



THE ALL NEW, HIGH RESOLUTION, LINEAR SENSORS

*Simple, Reliable, Accurate & High Speed
Linear Position and Velocity Sensing System*

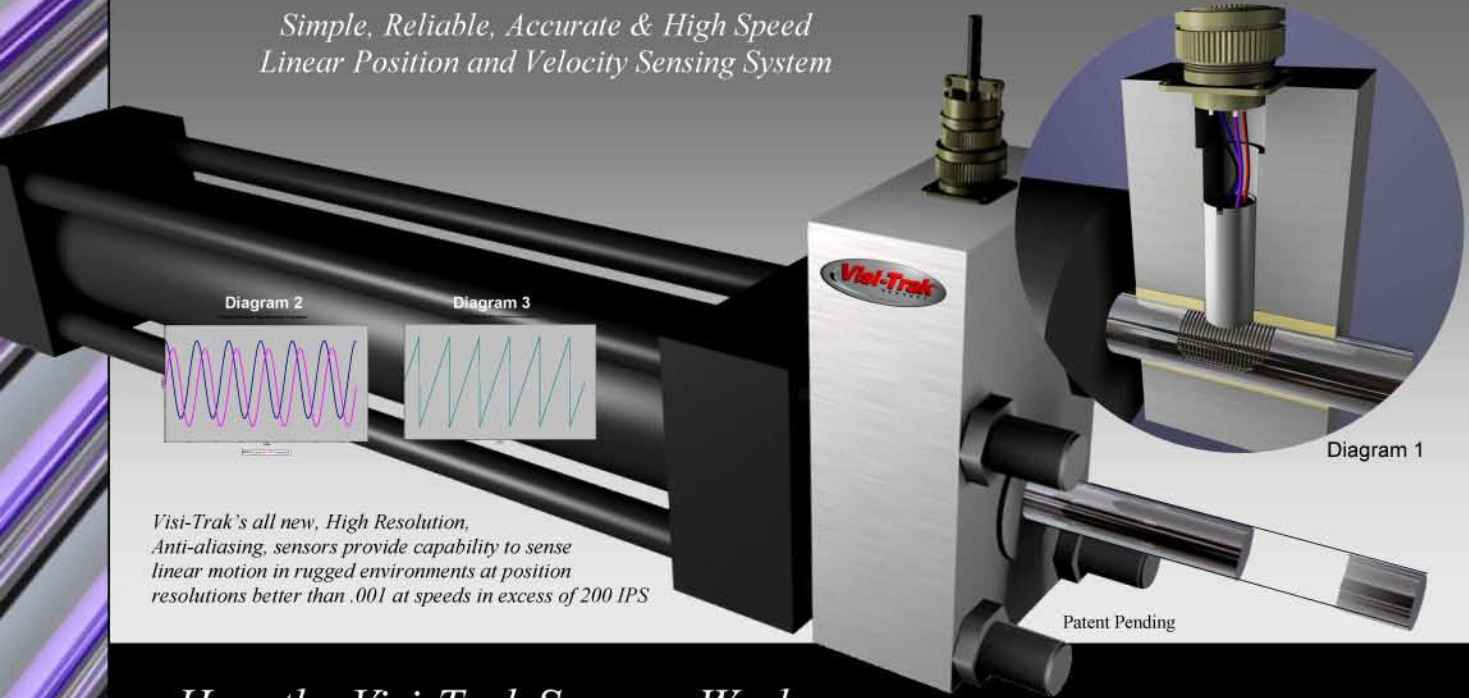


Diagram 2

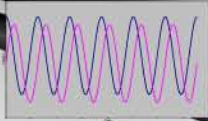


Diagram 3



Diagram 1

Visi-Trak's all new, High Resolution, Anti-aliasing, sensors provide capability to sense linear motion in rugged environments at position resolutions better than .001 at speeds in excess of 200 IPS

How the Visi-Trak Sensors Work...

The sensing system includes an encoded piston rod with a smooth outer hard chrome plate shell that can be incorporated as an integral part of your hydraulic or pneumatic actuator. Next a non-contacting magnetic transducer assembly is mounted in a housing in close proximity to rod as shown Diagram 1. As the rod strokes, two sine wave outputs in a quadrature phase relationship are generated as shown in Diagram 2.

The standard encoder way...

The standard encoder simplifies the signals into binary: 'H' if positive, and 'L' if negative (Diagram 4).

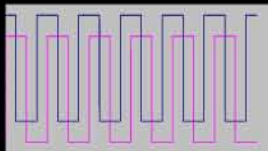


Diagram 4

From these signals, it's possible to see only four distinct positions per cycle: This is the classical *multiply-by-four* approach which limits resolution to 80 counts per inch with a 20 tpi target.

The Visi-Trak® "High Resolution" Way...

The Visi-Trak® High Resolution Sensor "HR" interpolates the first stage outputs shown in Diagram 2 to provide nearly continuous position sensing in each cycle Diagram 3.

The "HR" effectively multiplies the encoder's resolution by 64. With a 20 Tpi rod, resolutions finer than .001" are achieved. To enhance your productivity the sensor sampling can be successfully maintained at speeds in excess of 200 inches per second, utilizing a unique anti-aliasing algorithm.

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