

# DC-EC Accusens™ Series (General Purpose LVDT)



## The DC-EC AccuSens Series

incorporates a unique monolithic chip combined with a computer designed AC LVDT to achieve premium performance.

The ratiometric design of the monolithic circuitry compensates for power supply deviations for continuously stable operation. Unaffected by input variations, the transducer provides highly accurate, repeatable measurement.

Innovative manufacturing techniques further enhance the AccuSens operation and cost efficiency. Micro-miniature components used in the construction of each unit are selected for maximum stability.

Vacuum encapsulation of all elements produces an assembly tolerant to shock, vibration and other forms of physical abuse. Double magnetic shielding protects against stray electrical fields.



## FEATURES

- Linearity 0.25% of FS or better
- CE Certified
- Integrated Signal Conditioning
- Rugged Stainless Steel Construction
- Calibration Certificates Supplied with All Models

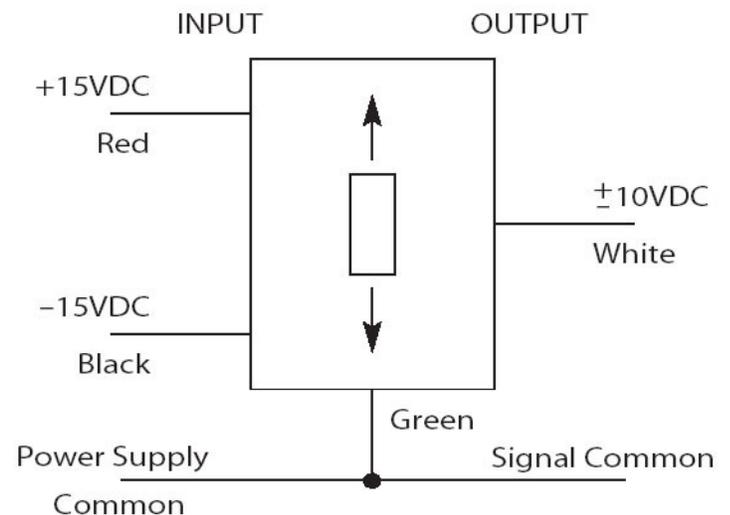
## APPLICATIONS

- General

## OPTIONS

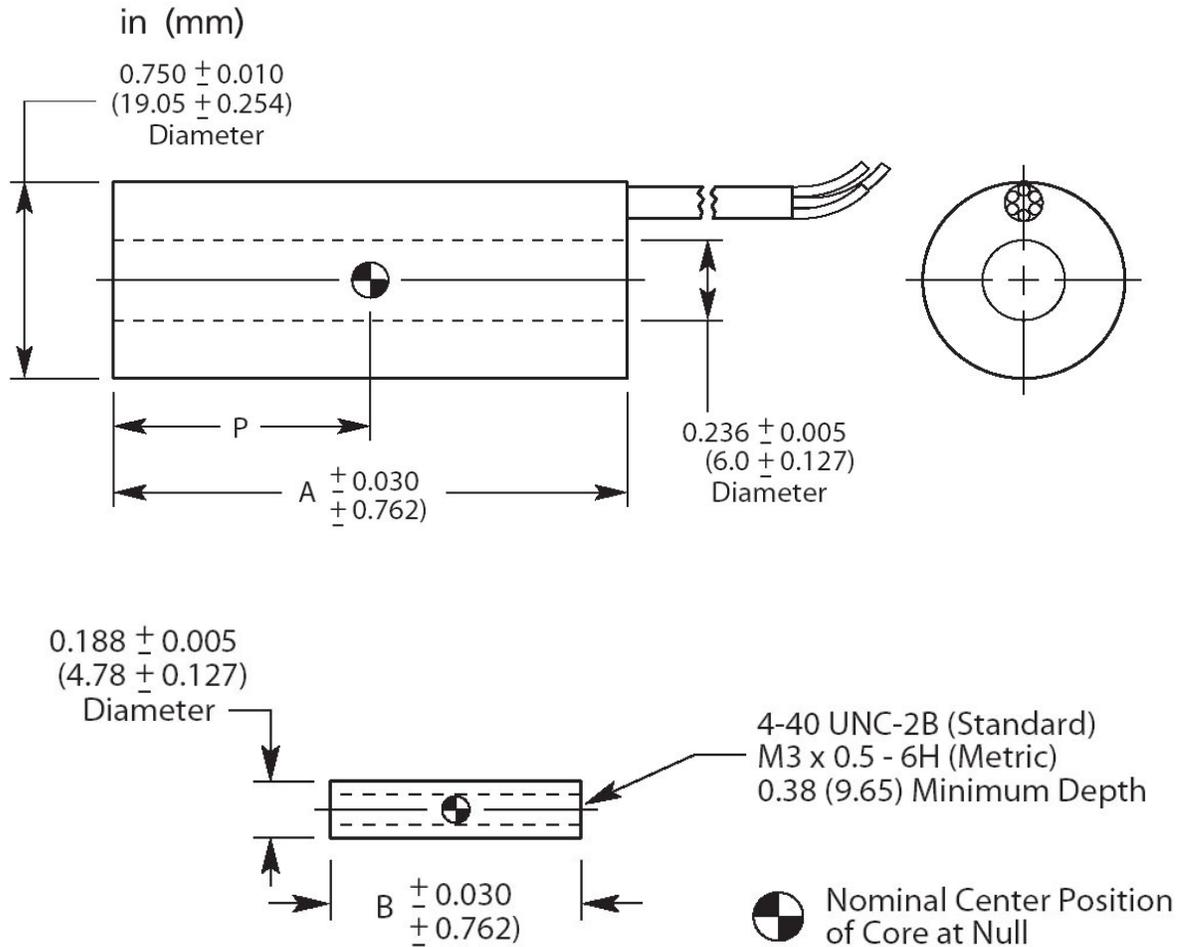
- Metric Thread Core
- Captive Core Option for Convenient Installation
- Guided Core
- Small Diameter, Low Mass Core

