^2)/\sqrt{\text{Hz}}$ ($4 \mu\text{g}/\sqrt{\text{Hz}}$)
- Output impedance: $< 150 \Omega$
- Bias output voltage: 8 to 12 V DC
- Electrical isolation (case): $> 10^8 \Omega$

Environmental

- Temperature range: -55 to $+120^\circ\text{C}$ (-65 to $+250^\circ\text{F}$)
- Shock limit: 5 000 g peak
- Sealing: Welded hermetic
- 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: 31 g (1.1 oz.)
- Case material: Stainless steel
- Enclosure rating: IP 68
- Sensing element: Ceramic, shear
- Mounting: Threaded stud 1/4-28 male
- Mounting torque:
 - Stud: 9,5 to 10,8 Nm (7 to 8 ft. lbs.)
 - Hex nut: 2,7 to 6,8 Nm (2 to 5 ft. lbs.)
- Connection: Molded integral cable, side
- Cable type: Polyurethane

Ordering information

CMSS WIND-100-10 Small accelerometer for wind turbines with integral cable, side exit, 3 m (10 ft.).

CMSS WIND-100-15 Small accelerometer for wind turbines with integral cable, side exit, 4,5 m (15 ft.).