

DISPLACEMENT SENSOR VIBRATING WIRE TYPE

DATASHEET

MODEL EDE-VXX



OVERVIEW

The Encardio Rite model EDE-VXX Vibrating wire linear displacement sensor is engineered for precise measurement of displacement in geotechnical and structural engineering applications. The vibrating wire technology incorporated in this sensor makes it ideal for scenarios where direct mechanical readings are challenging or where remote data logging is required. The displacement sensor is particularly useful for monitoring rock mass or concrete displacement in borehole extensometers, soil displacement in soil extensometers, and surface cracks in structures and rock mass.

The EDE-VXX displacement sensor converts mechanical displacement to an electrical frequency output, which can be accurately measured by any compatible vibrating wire readout unit. The data can also be collected automatically, stored, and transmitted to a remote server using a suitable datalogger, enabling continuous and remote monitoring.

The sensor is available in different configurations to provide versatile solutions for various monitoring needs, such as the EDE-VXX-SC for crack gages, the EDE-VXX-RC for borehole extensometers, and the EDE-VXX-WP for waterproof applications.

FEATURES

- **Rugged, stainless steel body:** Ensures durability in harsh environments, making it suitable for challenging geotechnical and structural monitoring.
- **Long-term reliability:** The excellent zero stability and rugged design makes it a good choice for long-term measurements in adverse environments.
- **'O' ring protection against moisture ingress:** Prevents moisture damage, ensuring reliable operation in wet conditions.
- **Unaffected by changes in atmospheric pressure:** Maintains measurement accuracy regardless of atmospheric pressure fluctuations.
- **Versatile datalogging:** Can be used with compatible VW readout units for manual data collection. For continuous monitoring, it can be connected to a suitable datalogger.

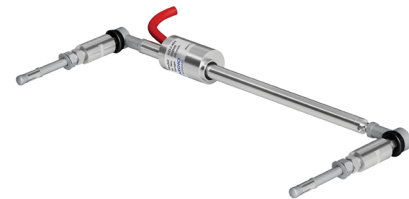
Encardio Rite offers a range of NexaWave dataloggers equipped with GSM/GPRS or RF communication capabilities, ensuring reliable and efficient data acquisition and transmission at desired frequencies.

- **Infrastructure data intelligence platform:** Encardio offers Proqio software to facilitate data processing, analysis, and real-time visualization providing 24/7 insights. Benefit from instant alerts for critical events and automated reports, supporting informed decision-making.
- **Cross-compatibility:** The sensor can work with any manufacturer's Dataloggers and Data Management Systems.

PRODUCT OFFERING

EDE-VXX-SC (Side cable)

Model EDE-VXX-SC displacement sensor is widely used in uniaxial, biaxial or triaxial crack meters. The sensor is provided with spherical bearing joints at the two ends and anchors for fixing the joint rods to brick, concrete or rock surfaces. The side cable design allows easy installation.



CRACK METER

EDE-VXX-RC (Rear cable)

Model EDE-VXX-RC displacement sensor is suitable for use in borehole extensometers. The zero reading can be set by extending the sensor by around 10 mm for expected extension or 10 mm less than the range for expected compression. It can also be set at any intermediate position.



SOIL EXTENSOMETER

EDE-VXX-WP (waterproof)

Model EDE-VXX-WP sensors has a waterproof housing providing robust protection, suitable for applications exposed to moisture and water ingress.

DIMENSIONS

Model No.	EDE-VXX-SC	EDE-VXX-RC	EDE-VXX-WP
EDE-V015	29 \varnothing x 210	NA	19 \varnothing x 250
EDE-V025	29 \varnothing x 230	NA	19 \varnothing x 270
EDE-V05	29 \varnothing x 290	19 \varnothing x 290	19 \varnothing x 330
EDE-V10	29 \varnothing x 420	19 \varnothing x 420	19 \varnothing x 460
EDE-V15	29 \varnothing x 550	19 \varnothing x 550	19 \varnothing x 590
EDE-V20	29 \varnothing x 710	19 \varnothing x 705	19 \varnothing x 735
EDE-V25	29 \varnothing x 840	19 \varnothing x 835	19 \varnothing x 865

\varnothing x L - dimensions in mm

ORDERING CODE

EDS-VXX-YY



Type required: SC/RC/WP

Range required

- 015: 15 mm
- 025: 25 mm
- 05: 50 mm
- 10: 100 mm
- 15: 150 mm
- 20: 200 mm
- 25: 250 mm

[Note: If purchase order does not specify type of sensor (SC/RC/WP), 'RC' version will be supplied]

SPECIFICATIONS

Sensor type	Vibrating wire
Range (mm)	15, 25, 50, 100, 150, 200 or 250
Sensitivity	0.02 % fs
Accuracy	0.2 % fs standard 0.1 % fs optional 0.5% fs (for 150-250 mm range)
Non linearity	\pm 0.5 % fs
Resolution	0.05% fs
Temperature limit	-10 to 80°C (operational)
Temperature effect	Zero (maximum): 0.01% fs/°C Span (maximum): 0.03% fs/°C
Thermistor	YSI 44005 or equivalent (3 kOhms at 25°C)
Thread type	M6 x 1 male thread (10 mm long) on retractable shaft
Environmental rating	IP68, with up to 40 mwc water resistance (100 mwc for EDE- VXX-WP variant)

*All specifications are subject to change without prior notice

DATASHEET | 1085-13 R5



Dams



Mining



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Transportation



Construction



Bridges



Landslides



Energy



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