

The NewTek HATR Series sensors are rugged hermetically sealed high temperature AC LVDTs with excellent linearity, high sensitivity and infinite resolution. These sensors are constructed of 3/4 inch diameter stainless steel and manufactured for general industrial use. Electrical connection is made through a radially mounted connector, resulting in a reduced housing length. Designed for a wide range of position measurement applications, they are available in ranges of ± 0.05 inch (1.27mm) to ± 10 inches (250mm). The HATR Series windings are potted inside the housing with a 2 component epoxy, providing excellent protection against hostile environments.

Features

- Welded 3/4 inch hermetically sealed steel housing
- Radially mounted connector
- Measurement ranges from ± 0.05 to ± 10 inches
- Linearity $\pm 0.15\%$ of Full Range Typical
- Shock and vibration tolerant
- Wide operating temperature range (-65°F to 400°F)
- Standard and custom models available

Applications

- Factory automation
- Materials testing
- Packaging equipment
- Valve position sensing
- Corrosive environments

Electrical Specifications

Input Voltage: 3 Vrms (Nominal)
Input Frequency: 400Hz to 10KHz
Linearity: $< \pm 0.15\%$ Full Range Typical
Null Voltage: 0.5% Full Range
Hysteresis: $< 0.01\%$ of Full Range Typical
Repeatability: $< 0.01\%$ of Full Range Typical



Environmental Specifications

Operating Temperature: -65°F to 400° F (-55°C to 200°C)
Thermal Coefficient: $< -0.01\%/^{\circ}\text{F}$ ($< -0.02\%/^{\circ}\text{C}$) of Full Range
Humidity: 90% R.H., 240 Hours
Shock Survival: 1000 g, 11 ms
Vibration: 20 g to 2 KHz

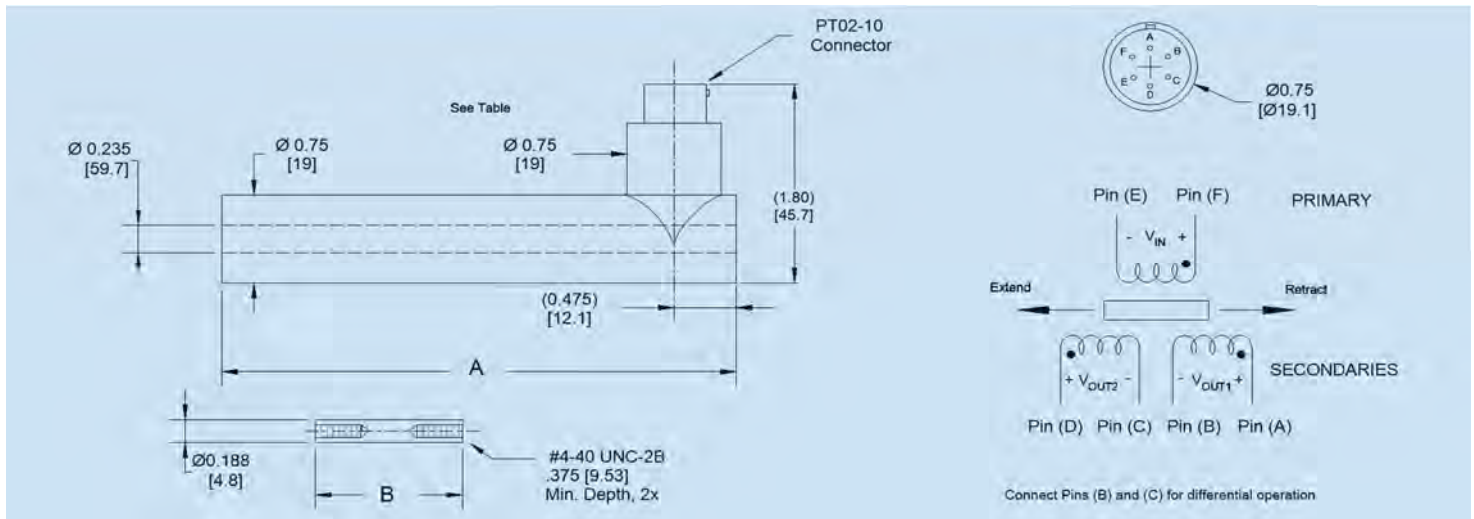
Materials Specifications

Housing: Corrosion-resistant nickel-iron alloy
Core: Hi-permeability nickel-iron alloy
Magnet Wire: Film insulated copper
Connector: PT02A-10-6P

Specifications

Model	NT-HATR-750 - 050	NT-HATR-750 - 125	NT-HATR-750 - 250	NT-HATR-750 - 500	NT-HATR-750 - 1000	NT-HATR-750 - 2000	NT-HATR-750 - 3000	NT-HATR-750 - 4000	NT-HATR-750 - 5000	NT-HATR-750 - 7500	NT-HATR-750 - 10000
Parameter											
Nominal Range (Inches)	± .050	± 0.125	± 0.25	± 0.5	± 1	± 2	± 3	± 4	± 5	± 7.5	± 10
Nominal Range (mm)	± 1.27	± 3.0	± 6.3	± 12.5	± 25.0	± 50.0	± 75.0	± 100.0	± 125.0	± 190.0	± 250.0
Sensitivity (mV/V/.001 Inch)	6.0	4.0	2.5	0.64	0.6	0.40	0.25	0.17	0.12	0.11	0.08
Sensitivity (mV/V/mm)	238	158	98	25	24	16	10	7.0	4.7	4.3	3.1
Primary Impedance (Ω)	330	740	1330	1200	1260	2150	2150	425	600	777	625
Dimension "A" (inches)	2.00	2.60	3.33	5.90	7.40	10.90	13.70	16.20	18.65	23.90	31.65
Dimension "B" (inches)	0.80	1.25	1.70	3.50	3.50	5.35	6.20	6.20	6.20	7.00	9.50
Body Weight (ounces)	0.07	0.11	2.40	3.30	4.30	6.60	6.60	9.20	10.00	14.40	18.20
Body Weight (grams)	2	3	68	94	122	180	230	261	280	408	516

Dimensions and Wiring



Ordering Info

NT – HATR – 750	– xxx	– xxx
Hermetically Sealed High Temperature LVDT Series	Range (See Table)	Options – R : Mild Radiation Hardened – L : ≤ 0.1% Linearity – M : Metric Threads [none]: Standard Product

Notes

- Electrical specifications measured at 3KHz excitation frequency.
- Additional options available (high pressure, alternate connector etc.). Please consult factory for custom designs.
- Specifications subject to change.

Warranty

NewTek products are warrantied against defective materials and workmanship for a period of one year from the date of delivery to the original purchaser. NewTek accepts no liability for damages in the misuse of our products.

