MEGGITT

DATA SHEET

vibro-meter®

CV 211
velocity sensor

CV 211

CE

KEY FEATURES AND BENEFITS

- From the vibro-meter® product line
- Measurement range: 2 mm
- Frequency response: 10 to 1000 Hz
- Temperature range: −65 to 120°C
- Self-generating sensor
  (no external power supply required)
- Any sensor mounting orientation
- Fully sealed: IP66 protection rating
- Axial or radial cable exit

APPLICATIONS

- Designed for vibration monitoring on low-speed machines
- Suitable for hydraulic and steam turbine applications

DESCRIPTION

The CV 211 velocity sensor from Meggitt's vibro-meter® product line is based on the electrodynamic principle. The sensing element of the sensor is a coil moving around a permanent magnet, which produces a voltage directly proportional to the vibration velocity.
The CV 211 velocity sensor is suited to the special requirements of hydraulic turbomachinery in environments with low speed ranges, between 60 and 1000 rpm.

The usable frequency range is 10 to 1000 Hz, although attention should be paid to the nominal resonant frequency of the measurement system which is at 14 Hz.

The relatively high output signal reduces the additional effort for the signal transmission especially over longer distances.

The CV 211 is a very sensitive vibration sensor with a rugged design that is oil-proof, waterproof and vacuum resistant. A stainless steel case permits use in very harsh industrial environments.

For specific applications, contact your local Meggitt representative.

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SPECIFICATIONS

General

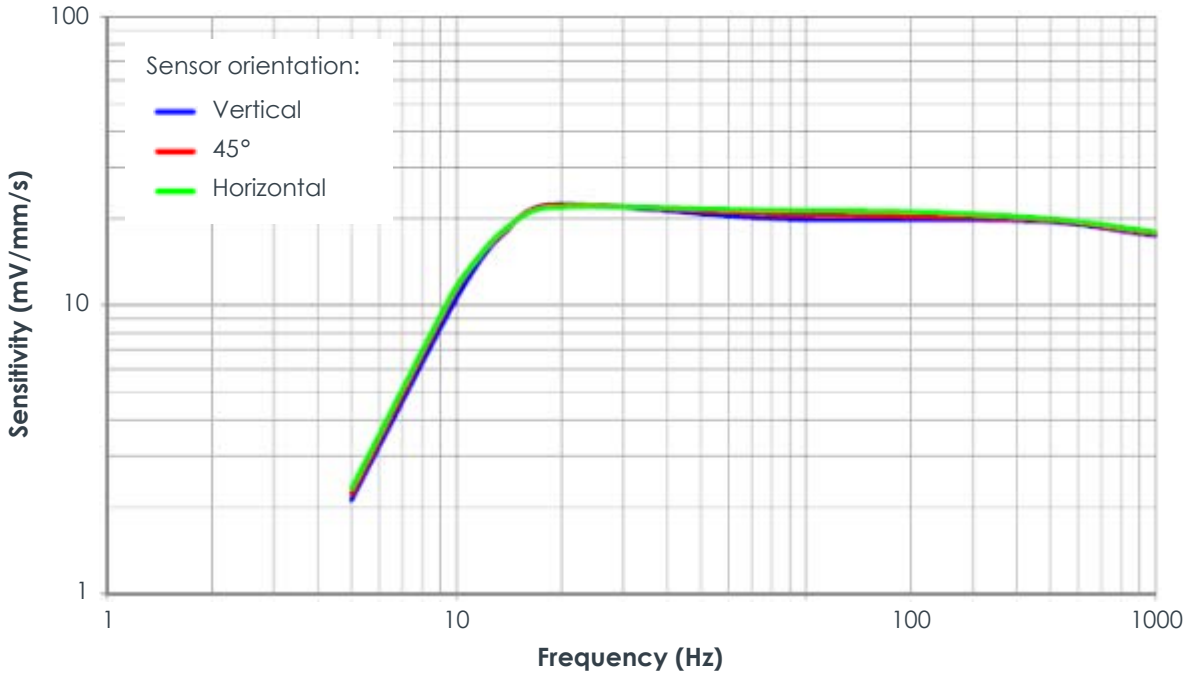
Operating principle	: Electrodynamic (moving coil and magnet)
Power supply	: No external power supply required
Measurement direction	: Horizontal only, vertical only, or any measurement direction (360°). Note: Please take into account when ordering.
Signal transmission	: 2-wire system, insulated from casing

Operating

Sensitivity

• Horizontal only (ordering option code B1) or vertical only (ordering option code B2)	: 23 mV/mm/s RMS ±10%
• Any measurement direction (ordering option code B3)	: 20 mV/mm/s RMS ±10%
	Note: See **Typical frequency response curves on page 2**.
Measurement range (maximum displacement)	: 2 mm PEAK-TO-PEAK
Frequency range	: 10 to 1000 Hz
Resonant frequency	: 14 Hz nominal
Transverse sensitivity	: <5%
Coil resistance	: 375 Ω coil, 900 Ω damping resistor

Typical frequency response curves



SPECIFICATIONS *(continued)*

Environmental

Temperature range

- Sensor (case/housing) : −65 to 120°C
- Cable : −55 to 105°C
- Cable protection (flexible metal sheath?) : −25 to 80°C

Protection rating (according to IEC 60529) : IP66

Approvals

Conformity : European Union (EU) declaration of conformity (CE marking)

Physical

Housing material : Stainless steel casing (1.4305)

Dimensions : 93 × 38.
See **Mechanical drawings starting on page 4**.

