



# String Position Transducers

## PRODUCT OVERVIEW



### KEY FEATURES

- Robust, Aluminum Construction
- Adaptive, Highly Customizable Features
- Accurate, Repeatable Performance
- Miniature Envelope and Versatile Mounting

# 15x – Micro Position Transducer .....

**RANGE OF 1.5 INCHES**

## Features

- Left Hand / Right Hand and Universal Mounting
- DO-160 tested
- High frequency response - 49g max
- NEMA 3S / IP 54

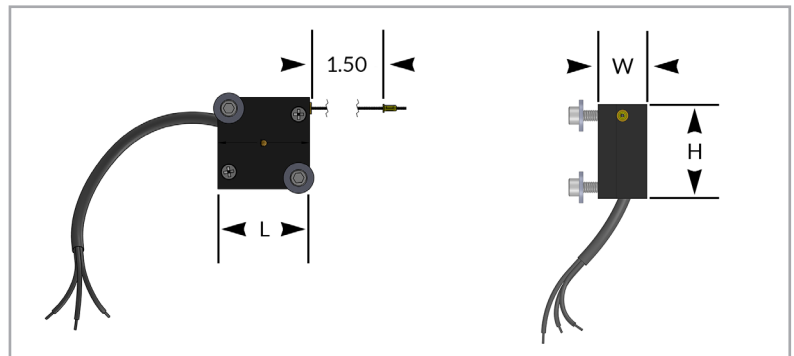
**Outputs** Voltage Divider - 1.0% max Linearity Error

**Applications** Miniature design fits in all applications including a legacy of proven performance in crash/ automotive testing, structural testing and control system feedback.

## Dimensions

**150 UNIVERSAL MOUNTING**

Type	Size
Width	0.40 inches / 10.2 mm
Height	0.75 inches / 19.1 mm
Length	0.75 inches / 19.1 mm



# .....17x – Subminiature Position Transducer

**RANGES FROM 2.00 INCHES TO 6.5 INCHES**

## Features

- Left Hand / Right Hand Mounting
- DO-160 tested
- Bearing Supported Rotating Element
- High frequency response - 17g max
- NEMA 3S / IP 54
- High Tension model available - 50g max

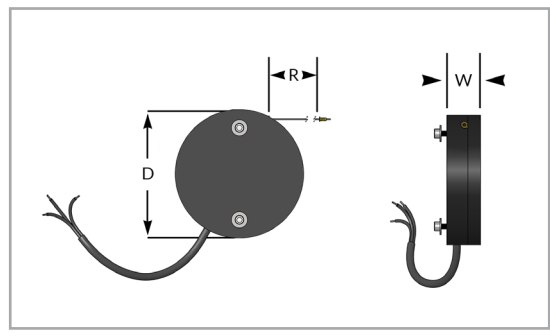
## Dimensions

Range (R) [in]	Series	Width (W)	Diameter (D)
2	170	0.47 in / 11.9 mm	0.96 in / 24.4mm
3	173	0.45 in / 11.4 mm	1.28 in / 32.5 mm
4	174	0.49 in / 12.5 mm	1.71 in / 43.3 mm
5	175	0.52 in / 13.2 mm	1.99 in / 50.5 mm
6.5	176	0.52 in / 13.2 mm	2.46 in / 62.5 mm

**Outputs** Voltage Divider - 0.5% max Linearity Error

**Applications** Various ranges available. Widely utilized in automotive, medical and aerospace (onboard and test) applications.

Visit [Firstmarkcontrols.com](http://Firstmarkcontrols.com) for additional information on Firstmark's full portfolio of position transducers.



# 16x – Miniature Position Transducer

RANGES FROM 2.00 INCHES TO 42.50 INCHES

## Features

- Bearing supported rotating element
- Extensively customizable orientations, terminations and connector types
- AccuTrak™ grooved drum
- DO-160 tested
- NEMA 4 / IP 56 (with sensor cover)

Series	Dimensions (B x A x L*)	Ranges (R)
160	1.62 x 1.81 x 2.52 in 41.1 x 46 x 64 mm	2.00-21.25 in 51-540 mm
161	2.24 x 2.43 x 2.52 in 56.9 x 61.7 x 64 mm	23.85 -30 in 606-762 mm
162	2.99 x 3.19 x 2.52 in 75.9 x 81 x 64 mm	34.13 - 42.50 in 867-1080 mm

