

# Series 200

## Short Stroke DC LVDTs

The Series 200 DC-DC LVDTs are precision Linear Variable Differential Transformers packaged with a solid state oscillator and a phase sensitive demodulator. The transducer is designed to work with DC voltages, and has excellent linearity, infinite resolution, and high sensitivity. Input and output circuits are electrically isolated from each other and from the coil assembly housing, making them usable directly in floating or ground return systems. DC indicators, recorders, and control systems can usually be driven directly by the large DC output. The core, when displaced axially within the coil assembly, produces a voltage change in the output directly proportional to the displacement.



### KEY FEATURES

<b>Ranges from <math>\pm 0.05"</math> to <math>0.20"</math></b>	<b>Stainless Steel Construction</b>
<b>Non-linearity &lt; 0.5%, 0.3%</b>	<b>High Sensitivity</b>

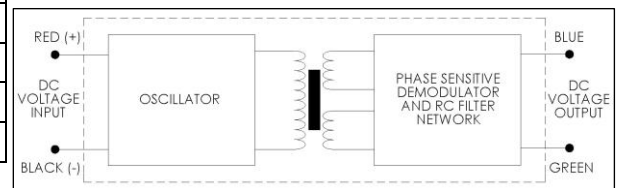
### SPECIFICATIONS – ELECTRICAL

MODEL NUMBER	0200-0000Q	0200-0001Q	0201-0000Q	0201-0001Q
RANGE, $\pm$ INCHES ( $\pm$ MM)	0.050 (1.27)	0.050 (1.27)	0.100 (2.54)	0.100 (2.54)
INPUT, VDC	7 Max., 5 Min.			
INPUT, mA	20	20	35	35
OUTPUT, FULL SCALE OPEN CIRCUIT, $\pm$ VDC	1.5	1.5	2.8	2.8
LINEARITY, $\pm$ FULL SCALE, %	0.5	0.3	0.5	0.3
INTERNAL CARRIER FREQUENCY	9 KHz			
MAX RIPPLE, RMS/VDC OUTPUT RANGE	0.7%			
OUTPUT IMPEDANCE, KOhms	2.2	2.2	3.0	3.0
FREQUENCY RESPONSE (3dB DOWN), Hz	350	350	170	170
TEMPERATURE RANGE	-65°F to +140°F (-54°C to +60°C)			
RESOLUTION	Infinite			

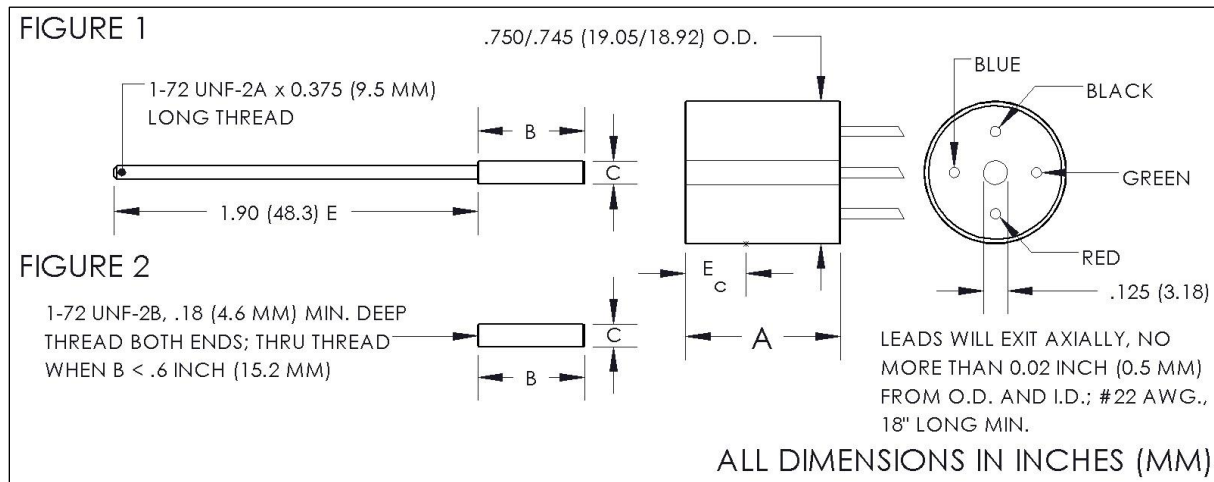
#### NOTES:

1. Polarity of excitation must be observed for proper function. Reversal will not damage the unit.
2. Load impedance of 50 KOhms minimum required for proper operation.
3. Output polarity will be positive on one side of null, negative on the other side of null.
4. Blue lead is more positive with respect to the Green lead when the core is moved toward the lead end.

