LVDT position sensors
LT0800 Series

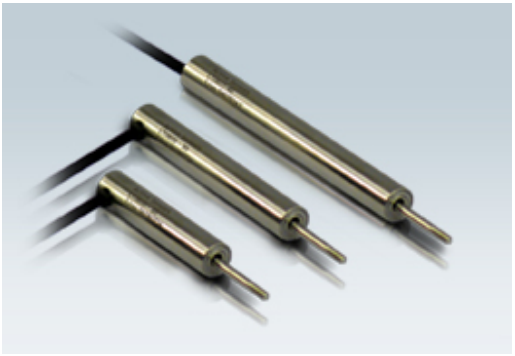
The **LT0800 Series** is an ultra-compact sensor with an Ø8.0mm stainless steel case suitable for applications where temperature, severe vibration, high cycling and fluid contamination are important considerations.

Manufactured to quality standards required for high performance measurement systems, the LVDT sensor is designed to convert linear movement from the separate non-contacting shaft into a proportional voltage output.

Extensively used for motorsport throttle and clutch actuation, where size, performance and reliability are part of the design criteria, they are also specified in automotive control and measurement systems.

For total system integrity, they are fitted with Raychem fire and chemical resistant, high temperature RW-200-E sleeved 55 type 26AWG signal cabling.

They are designed to be environmentally protected against the ingress of dust and water to IP67.



Key features and benefits

- Measurement ranges 10mm to 40mm.
- Ultra-compact Ø8.0mm stainless steel case
- 200°C (400°F) operating temperature
- Sealed to IP67
- Raychem RW-200-E sleeved type 55 26AWG cabling
- Contactless technology
- Custom designs available on request
- Electronic signal conditioning available

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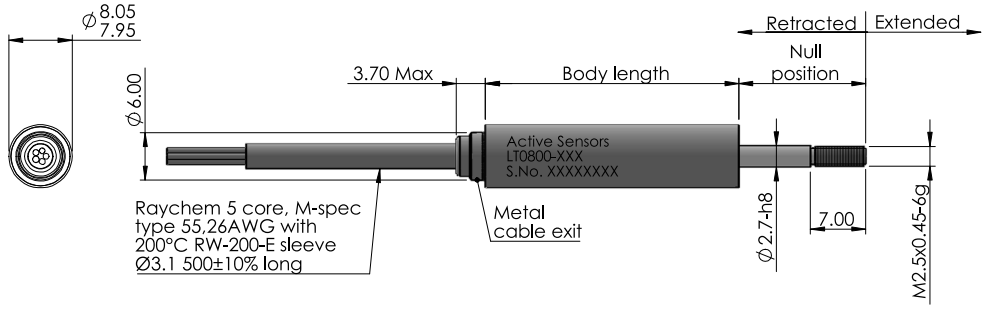
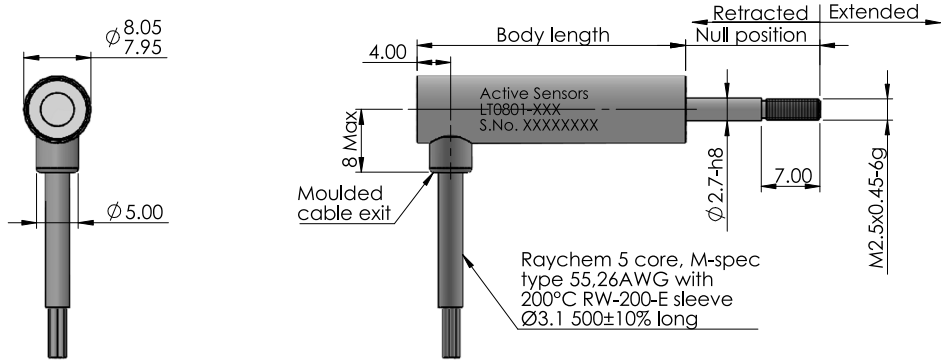
LT0800 - Body clamp mounting with rear cable exit



Ordering Information: LT0800-0XX (Electrical Stroke in mm)

LT0801 - Body clamp mounting with side cable exit



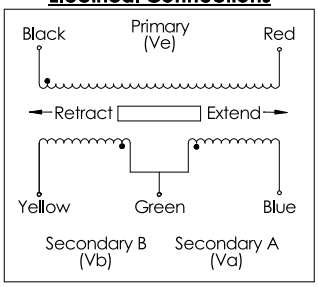
Ordering Information: LT0801-0XX (Electrical Stroke in mm)

Electrical and mechanical specification for LT0800 and LT0801

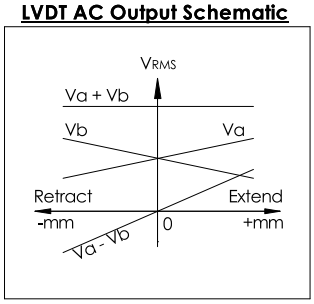
Specification						
Input conditions	(Ve)	3.0V ±5% RMS @ 2.5KHz ±5%				
Electrical stroke		10.0 (±5.0)	20.0 (±10.0)	25.0 (±12.5)	40.0 (±20.0)	mm
Retracted mechanical stroke	(max)	6.0	11.0	13.5	21.0	mm
Body length		32	45	50	65	mm
Ratiometric sensitivity (±5%) $\frac{Va-Vb}{Va+Vb}$	(see note 1)	0.0560	0.0535	0.0460	0.0300	/mm
Output voltage range (nominal)		0.724-1.286	0.401-1.324	0.405-1.500	0.510-2.040	V RMS
Summed O/P voltage	(±20%)	0.670	0.575	0.635	0.850	V/Ve
Non-linearity	(see note 1,3)	<±0.5				% FS
Input impedence		>150				Ohms
Null position	(±0.5mm)	15.0	20.0	23.0	30.0	mm
Thermal drift (nominal)	(see note 2,3)	<±0.010				%FS/°C
Insulation resistance (prim-sec, coils-case)		>100 Mohms				at 500VDC
Operating temperature		-55 to +200				°C
Environmental		IP67				
Weight (approx)		20	28	32	41	grams
Materials		Case - Stainless steel 400 series Shaft - Stainless steel 316 Armature - Nickel iron alloy				

Notes:
1. Non-linearity error and sensitivity is calculated from least squares best fit method.
2. Thermal drift is defined as:- Maximum ratiometric change from reading at ambient (+20°C) to ratiometric reading over operating temperature range.
3. Full scale (FS) is calculated by (Ratiometric sensitivity per mm x total electrical stroke)
4. General dimension tolerance is ±0.25mm

Electrical Connections



LVDT AC Output Schematic



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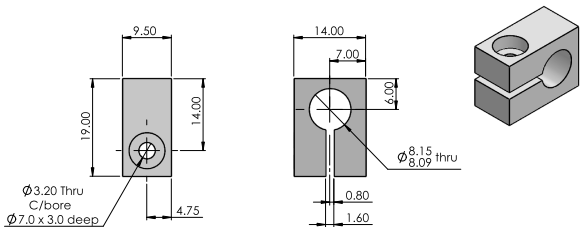
Accessories

Body mounting clamps
Part No: PT0800-0109



Material:
Aluminium Alloy, anodised black

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