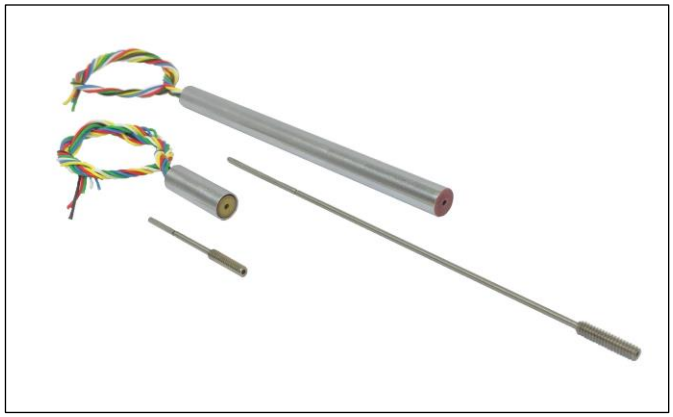
Series 430

0.3" O.D. AC LVDTs

The Series 0430, 0.3" O.D. miniature AC LVDTs offer precision linear displacement measurements for applications with strokes from +/-0.01" to +/-1.0". 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 ±0.010" to 1.0"	**Non-linearity ≤ ±0.25%**
0.3" Outer Diameter	**Carbon Steel Construction**
Lightweight Core Assembly	**Low Temperature Coefficient**

TRANSDUCER SPECIFICATIONS

MODEL	FULL STROKE, ±Inches (mm)	* STROKE OVERTRAVEL, Min., Inches (mm)	BODY LENGTH, L, Inches (mm)	CORE P/N	CORE LENGTH, Lc, Inches (mm)	CORE MASS, Grams	INPUT IMPEDANCE, Ohms	DC INPUT RESISTANCE, Ohms	OUTPUT IMPEDANCE, Ohms	PHASE ANGLE Degrees
0431-0000	0.010 (0.254)	0.150 (3.81)	0.85 (21.59)	C005-0158	0.45 (11.43)	0.14	149	24	98	-6
0432-0000	0.025 (0.635)	0.150 (3.81)	0.85 (21.59)	C005-0158	0.45 (11.43)	0.14	149	24	98	-6
0433-0000	0.050 (1.27)	0.150 (3.81)	0.85 (21.59)	C005-0158	0.45 (11.43)	0.14	149	24	98	-6
0434-0000	0.100 (2.54)	0.150 (3.81)	0.95 (24.13)	C005-0157	0.55 (13.97)	0.17	318	42	152	-5
0435-0000	0.250 (6.35)	0.600 (15.24)	2.40 (60.96)	C005-0155	1.19 (30.23)	0.40	133	15	170	0
0436-0000	0.500 (12.7)	0.500 (12.7)	3.10 (78.74)	C005-0155	1.19 (30.23)	0.40	139	18	124	0
0437-0000	1.000 (25.4)	0.500 (12.7)	4.30 (109.22)	C005-0155	1.19 (30.23)	0.40	245	31	190	5

**Monotonic output voltage past each end of linear stroke.*

(Specifications at reference frequency)

MODELS	0431-0000	0432-0000	0433-0000	0434-0000	0435-0000	0436-0000	0437-0000
NON-LINEARITY	≤ ± 0.25% FS (Best Fit Straight Line)						
REFERENCE FREQUENCY	7.0kHz Sinusoidal Voltage Excitation						
SENSITIVITY, Vin/IN/Vout ±10%	5.25	5.25	5.25	5.04	1.95	1.0	0.50
INPUT VOLTAGE	15 VRMS, Max.						
NULL VOLTAGE, % V Ex.	0.25%	0.3%	0.4%	0.8%	1%	1%	1%
ELECTRICAL CENTER, Ec, Inches (mm)	0.385 (9.78)	0.385 (9.78)	0.385 (9.78)	0.435 (11.05)	1.21 (30.73)	1.46 (37.08)	2.06 (52.32)
TEMPERATURE COEFFICIENTS	±0.003% FS/ ℉	±0.003% FS/ ℉	±0.0012% FS/ ℉	±0.0012% FS/ ℉	±0.0012% FS/ ℉	±0.0012% FS/ ℉	±0.0012% FS/ ℉
TEMPERATURE RANGE	-67 ℉ to +257 ℉ (-55˚C to +125˚C) Operating -67 ℉ to +275 ℉ (-55˚C to +135˚C) Storage						
OUTER HOUSING	DOM 1018 Carbon Steel Housing.						
BORE LINER	Torlon	Torlon	Torlon	St. St. 300	St. St. 300	St. St. 300	St. St. 300
CORE	Chrome Plated Iron/Nickel Alloy						

