Series 230

0.375" O.D. AC LVDTs

The Series 230 3/8" AC LVDTs offer precision linear displacement measurements for applications with strokes from 0.01 to 2.0 inches. The transducers have been designed with an extremely low temperature coefficient, and non-linearity of less than ±0.25% F.S. The small size of these transducers make them ideal for weight critical applications and placement in tight spaces. The core is light enough to be used in systems with low driving forces or high accelerations without adversely affecting the system performance.

KEY FEATURES

Ranges from ±0.005" to 2.0"	**0.375" Outer Diameter**
Non-linearity ≤0.25%	**High Sensitivity**
Low Temperature Coefficient	**Low Mass Core**

SPECIFICATIONS *(Reference frequency 7.0 KHz)*

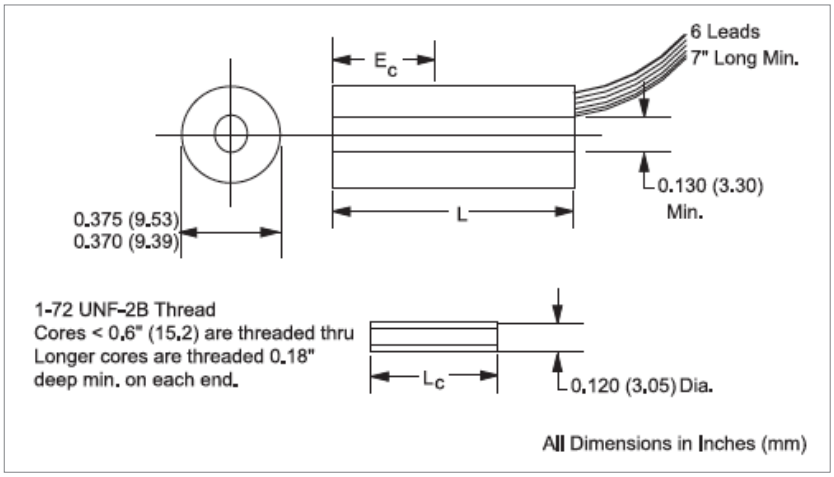
MODEL		0230-0000	0231-0000	0232-0000	0233-0000	0234-0000	0235-0000	0236-0000	0237-0000
NON-LINEARITY		≤ ±0.25% Total Stroke (Best Fit Straight Line)							
LINEAR RANGE	±Inches ±(mm)	0.005 (0.13)	0.01 (0.26)	0.025 (0.64)	0.05 (1.27)	0.1 (2.54)	0.25 (6.35)	0.5 (12.7)	1.0 (25.4)
BODY LENGTH	L Inches (mm)	0.85 (21.6)	0.85 (21.6)	0.85 (21.6)	0.85 (21.6)	0.95 (24.1)	2.6 (66.0)	3.1 (78.7)	4.3 (109.2)
CORE LENGTH	Lc Inches (mm)	0.45 (11.4)	0.45 (11.4)	0.45 (11.4)	0.45 (11.4)	0.55 (14.0)	1.19 (30.2)	1.19 (30.2)	1.19 (30.2)
CORE MASS	Grams	0.5	0.5	0.5	0.5	0.6	1.3	1.3	1.3
CORE P/N		C005-0125	C005-0125	C005-0125	C005-0125	C005-0126	C005-0058	C005-0058	C005-0058
ELECTRICAL CENTER	Ec Inches (mm)	0.385 (9.8)	0.385 (9.8)	0.385 (9.8)	0.385 (9.8)	0.435 (11.0)	1.21 (30.7)	1.46 (37.1)	2.06 (52.3)
TEMPERATURE RANGE		-65°F to +257°F (-55°C to +125°C) (OPERATING); -65°F to +275°F (-55°C to +135°C) (STORAGE)							
TEMP. COEFFICIENTS		ZERO < ±0.001% Total Stroke /°F; SENSITIVITY < ±0.01% Output /°F							
SENSITIVITY	V/in./V ±10%	4	4	4	4	4	2	1	0.5
PHASE ANGLE *(Output voltage LEADS input voltage)*	Degrees	5	5	5	5	5	0	0	0
INPUT IMPEDANCE	Ohms	260	255	250	245	480	320	300	355
INPUT RESISTANCE	Ohms DC	36	36	36	36	60	22	30	40
OUTPUT RESISTANCE	Ohms DC	135	135	135	135	205	210	170	185
NULL VOLTAGE	% V Ex.	<0.2	<0.25	<0.3	<0.4	<0.8	<1.0	<1.0	<1.0
MAXIMUM EXCITATION		15 VRMS							

