DVRT® vs. LVDT

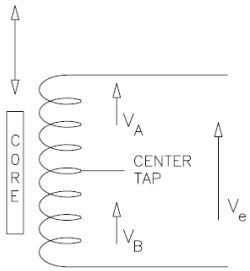
Comparison

Overview

The LORD MicroStrain® DVRT® (Differential Variable Reluctance Transducer) and the LVDT (Linear Variable Differential Transformer) combined with their signal conditioners convert a linear displacement into a linear variable electrical output signal. The displacement is detected by the movement of a core within the coils inside of the sensor. The difference between the sensors is in their coil format.

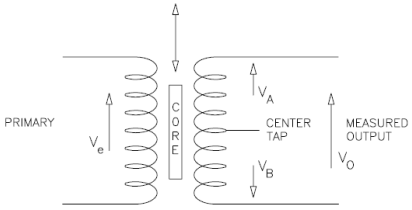
DVRT®

The coil shown below is energized using an AC excitation through the center tap. The coil is usually arranged in a Wheatstone bridge with the Center Tap being the bridge excitation (forming a "half bridge"). With the core in the central location (null) the signals VA and VB are equal. When the core moves, VA and VB vary proportionally. Since this design is less complicated, we are able to produce considerably smaller sensors than LVDT manufacturers.



LVDT

The primary coil is excited with an AC waveform. When the core is in the central location, the coupling between the secondary coils VA & VB and the primary coil Ve is equal. When the core moves, VA changes proportionally to VB in both magnitude and phase.



Support

LORD MicroStrain® support engineers are always available to expand on this subject and support you in any way we can.

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