

Amplifier / Signal Conditioner

Features

- Sensor excitation
- Selectable sensitivity
- High frequency filtering
- User selectable analogue outputs



Introduction

The LVDT/A & LVDT/D provide a wide range of signal conditioning for LVDT transducers. Offered in two versions, the LVDT/A for 115/230V AC or 18-24V DC operation and the LVDT/D which is DC powered only. Transducer sensitivities between 20mV and 10V are accommodated by a combination of DIL switch settings and a fine trim potentiometer. Similar arrangements are provided for any 'zero' errors in the transducers and can be used to offset the readings by up to $\pm 35\%$ of full scale.

A wide frequency response is offered, of typically DC to 200Hz. There is an on-board low pass filter which can be switched in to reduce high frequency fluctuations or induced electrical noise, to give stable readings under adverse conditions. A wide range of output options for current, and uni-polar or bi-polar voltage can be configured by DIL switch settings. Both the AC and DC versions are based on a common board and are mounted in a light grey ABS case sealed to IP65 standard.

Specifications

Parameter

	Minimum	Typical	Maximum	Units
Power supply AC LVDT/A only (110/230 V AC) 50-60Hz	99/198	110/230	126/253	V AC
Power supply DC: LVDT/A and /D	18	24	28	V DC
Power supply current DC: (depends on loading)	138	145	150	mA (200R)
Excitation	-	4.5	-	V rms
LVDT Frequency (Selected by Switch 1,2,3,4,5 kHz)	1	-	5	kHz
LVDT Impedance	50	200	-	Ohms
LVDT Sensitivity (switchable)	0.02	-	10	V
Gain adjustment (Pot - fine adj)	-	-	25	% FSD
Offset adjustment (Pot - fine adj)	-	-	10	% FSD
Offset adjustment (Switchable - coarse adj)	-	-	30	% FSD
Output load (voltage output)	0	-	2	mA
Output load (current output)	-	-	500	Ohms
Filter cut-off (switchable ranges)	5	-	200	Hz
Zero temperature coefficient	-	2	4	$\mu\text{V}/^\circ\text{C}$
Span temperature coefficient	-	0.01	0.015	% / $^\circ\text{C}$
Linearity	-	0.05	0.1	% FSD
Gain stability- 1 st 1000 hours	-	0.2	0.4	% FSD
90 day offset stability	-	6	10	μV
Operating temperature range	0	-	50	$^\circ\text{C}$
Storage temperature range	-20	-	70	$^\circ\text{C}$
Humidity	-	-	95	%
Noise (1kHz / 20Hz filter / DC powered)	-	3	7	mV p-p
Output Options	$\pm 10\text{V}$, $\pm 5\text{V}$, 0 - 10 V, 0 - 5V, 0 - 20mA, 4 - 20mA. NB: Current output is link selectable for source or negative sink (common negative or common positive)			
Connections	Field screw terminals - 2.5mm ² rising clamp			
Enclosure	ABS case 160 x 80 x 55 sealed to IP65 fitted with 3 off cable glands			
Controls	Gain pot, Offset pot, Coarse gain switches Coarse offset switches, Filter cut-off switches Frequency select switch, Output mode switch			

Order Codes

LVDTA	Analogue Conditioner AC powered
LVDTD	Analogue Conditioner DC powered

CE & Environmental

Relative humidity	95% maximum non condensing	European EMC Directive Low Voltage Directive	2004/108/EC 2006/95/EC
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Dimensions

160 x 80x 55mmDepth



Designed, Manufactured
& Supported in the UK



CE *In the interest of continued product development, Mantracourt Electronics Limited reserves the right to alter product specifications without prior notice.*