TRANS-TEK INCORPORATED

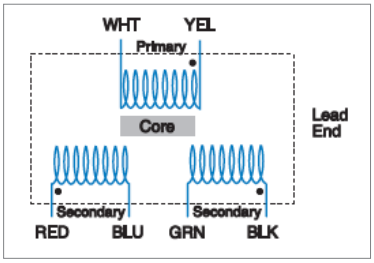
MATERIALS

SERIES 230 LVDT		1000-0014 OSCILLATOR/DEMODULATOR	
CASE	Iron-nickel alloy	CASE	Pheonolic
INNER DIAMETER	Pheonolic	THREADED INSERTS	Aluminum
END SEALS	Epoxy		
LEADS	#30 Awg teflon insulated copper	TERMINAL STRIPS	X
CORE	Iron-nickel alloy		

DIMENSIONAL DIAGRAM

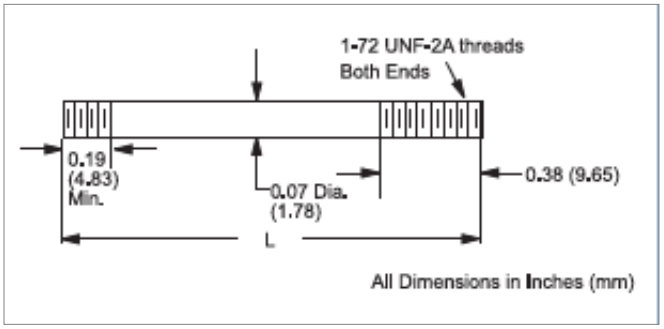


SCHEMATIC



CORE EXTENSION RODS *(Sold Separately)*

The recommended core extension rods are made of nonmagnetic stainless steel and are sized to allow the transducers to operate over their full range. Extension rods from models with longer strokes may be used to facilitate installation. Using extension rods shorter than recommended may reduce the LVDT's usable measurement range.



MODEL	PART NUMBER	LENGTH L Inches (mm)
0230-0000	C006-0244	0.84 (21.3)
0231-0000	C006-0244	0.84 (21.3)
0232-0000	C006-0244	0.84 (21.3)
0233-0000	C006-0244	0.84 (21.3)
0234-0000	C006-0245	1.34 (34.0)
0235-0000	C006-0246	2.04 (51.8)
0236-0000	C006-0247	2.54 (64.5)
0237-0000	C006-0248	3.64 (92.5)