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S012-0106 Revision: 1

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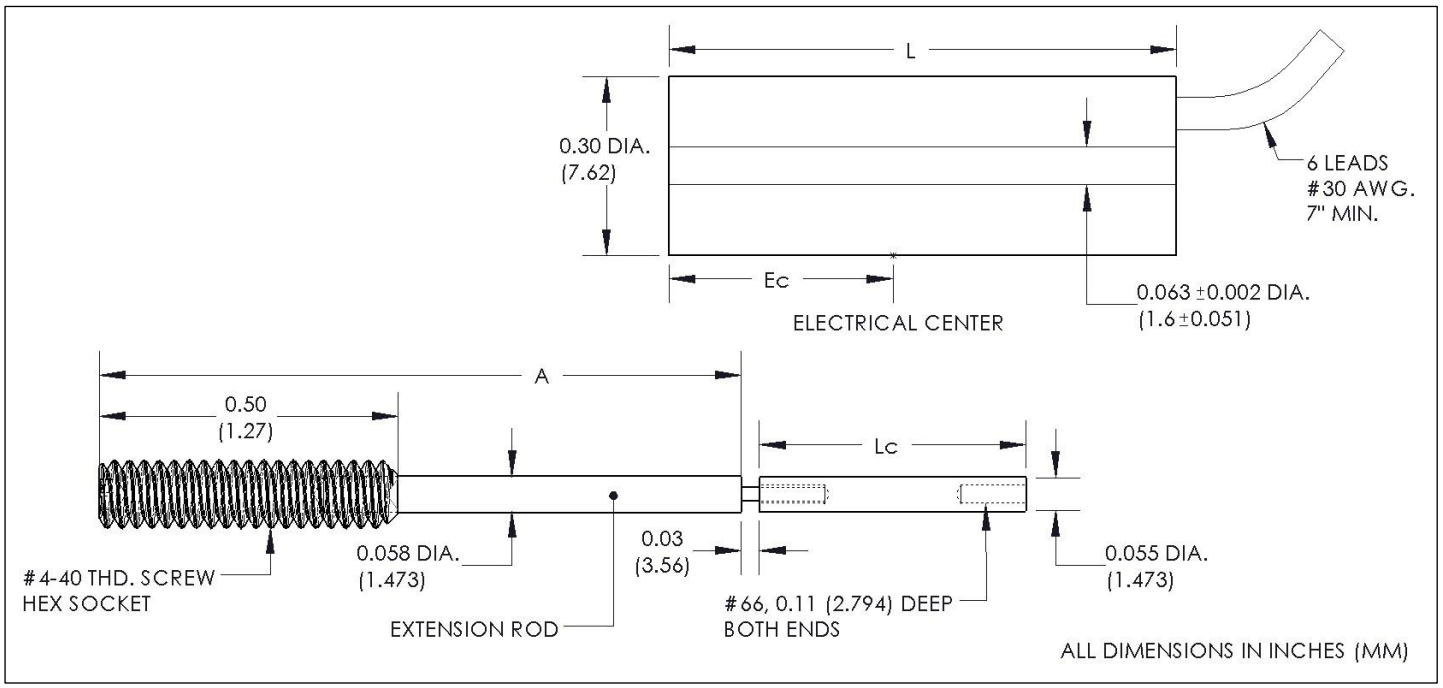
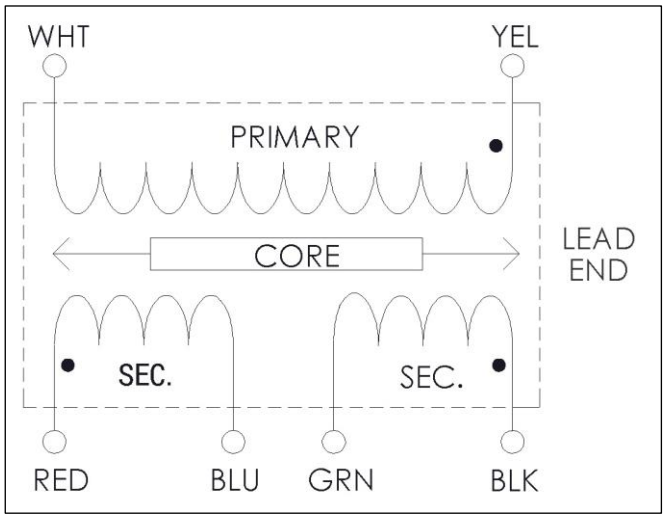
DIMENSIONAL DIAGRAM



