

FHNA19 Series

Hermetically Sealed AC-LVDT Position Sensors

ABEK SENSORS' FHNA19 Series of 19 mm diameter AC-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 axial connector. The mating connector plug is supplied with the unit.

Available in ranges of $\pm 3\text{mm}$ to $\pm 250\text{ mm}$, FHNA19 Series sensors feature the high resolution, excellent repeatability, and low hysteresis associated with LVDT technology, as well as the highest sensitivity consistent with good linearity. The maximum linearity error for any of these sensors is $\pm 0.25\%$ of full range output using a statistically best-fit straight line derived by the least squares method.

ABEK SENSORS offers several standard options that permit a user to customize FHNA19 Series LVDTs, including Teflon® bore liners and metric threaded cores, as well as smaller diameter and low mass cores. In addition, ABEK SENSORS can provide a range of mounting accessories and core extension rods. On special order, the FHNA19 Series can be constructed for resistance to mild nuclear radiation, as well as for immersion in pressurized fluids and to withstand higher operating temperatures.

All FHNA19 Series LVDTs will operate properly with any conventional differential input LVDT signal conditioners, but operation with ratiometric LVDT signal conditioning is not recommended. ABEK SENSORS offers a full line of LVDT signal conditioners that will deliver optimum performance from any FHNA19 Series LVDT.



● Features

- Ranges: $\pm 3\text{mm}$ to $\pm 250\text{mm}$
- In-line connector, mating plug included
- Environmentally sealed to IEC IP-68
- Non-linearity less than $\pm 0.25\%$ of FRO

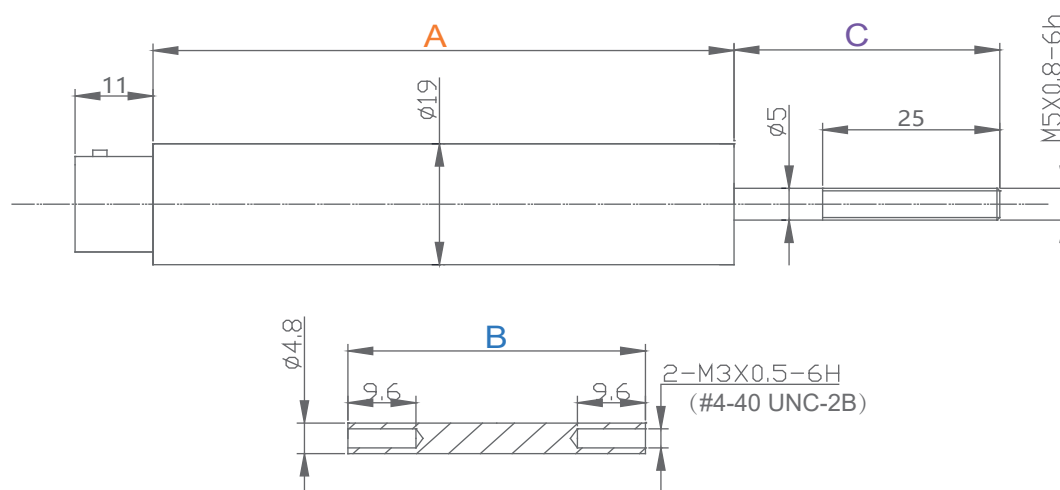
● Applications

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

General Specifications

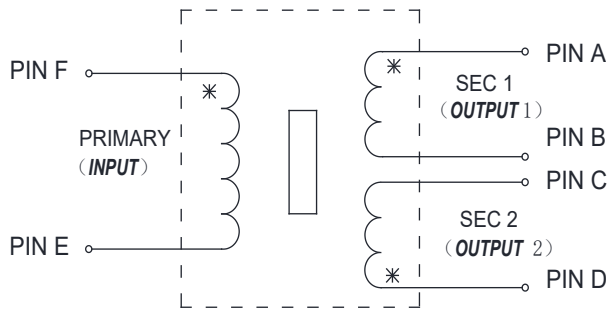
Input Voltage:	1to12V AC, 3.0 Vrms (nominal)
Input Frequency:	400 to 10.0 kHz , 2.5kHz (nominal)
Linearity Error:	<±0.25% of FRO
Repeatability Error:	<0.01% of FSO
Hysteresis Error:	<0.01% of FSO
Operating Temperature:	-55°C to +105°C
Thermal Coefficient	-0.02%/°C (nominal)
Vibration Tolerance:	20 g to 2 kHz
Shock Survival:	1000 g, 11 ms

Axial connector



Parameter	Model →	FHNA19-000625	FHNA19-001325	FHNA19-002525	FHNA19-005025	FHNA19-010025	FHNA19-015025	FHNA19-020025	FHNA19-025025	FHNA19-030025	FHNA19-040025	FHNA19-050025
Range	mm	±3	±6.5	±12.5	±25	±50	±75	±100	±125	±150	±200	±250
Dimension "A"	mm	68	82	148	187	277	346	411	474	501	626	804
Dimension "B"	mm	32	42	87.7	87.7	134.5	157.4	157.4	157.4	157.4	178	241
Dimension "C"	mm	39	38	67	93	106	135	159	278	266	285	388
Sensitivity	mV/V/mm	90	80	25	24	15	9.8	6.7	4.9	4.5	4.3	2.8
Primary Impedance	Ω	≥325	≥1400	≥1200	≥1250	≥2150	≥2150	≥420	≥600	≥600	≥775	≥620

Wiring Information



PIN	Cable color
Pin A	Red
Pin B	Blue
Pin C	Green
Pin D	Black
Pin E	Brown
Pin F	Yellow

TIED PINS (B) AND (C) FOR DIFFERENTIAL OUTPUT

Ordering information

Description	Model	Part Number	Description	Model	Part Number
±3mm LVDT	FHNA19-000625	0356-0010	±100mm LVDT	FHNA19-020025	0356-0016
±6.5mm LVDT	FHNA19-001325	0356-0011	±125mm LVDT	FHNA19-025025	0356-0017
±12.5mm LVDT	FHNA19-002525	0356-0012	±150mm LVDT	FHNA19-030025	0356-0018
±25mm LVDT	FHNA19-005025	0356-0013	±200mm LVDT	FHNA19-040025	0356-0019
±50mm LVDT	FHNA19-010025	0356-0014	±250mm LVDT	FHNA19-050025	0356-0020
±75mm LVDT	FHNA19-015025	0356-0015			
OPTIONS					
Inch thread magnetic core		All models	XXXX-XXXX-005		
Teflon bore liner		All models	XXXX-XXXX-020		
Mild Radiation resistant		All models	XXXX-XXXX-080		

Note: Add multiple option dash numbers together to determine proper ordering suffix

Example: ±100mm LVDT, #4-40 UNC-2B threaded Core, Teflon bore liner, Part Number: 0356-0016-025

Accessories

Part Number	Part Name	Model	Description	Configuration
0356-TC6-0001	LVDT Cable Assemblies	TC-6-2M	LVDT Cable Assemblies, Cable length 2M	Standard
0356-TC6-0002	LVDT Cable Assemblies	TC-6-5M	LVDT Cable Assemblies, Cable length 5M	
0356-TC6-0003	LVDT Cable Assemblies	TC-6-10M	LVDT Cable Assemblies, Cable length 10M	
20069388-4	Connectors	PT06A-10-6S(SR)	Connectors, without cables	
0355-001	LVDT Mounting Blocks	MTD-19	MTD19-series line of mounting blocks make LVDT installation easy	

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