Weight : 600 g approx.
Note: Excluding cabling.

Mounting : M10 × 1.5 (inner thread), 10 mm deep, 19 mm key width.
See **Mechanical drawings starting on page 4**.

Mounting torque : 10 N•m maximum

Mounting orientation : Horizontal only (ordering option code B1), vertical only (ordering option code B2), or any measurement direction (ordering option code B3).
Note: Please take into account when ordering.

Cable connection

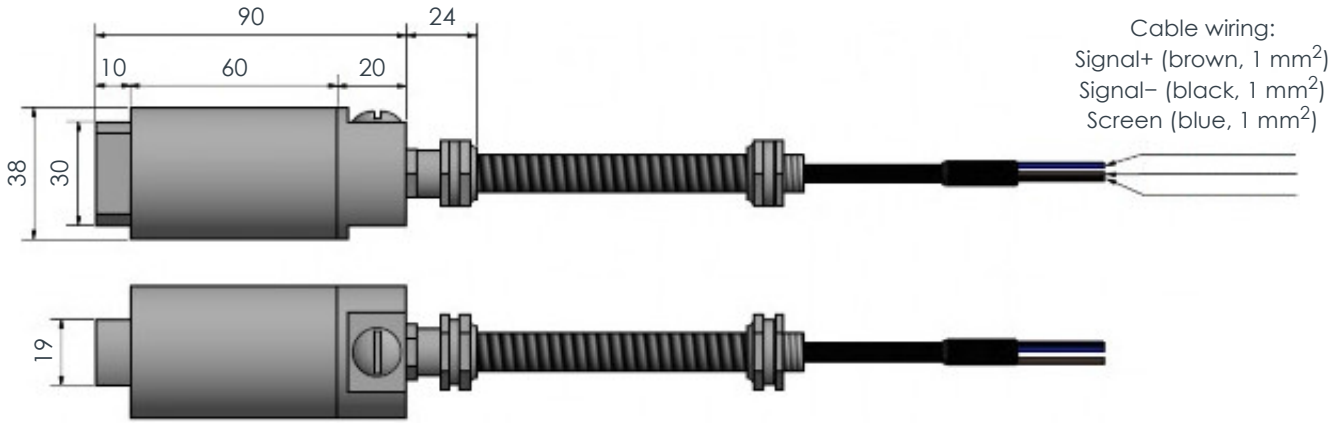
- Type : LiYCY, 2 × 20 AWG, shielded.
  Note: Screen not connected to case/housing.
- Outer diameter : 5.1 mm ±0.15 mm
- Bend radius : 75 mm minimum

Cable protection

- Type : Protective tube, galvanized steel, insulated, black.
  Note: Please take into account when ordering.
- Outer diameter : 11 mm
- Bend radius : 50 mm minimum

