

# DISPLACEMENT TRANSDUCER

Series FOD

## APPLICATIONS

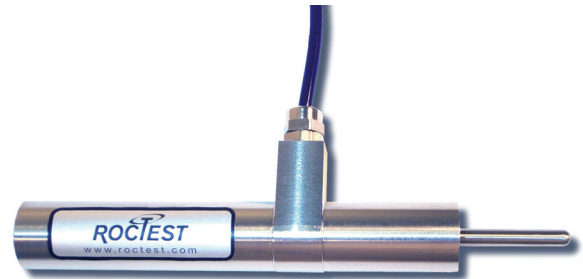
- Measuring fault movements in rock
- Determining crack and joint movement in concrete and masonry structures

## DESCRIPTION

The Roctest Telemac fiber optic linear position and displacement transducer is an absolute position transducer that provides highly precise position and displacement measurements. The FOD is the fiber optic version of the well-known Linear Variable Differential Transformer (LVDT), but unlike it, the FOD requires no energizing AC voltage or driving signal with the associated wiring. The FOD is completely immune to EMI and RFI and carries no risk of current leakage or ignition. The FOD can be located far away from the signal conditioner. These characteristics make the FOD well suited for difficult-to-reach locations and hazardous environments such as those containing explosive materials.

Our unique design is based on a Thin Film Fizeau Interferometer device (TFFI) mounted on a movable shaft. The TFFI can be seen as a spatially distributed Fabry-Perot cavity where the cavity length varies along the lateral position. The tip of an optical fiber is mounted so as to be facing the surface of the TFFI which is moved relative to the optical fiber extremity. By connecting this device to one of Roctest's white-light fiber optic readout units or dataloggers, it becomes an absolute position and displacement transducer.

Compatible with most of Roctest Telemac's high-performance fiber optic readout units and dataloggers, the fiber optic linear position and displacement transducer combines all the desired characteristics expected in an ideal sensor. Its compact size, immunity to EMI/RFI, resistance to corrosive environments, high accuracy and reliability make it the best choice for linear position and displacement measurements.



## FEATURES

- High resolution
- Intrinsically safe
- Immune to EMI/RFI
- Waterproof aluminium or stainless steel housing

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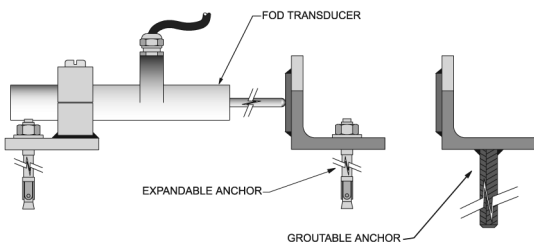
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## SPECIFICATIONS

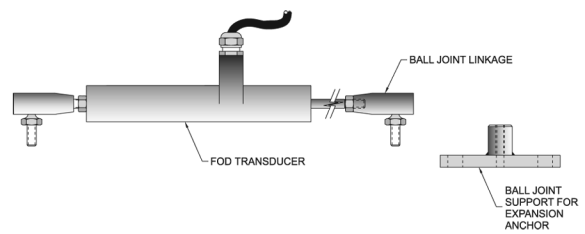
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Linear stroke	20 mm (spring-loaded shaft)
Accuracy	±0.1% F.S.
Resolution	0.002 mm
EMI/RMI susceptibility	Intrinsic immunity
Cable	CFO-3STD
Housing material	Aluminum or stainless steel
Connector	ST
Operating temperature	-40 to +80°C
Dimensions (length × O.D.)	144 mm × 19 mm (other sizes available)

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Model FOD-F



Model FOD-J

## ORDERING INFORMATION

Please specify:

- Model
- Fiber optic cable length
- Type of anchoring
- Anchor parts
- Fiber optic readout instruments