## wiring

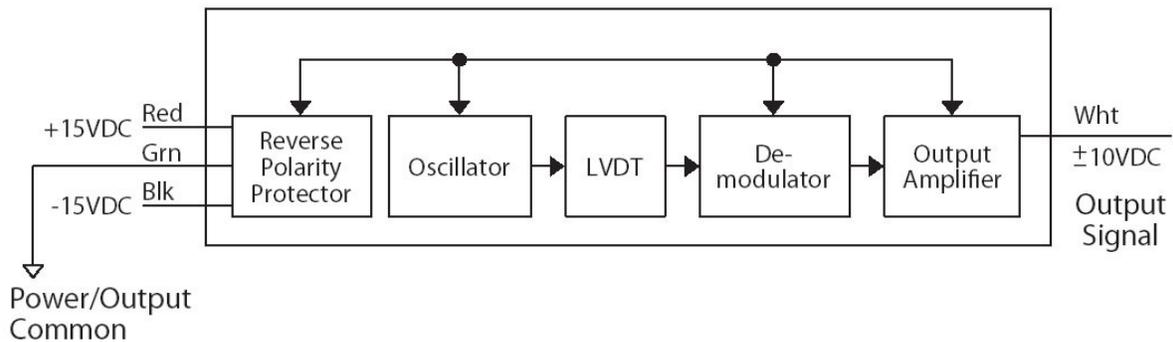


# DC-EC Accusens™ Series (General Purpose LVDT)

## dimensions



## block diagram



# DC-EC Accusens™ Series (General Purpose LVDT)

## Specifications

<b>Input Voltage</b>	±15 VDC (nominal), ±25mA
<b>Operating Temperature Range</b>	32°F to 160°F (0°C to 70°C)
<b>Survial Temperature Range</b>	-65°F to 200°F (-55°C to 95°C)
<b>Null Voltage</b>	0 VDC
<b>Ripple</b>	Less than 25mV rms
<b>Linearity</b>	0.25% full range
<b>Stability</b>	0.125% full scale
<b>Temperature-Coefficient of Scale Factor</b>	0.04%/°F (0.08%/°C)
<b>Shock Survival</b>	250g for 11 milliseconds
<b>Vibration Tolerance</b>	10g up to 2khz
<b>Coil Form Material</b>	High density, glass-filled polymer
<b>Housing Material</b>	AISI 400 series stainless steel
<b>Cable</b>	4 conductor, 28 AWG, stranded copper with braided shield and polyurethane jacket, 1 meter
<b>EMC</b>	CE certified (The DC-EC series, when correctly installed, comply with the EMC Directive 89/336/EEC generic standards for residential commercial, light industrial and industrial environments.)
<b>Output Impedance</b>	Less than 1 ohm

## Performance and Electrical Specifications

DC-EC Series Model Number	Nominal Linear Range		Scale Factor		Response (-3 dB)
	Inches	mm	V/inch	V/mm	Hz
050 DC-EC	±0.050	±1.25	200.0	8.00	500
125 DC-EC	±0.125	±3.0	80.0	3.20	500
250 DC-EC	±0.250	±6.0	40.0	1.60	500
500 DC-EC	±0.500	±12.5	20.0	0.80	200
1000 DC-EC	±1.000	±25	10.0	0.40	200
2000 DC-EC	±2.000	±50	5.0	0.20	200
3000 DC-EC	±3.000	±75	3.3	0.13	200
5000 DC-EC	±5.000	±125	2.0	0.08	200
10000 DC-EC	±10.00	±250	1.0	0.04	200