MECHANICAL DRAWINGS

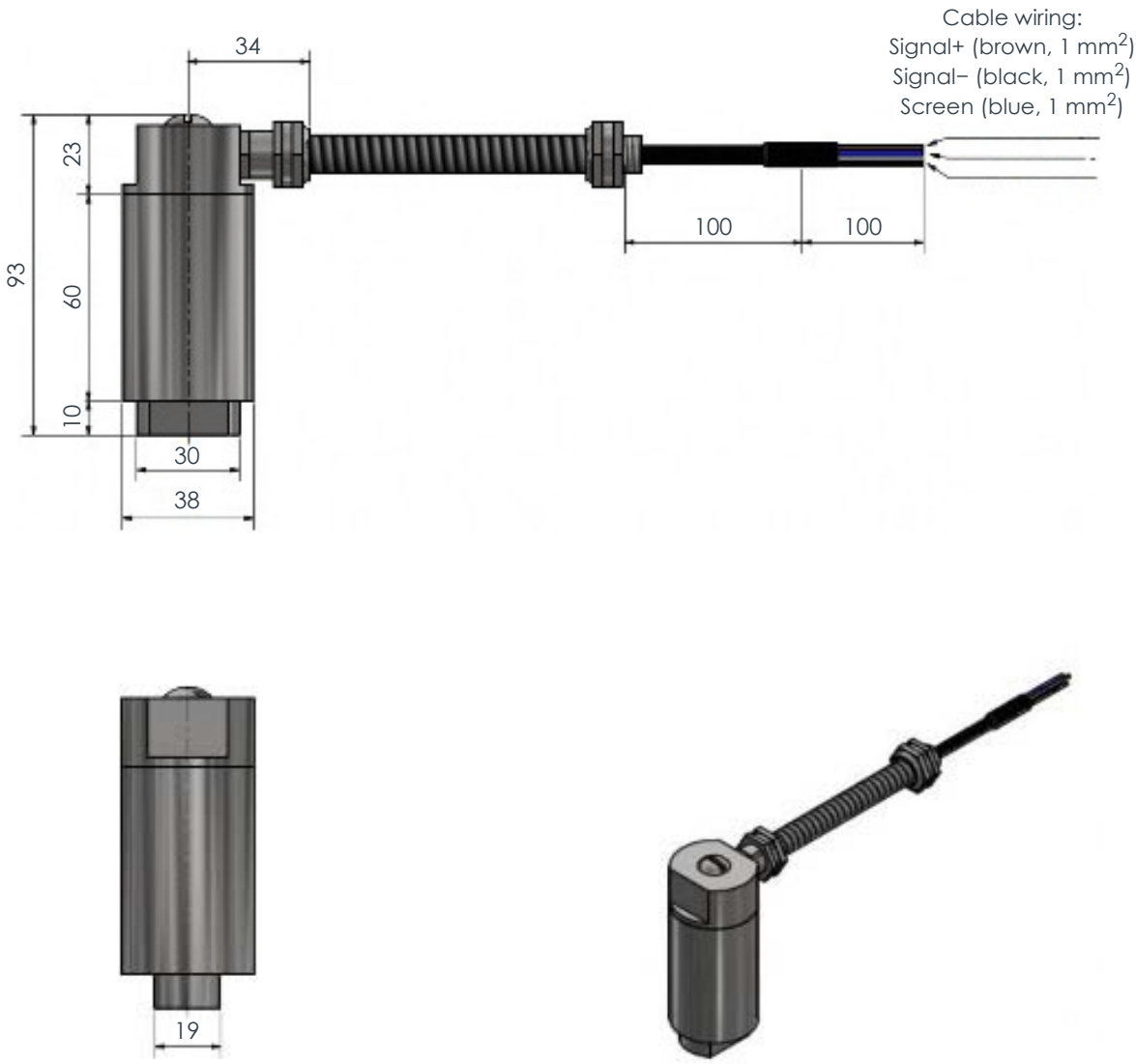
Axial (ordering option code C1)



Notes: All dimensions in mm (in) unless otherwise stated.

MECHANICAL DRAWINGS *(continued)*

Radial (ordering option code C2)



Notes: All dimensions in mm (in) unless otherwise stated.

ORDERING INFORMATION

To order, please specify the version of the CV 211 velocity sensor required …

Ordering number (PNR):

CV211 — A — B — C — E — F — G

Version / Environment (A)	
Standard	0

Measuring direction (B)	
Horizontal	1
Vertical	2
Any (360°)	3

Cable output (C)	
Axial	1
Radial	2
Connector only	3

Cable protection length (G)	
000	Without (0 m) See note 3
048	4.8 m See note 4
098	9.8 m See note 4

Cable protection (F)	
0	Without
1	With

Integral cable (E)	
000	None See note 1
050	5 m See note 2
100	10 m See note 2

Notes

Other combinations of CV 211 ordering option codes are available/possible.

The normalized versions of the CV 211 that are readily available are listed below.

1. No integral cable (E000) is required for the connector only (C3) version.
2. 5 m and 10 m integral cables (E050 and E100) are available for the axial and radial (C1 and C2) versions.
3. 0 m cable protection length (G000) is required for the no integral cable (E000) version.
4. 4.8 m and 9.8 m cable protection length (G048 and G098) are available for the 5 m and 10 m integral cable (E050 and E100) versions.

ORDERING INFORMATION *(continued)*

Normalized versions:

Type	Designation	Ordering number (PNR)
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C1-E050-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C1-E050-F1-G048
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C1-E100-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C1-E100-F1-G098
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C2-E050-F1-G048
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C2-E100-F1-G048
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B1-C3-E000-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B2-C1-E050-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B2-C1-E100-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B2-C2-E050-F1-G048
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B2-C3-E000-F0-G000
CV 211	See Ordering number (PNR) on the previous page	CV211-A0-B3-C3-E000-F0-G000

Meggitt (Meggitt PLC) is a leading international engineering company, headquartered in England, that designs and delivers high-performance components and subsystems for aerospace, defence and selected energy markets. Meggitt comprises four customer-aligned divisions: Airframe Systems, Engine Systems, Energy & Equipment and Services & Support.

The Energy & Equipment division includes the Energy Sensing and Controls product group that specialises in sensing and monitoring solutions for a broad range of energy infrastructure, and control valves for industrial gas turbines, primarily for the Power Generation, Oil & Gas and Services markets. Energy & Equipment is headquartered in Switzerland (Meggitt SA) and incorporates the vibro-meter® product line, which has over 65 years of sensor and systems expertise and is trusted by original equipment manufacturers (OEMs) globally.

In this publication, a dot (.) is used as the decimal separator and thousands are separated by thin spaces. Example: 12345.67890.

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