SCHEMATIC

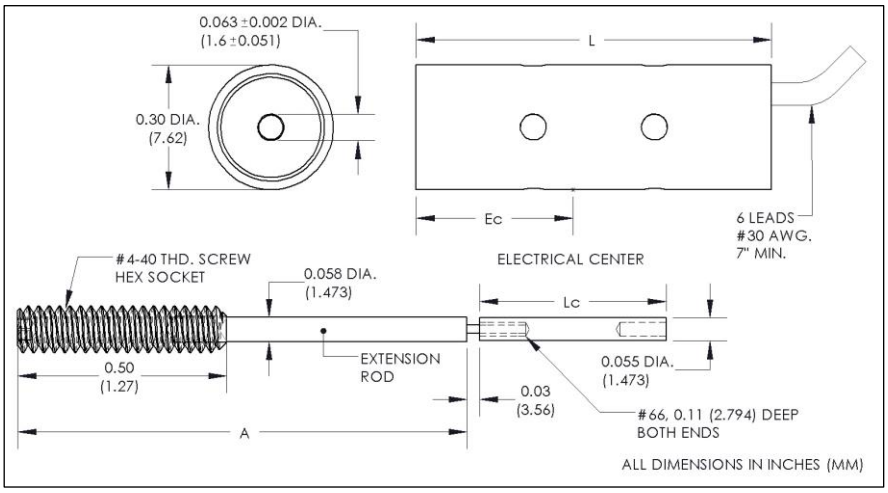


CORE OPTIONS

MODEL	CORE, OPTION 0	CORE ASSEMBLY, OPTION 1
0431-0000_	C005-0158	A = 1.075 (27.31), C004-0211
0432-0000_	C005-0158	A = 1.075 (27.31), C004-0211
0433-0000_	C005-0158	A = 1.075 (27.31), C004-0211
0434-0000_	C005-0157	A = 1.575 (40.01), C004-0212
0435-0000_	C005-0155	A = 2.275 (57.79), C004-0213
0436-0000_	C005-0155	A = 2.775 (70.49), C004-0214
0437-0000_	C005-0155	A = 3.875 (98.43), C004-0215

The core is constructed from a soft, high permeability iron-nickel alloy. Non-magnetic stainless steel is used as the extension rod material. Core assemblies are sized for use over the maximum working range of the LVDT. The core is drilled at both ends with #66 (.033), shown above. Option 0, core only, should be used in applications when a separate extension rod is desirable. Option 1, core assembly, has a #4-40 thread screw brazed to the extension rod which is brazed to the appropriate core.

SERIES 430 MODIFIED FOR USE IN HIGH PRESSURE ENVIRONMENTS



Note: All electrical and physical specifications are the same as the standard Series 430 LVDTs.

The high pressure version of the Series 430 is suitable for operation in nonconductive and noncorrosive fluids or gasses at pressures 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. Refer to the table on the previous page for core options.

MODEL	STROKE ± Inches (mm)
0431-0001_	0.010 (0.254)
0432-0001_	0.025 (0.635)
0433-0001_	0.050 (1.27)
0434-0001_	0.100 (2.54)
0435-0001_	0.250 (6.35)
0436-0001_	0.500 (12.7)
0437-0001_	1.000 (25.4)

MODEL	STROKE ± Inches (mm)
0431-0002_	0.010 (0.254)
0432-0002_	0.025 (0.635)
0433-0002_	0.050 (1.27)
0434-0002_	0.100 (2.54)
0435-0002_	0.250 (6.35)
0436-0002_	0.500 (12.7)
0437-0002_	1.000 (25.4)

SERIES 430 MODIFIED FOR USE IN HIGH TEMPERATURE ENVIRONMENTS

The high temperature version of the Series 430 has been designed to operate in temperatures from -67 °F to +400°F. The LVDTs are identical electrically and mechanically to the standard Series 430 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. Refer to the table on the previous page for core options.

Note: All electrical and physical specifications are the same as the standard Series 430 LVDTs.

ORDERING INFORMATION

0	4	3		-	0	0	0		

STROKE

[1] ±0.010"
[2] ±0.025"
[3] ±0.050"
[4] ±0.100"
[5] ±0.250"
[6] ±0.500"
[7] ±1.000"

HOUSING

[0] Standard
[1] High Pressure
[2] High Temperature

CORE

[0] Standalone Core
[1] Core Assembly

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