All calibration is performed at room ambient temperature

## Mechanical Specifications

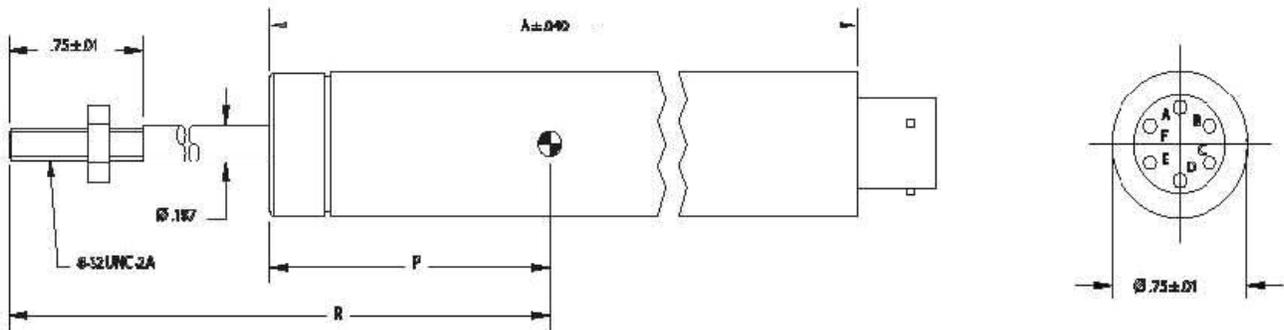
DC-EC Series Model Number	Weight				Dimensions					
	Body		Core		A (Body)		B (Core)		P	
	Oz	gm	Oz	gm	In	mm	In	mm	In	mm
050 DC-EC	2.19	62	0.07	2	2.10	53.5	0.75	19.1	0.50	12.7
125 DC-EC	2.44	69	0.11	3	2.93	74.5	1.25	31.8	0.93	23.6
250 DC-EC	2.58	73	0.18	5	3.80	96.5	2.00	50.8	1.35	34.3
500 DC-EC	2.93	82	0.28	8	5.49	139.5	3.00	76.0	2.20	55.9
1000 DC-EC	4.24	120	0.35	10	7.75	196.9	3.80	96.5	3.18	80.8
2000 DC-EC	5.47	155	0.46	13	11.12	282.5	5.30	135.0	44.88	134.6
3000 DC-EC	9.39	266	0.49	14	16.32	414.5	6.20	157.5	7.55	191.8
5000 DC-EC	11.47	325	0.60	17	20.15	511.8	6.20	157.5	9.53	242.0
10000 DC-EC	15.71	445	0.85	24	35.38	898.5	12.00	305.0	16.58	421.1

# DC-EC Accusens™ Series (General Purpose LVDT)

## new captive core option!



The DC-EC features a captive core design that greatly simplifies installation. The design utilizes a core rod and bearing assembly that is captured and guided within the LVDT providing low friction travel throughout the stroke length. The assembly incorporates two Delrin bearings on the core rod traveling through the stainless steel boreliner. A bronze bearing on the front end utilizes a self-aligning feature to accommodate lateral LVDT movement during operation, the core rod and bearing assembly is field replaceable.



DC-EC Series Model Number	A (Body)		Dimensions P		R	
	In	mm	In	mm	In	mm
050 DC-EC	2.48	63.0	0.84	21.3	3.78	98.0
125 DC-EC	3.31	84.1	1.27	32.3	4.36	110.7
250 DC-EC	4.18	84.1	1.69	42.9	4.85	123.2
500 DC-EC	5.87	149.1	2.54	64.5	6.04	153.4
1000 DC-EC	8.13	206.5	3.52	89.4	7.90	200.7
2000 DC-EC	11.50	292.1	5.22	143.3	10.52	267.2
3000 DC-EC	16.70	424.2	7.89	200.4	15.27	387.9

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### ordering information

Specify the DC-EC Model followed by the desired option number(s) added together.

#### Ordering Example:

**Model Number 050DC-EC-200** is a DC-EC Series LVDT with a  $\pm 0.050$ " range (050 DC-EC), with the captive core option (200).

### HR Model

050 DC-EC  
125 DC-EC  
250 DC-EC  
500 DC-EC  
1000 DC-EC  
2000 DC-EC  
3000 DC-EC  
5000 DC-EC  
10000 DC-EC

### options

Number	Description
006	Metric threaded core
010	Guided core
020	Small diameter low mass core <sup>1</sup>
200	Captive Core <sup>2</sup>

<sup>1</sup>Consult factory for mass, dimensions and thread size.

<sup>2</sup>Available on 050 DC-EC through 3000 DC-EC models only.