HSER 750-006 Series
Hermetically Sealed DC-LVDT Position Sensors

Features

- Ranges of 2.5 mm to 500 mm
- 24 V DC input, precalibrated 0 to 10 V DC output
- Non-linearity less than or equal to ±0.25% of FSO (less than or equal to ±0.10% optional)
- Through-bore operation
- Radial connector, mating plug included
- Environmentally sealed to IEC IP-68

Applications

- Machine tool positioners
- Materials testing extensometers
- Hydraulic cylinder position
- Valve position sensing
- Automatic assembly equipment
- Corrosive environments

Description

Macro Sensors' HSER 750 Series of 19.0 mm diameter DC-operated LVDTs is designed for a wide range of position measurement applications. These are rugged hermetically sealed sensors, constructed entirely of stainless steel, and intended for general industrial use. The coil windings are sealed against hostile environments to IEC standard IP-68 and electrical termination is through a sealed radial connector located near one end. The mating connector plug is supplied with the unit.

The radial connector offers two important benefits. First, it results in a through-bore design, which permits access to either or both ends of the LVDT's core for better mechanical support and core guidance, and easier cleanout in dusty or dirty locations. The second advantage of the radial connector is shorter installed length compared to units of the same range with axial connectors.

HSER 750 Series sensors use built-in electronics to provide the desirable features of an AC-LVDT, such as frictionless operation and dynamic response, with the added convenience and simplicity of DC input and precalibrated DC output. They are designed to operate in conjunction with PLCs, digital indicators, A/D converters, computer-based data processors and QC data collection systems.

Available in ranges of 2.5 mm to 500 mm, the HSER 750 Series sensors feature the high resolution, excellent repeatability, and low hysteresis associated with LVDT technology. Their exceptional reliability is a result of manufacturing processes and assembly techniques developed and optimized by Macro Sensors over many years of manufacturing LVDT sensors. The standard maximum linearity error for any of these sensors is ±0.25% of full scale output using a statistically best-fit straight line derived by the least squares method. A linearity error of less than or equal to ±0.10% of full scale output is available as an option.

Macro Sensors offers several standard options that permit a user to customize HSER 750 LVDTs, including Teflon® bore liners. In addition, Macro Sensors can provide mounting accessories, core extension rods, and DC power supplies.

General Specifications

Input Power: 24 V DC (nominal)
12-26 V DC ⎓
25 mA (max.)

Full Scale Output: 0 to 10 V DC

Output Noise & Ripple: < 5 mV_{rms}

Frequency Response (-3dB): 250 Hz (nominal)

Linearity Error: ≤ ±0.25% of FSO
(≤ ±0.10% of FSO optional)

Repeatability Error: <0.01% of FSO

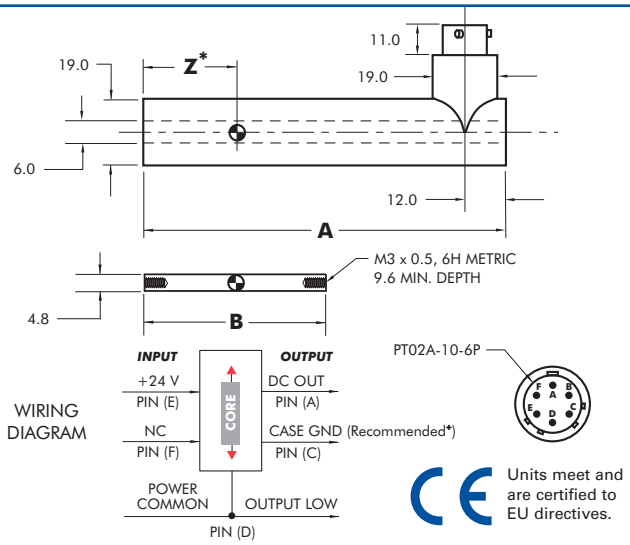
Hysteresis Error: <0.01% of FSO

Operating Temperature: -20°C to +70°C

Thermal Coefficient of Scale Factor: -0.027%/°C (nominal)

Vibration Tolerance: 20 g to 2 kHz

Shock Survival: 100 g, 11 ms



Specifications

Model ▶ / Parameter ▼	HSER 750 -100	HSER 750 -250	HSER 750 -500	HSER 750 -1000	HSER 750 -2000	HSER 750 -4000	HSER 750 -6000	HSER 750 -10000	HSER 750 -15000	HSER 750 -20000
Nominal Range (mm)	2.5	6.3	12.7	25.4	50.8	101.6	152.4	254.0	381.0	508.0
Scale Factor (V/mm)	4.0	1.6	0.8	0.4	0.2	0.1	0.06	0.04	0.03	0.02
Dimension "A" (mm)	72.5	88.3	107.7	171.2	209.3	284.7	368.0	495.0	635.0	822.5
Dimension "B" (mm)	20.3	31.7	41.9	87.6	87.6	134.6	157.5	157.5	177.8	241.3
Dimension "Z" (mm)	14.7	25.4	27.9	52.6	59.2	78.0	87.6	100.3	102.1	137.7
Weight - Body (g)	54	68	80	114	140	236	292	342	462	579
Weight - Core (g)	2.4	3.7	4.8	11.6	11.6	18.0	22.0	22.0	25.5	34.0

Ordering Information

Order by model number with range.
For Teflon® bore liner option, add -010 after model number with range.
For <±0.10% of FSO linearity error option, add -200 after model number with range.
For combinations of options, add option numbers together (eg. -216, -210, -206, -200, -016, -010, -006).
For accessories, please visit our website at www.macrosensors.com.

PM INSTRUMENTATION, 59 rue Emile Deschanel, 92400 Courbevoie, France
Tel : 01 46 91 93 30, Fax : 01 46 91 93 39, Web : www.pm-instrumentation.com