ENCARDIO RITE

LINEAR DISPLACEMENT TRANSDUCER

MODEL EDE-VXX

INTRODUCTION

The Encardio-rite model EDE-VXX linear displacement transducer incorporates a vibrating wire sensor. It converts mechanical displacement to an electrical frequency output. This frequency output can be read or logged by a remote digital readout unit (Encardio-rite model EDI-51V) or a data acquisition system (Encardio-rite model EDAS-10).

The model EDE-VXX vibrating wire displacement transducer is used in geotechnical and structural engineering applications where either it is difficult to take direct mechanical readings due to inaccessibility or online data needs to be logged at a remote location. Some uses are:

- to monitor rock mass or concrete displacement in single or multipoint bore hole extensometers.
- to monitor soil displacement in soil extensometers.
- to monitor surface cracks in structures and rock mass.

Vibrating wire displacement transducers have an advantage over conventional transducers like LVDT as the former gives frequency, rather than a voltage as the output signal. The frequency signal can be transmitted over long distances without any change in value caused by variations in cable resistance which can arise from water penetration, temperature fluctuations, contact resistance or leakage to the ground.

This factor, coupled with excellent zero stability and rugged design makes the model EDE-VXX displacement transducer preferable for long-term measurements in adverse environments.

FEATURES

- Rugged, stainless steel body.
- Long term reliability and stability.
- Quick and easy to read, adaptable to data loggers or data acquisition system.
- 'O'ring protection against ingress of moisture.
- Unaffected by changes in atmospheric pressure.

APPLICATIONS

- In single point or multipoint bore hole extensometers to monitor rock mass or concrete displacement.
- In soil extensometers to monitor soil displacement.
- As crack meter to monitor movements across surface cracks in structures and rock mass.
- As joint meter to monitor expansion or contractions of joints in concrete structures.

DESCRIPTION

The vibrating wire displacement transducer can be used in uniaxial joint meters, triaxial joint meters, crack meters, bore hole extensometers and soil extensometers etc..

When used in bore hole extensometer the displacement transducer can be positioned with respect to the reference plate to set the zero reading. If extension is expected, the zero reading of the sensor is set by extending it by around 10 mm. In case only compression is expected, the zero reading is set by extending it by around 10 mm less than the range. If required,

the zero reading of the sensor may be set in any intermediate position.

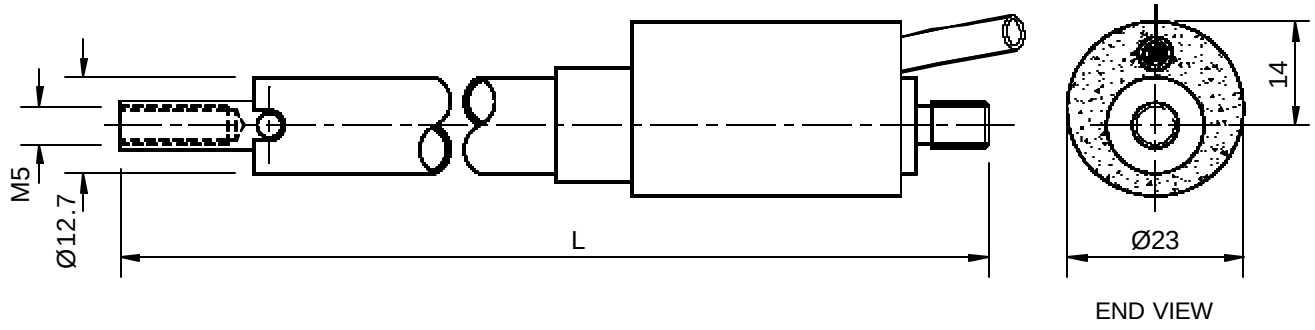
For use as a crackmeter, the EDE-VXX transducer is provided with spherical bearing joints at the two ends and anchors for fixing the joint rods to brick, concrete or rock surfaces.

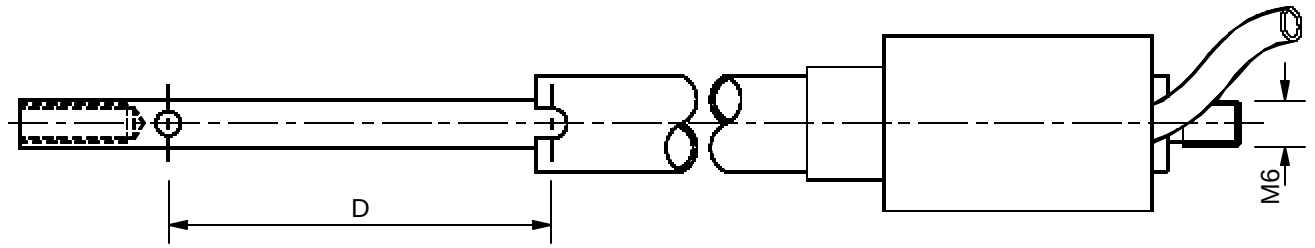
The retractable shaft of model EDE-VXX vibrating wire displacement transducer has a 12 mm long M5 x 1 female thread.

SPECIFICATIONS

Model	EDE-VXX (EDE-V05/10/15)
Range	50, 100, 150 mm respectively
Transducer type	Vibrating wire
Sensitivity	0.02 % fs
Accuracy	0.2% fs
Linearity	0.5 % fs
Operating temp.	-10 to 50°C

DIMENSIONS





All dimensions are in mm

Model no.	Displacement (D)	L
EDE-V05	50 mm	270 mm
EDE-V10	100 mm	400 mm
EDE-V15	150 mm	530 mm

Specifications are subject to change without notice.

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