Series 230

DC-DC System Operation Modified Versions

DC-DC OPERATION WITH OPTIONAL OSCILLATOR/DEMODULATOR

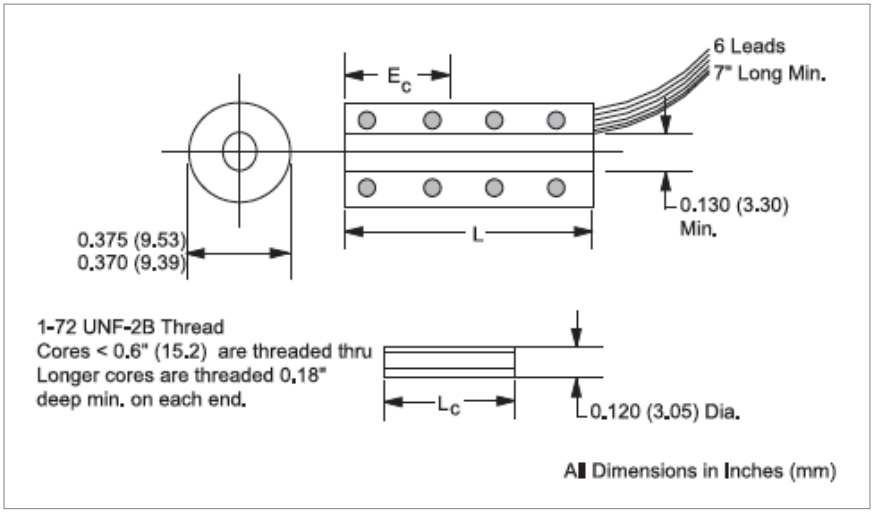
To facilitate prototyping, or in instances where a DC in - DC out system is preferred, any of the standard, high temperature or vented Series 230 can be used in conjunction with the Model 1000-0014 Oscillator/ Demodulator. The DC system provides the same level of performance as a stand-alone AC LVDT. The high level DC output voltage can be directly interfaced with analog circuits as well as data acquisition cards, PLCs, or A/D converters. Each Oscillator/Demodulator can be customized to provide a zero-offset and nonstandard gain, meeting specific user requirements. Detailed connection information can be found in the Accessories portion of this catalog.

SPECIFICATIONS *(Reference frequency 7.0 KHz)*

MODEL		0230-0000	0231-0000	0232-0000	0233-0000	0234-0000	0235-0000	0236-0000	0237-0000
NON-LINEARITY		≤ ±0.25% Total Stroke (Best Fit Straight Line)							
POWER INPUT	VDC	±14 to ±28 @ ±100 mA Max., Input polarity protected							
SIGNAL OUTPUT	±VDC	0.2	0.4	1	2	4	5	5	5
FREQUENCY RESPONSE	-3dB	1000 Hz Min.							
OUTPUT RIPPLE	VRMS	<0.004	<0.008	<0.02	<0.03	<0.03	<0.03	<0.03	<0.03
OUTPUT CURRENT	mA	±3 without distortion							
TEMP. COEFFICIENTS	1000-0014	ZERO < ±0.00025V/°F Total Stroke /°F; SENSITIVITY < ±0.01% Output /°F							
TEMPERATURE RANGE	1000-0014	+32°F to +158°F (0°C to +70°C) (OPERATING); -65°F to +257°F (-55°C to +125°C) (STORAGE)							

SERIES 230 MODIFIED FOR USE IN HIGH PRESSURE ENVIRONMENTS

The high pressure version of the Series 230 is suitable for operation in nonconductive and noncorrosive fluids or gasses atpressures up to 5,000 P.S.I. The vented housing eliminates pressure differentials between the environment and the transducer's interior, allowing rapid and extreme pressure changes without damage or degradation in performance.



MODEL	STROKE ±Inches (mm)
0230-0001	0.005 (0.13)
0231-0001	0.010 (0.25)
0232-0001	0.025 (0.64)
0233-0002	0.050 (1.27)
0234-0003	0.100 (2.54)
0235-0001	0.25 (6.35)
0236-0001	0.50 (12.7)
0237-0001	1.00 (25.4)

Note: All electrical and physical specifications are the same as the standard Series 230 LVDTs.

SERIES 230 MODIFIED FOR USE IN HIGH TEMPERATURE ENVIRONMENTS

The High Temperature version of the Series 230 has been designed to operate in temperatures from -67ºF to +400ºF. The LVDTs are identical electrically and mechanically to the standard Series 230 transducers, providing the same high level of performance and reliability. To achieve the elevated operating temperature, materials such as the epoxy, solder, and magnet wire have been replaced by their high temperature equivalents.

Note: All electrical and physical specifications are the same as the standard Series 230 LVDTs.

MODEL	STROKE ±Inches (mm)
0230-0002	0.005 (0.13)
0231-0002	0.010 (0.25)
0232-0002	0.025 (0.64)
0233-0003	0.050 (1.27)
0234-0005	0.100 (2.54)
0235-0002	0.25 (6.35)
0236-0002	0.50 (12.7)
0237-0002	1.00 (25.4)

SALES OPTIONS

The following options are available with this series of transducer. The option must be specified at the time an order is placed.

Option #	Description
X0009	Provide longer leads to a specified length