### BLOCK DIAGRAM



### DIMENSIONAL DIAGRAM



## SPECIFICATIONS – MECHANICAL

MODEL*	LINEAR RANGE, ±INCHES (MM)	BODY LENGTH, A, INCHES (MM)	ELECTRICAL CENTER, E <sub>e</sub> , INCHES (MM)	BODY MASS, GRAMS	CORE LENGTH, B, INCHES (MM)	EXTENSION LENGTH, E, INCHES (MM)
0200-0000_	0.05 (1.27)	0.81 (20.6)	0.32 (8.13)	21	0.56 (14.2)	1.9 (48.3)
0200-0001_	0.05 (1.27)	0.81 (20.6)	0.32 (8.13)	21	0.56 (14.2)	1.9 (48.3)
0201-0000_	0.10 (2.54)	1.06 (26.9)	0.44 (11.2)	26	0.81 (20.6)	1.9 (48.3)
0201-0001_	0.10 (2.54)	1.06 (26.9)	0.44 (11.2)	26	0.81 (20.6)	1.9 (48.3)

## CORE OPTIONS

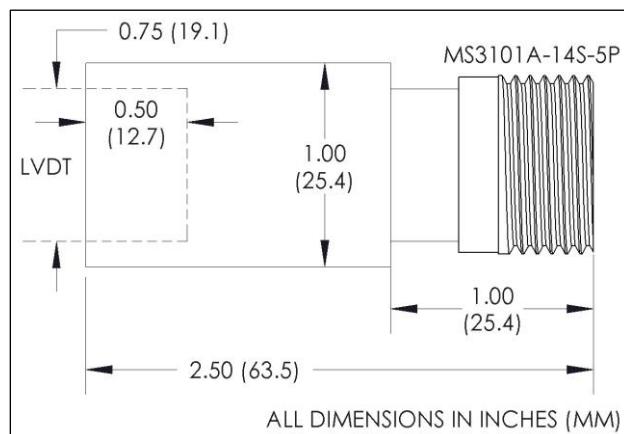
MODEL	CORE ASSEMBLY REF. FIG. 1		THREADED CORE REF. FIG. 2	
	OPTION 0	OPTION 1	OPTION 2	OPTION 3
	C = 0.120" (3.05mm)	C = 0.099" (2.51mm)	C = 0.120" (3.05mm)	C = 0.099" (2.51mm)
0200-0000_	C004-0000	C004-0001	C005-0002	C005-0003
0200-0001_	C004-0000	C004-0001	C005-0002	C005-0003
0201-0000_	C004-0002	C004-0003	C005-0006	C005-0007
0201-0001_	C004-0002	C004-0003	C005-0006	C005-0007

\* Model numbers ending with a "\_" have multiple core options. All standard units will end with a 0 indicating a core assembly. This core assembly consists of a core brazed to an extension rod that terminates in 1-72 UNF-2A threads. If an option is not selected, option 0 will be provided. Option 1 indicates a core assembly with a smaller core. Core options 2 and 3 provide a threaded core only. A separate extension rod can be used to connect the core to the moving object.

## SALES OPTIONS

OPTION #	DESCRIPTION
X0002	Splashproof – protects the unit from washdown environments or outdoor applications
X0004	Modify length of the extension rod from 1.9" to user specified length; specify as Dimension E
X0010	Option cable termination; eight feet of 4 conductor, 22 AWG, PVC cable
X0011	Provide an offset and scaled output voltage; special connector and mating connector included; used only with load impedances of 1 Megaohm or greater; input voltage and scaling parameters must be specified
X0017	Modify unit for use in any noncorrosive, nonconductive medium, such as hydraulic fluid, for pressure < 5000 PSI; housing is vented
X0023	Install second brazed extension rod to user specified length; specify as Dimension E
X0025	Optional MS-style connector termination. Increases O.D. to 1.00"; mating connector supplied
X0040	Optional cable termination; eight feet of 4 conductor, 22 AWG, Teflon cable; temperature range increased to -65°F to +250°F (-55°C to +121°C)

## OPTION X0025



For more detailed information about these options, please contact the factory.