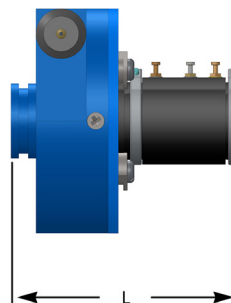
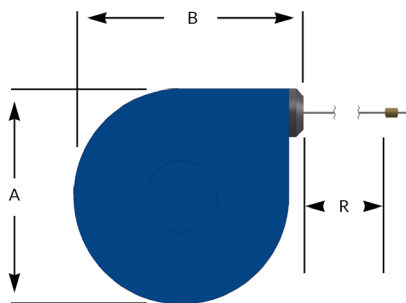
*Dimension is with sensor cover. Sensor cover required for NEMA rating. Transducer is shorter without cover.*

Visit [Firstmarkcontrols.com](http://Firstmarkcontrols.com) to learn more about all of the configurable options.

**Outputs** Voltage Divider - 0.35% to 1.0% max Linearity Error

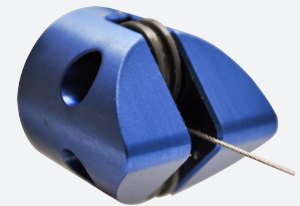
**Applications** Extremely customizable design lends itself to use in almost any service including aerospace applications and high acceleration testing.

Firstmark's high tension 16xH series offers all of the customizable options as the standard tension 16x series but with higher frequency responses (over 350g theoretical).



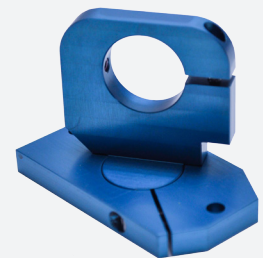
## ACCUTRACK GROOVED DRUM

The grooved AccuTrak™ drum, offered only by Firstmark Controls, ensures repeatability by preventing cable overlap.



## ROUNDABOUT™

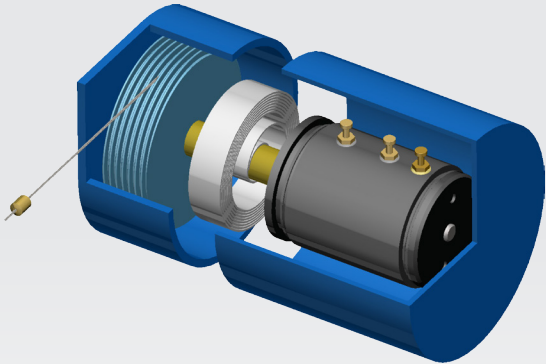
This fully rotational, integrated idler set allows for severe fleet angles and can accommodate sudden changes in cable angle without the need for re-orientation.



## UNIVERSAL MOUNTING BASE

A compact base for mounting transducers with two rotational axis for the perfect alignment in any application.

## Technology Overview



Position transducers convert mechanical motion into an electrical signal that may be metered, recorded, or transmitted. Firstmark Controls position transducers consist of a stainless steel displacement cable wound on a threaded drum that is directly coupled to a precision, long-life sensor. Operationally, the transducer is mounted in a fixed position and the extension cable is attached to a moving object. As movement occurs, the displacement cable extracts then later retracts under the power of an internal, engineered spring which also maintains tension on the displacement cable throughout its stroke. The rotation of the sensor produces an electrical output proportional to the displacement cable giving indication of positional translation.

## Company Background

Building on a legacy dating back to the 1970s, string position transducers built by Firstmark Controls have developed a reputation for meeting the ever increasing demands of our customers. With utilization in more than 40 countries, Firstmark Controls continues to provide a superior quality product for testing and OEM applications in the space, aviation, automotive, medical and general industry sectors.

An H-D Advanced Manufacturing company, Firstmark Controls is AS9100 and ISO9001 certified and manufacturers all of its products in our Creedmoor, NC facility.

## Engineered Solutions

As a complement to our highly customizable, off the shelf product offering, Firstmark Controls offers custom design services and turnkey solutions to meet your challenging position sensing needs.

The Firstmark Engineered Solutions Team is both uniquely equipped and widely experienced in assisting customers with every aspect of their design, implementation and qualification needs. The result is a product that not only exceeds the capabilities of any other product available but also allows the customer to reduce life cycle costs and satisfy increasing pressure to shorten development cycles.

**For an evaluation of your project and to better understand how Firstmark Controls can assist, please contact the Firstmark Engineered Solutions team at [info@firstmarkcontrols.com](mailto:info@firstmarkcontrols.com)**



*Ultimate Solutions in Precision Displacement Sensors*

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