

The NewTek HA Series sensors are rugged hermetically sealed 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. Designed for a wide range of position measurement applications, they are available in ranges of  $\pm 0.05$  inch (1.27mm) to  $\pm 10$  inches (250mm). The HA 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
- Measurement ranges from  $\pm 0.05$  to  $\pm 10$  inches
- Linearity  $\pm 0.15\%$  of Full Range Typical
- Shock and vibration tolerant
- Wide operating temperature range (-65°F to 275°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 275°F (-55°C to 135°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

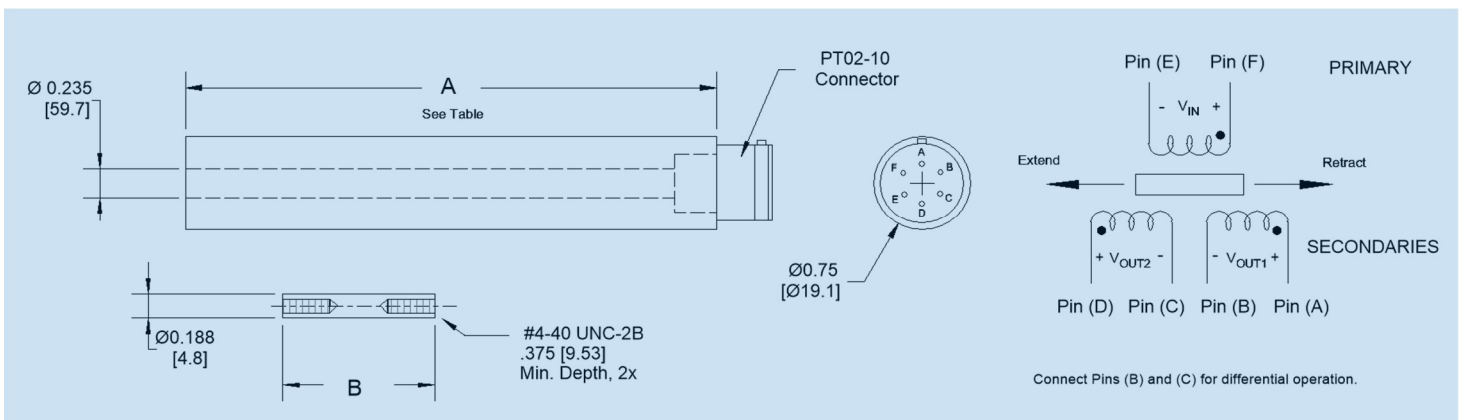
## Materials Specifications

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

## Specifications

Model	NT-HA-750-050	NT-HA-750-125	NT-HA-750-250	NT-HA-750-500	NT-HA-750-1000	NT-HA-750-2000	NT-HA-750-3000	NT-HA-750-4000	NT-HA-750-5000	NT-HA-750-7500	NT-HA-750-10000
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 – HA – 750** – **xxx** – **xxx**

Hermetically Sealed LVDT Series      Range (See Table)      Options

- H : 400°F Temperature
- 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 (extreme temperature, high pressure etc.). Please consult factory for custom designs.
- Specifications subject to change.

## Warranty

NewTek products are warranted 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.

