

A131 LVDT Remote Indication Connection & Set up Installation & Maintenance Instructions

LV5 - A131

The linear variable differential transformer (LVDT) transducer which is powered by a separate power pack, converts linear mechanical displacement into industry standard current loop signals in the ranges of:
0-10mA, 2-10mA, 0-20mA and 4-20mA

Installation:

Special equipment required:
Instrument screwdriver (1.2mm thin slotted)
Milli-ammeter, scale 0-20mA

1. Isolate the A131 instrument from all external switching circuits.
2. Install Power Supply Unit in Kiosk on DIN rail (35mm x 1mm thick) or with 2 x M4 screws.
3. Remove instrument lid.
4. With reference to Figure 2 pass the wire from the LVDT through the electrical entry holes in the case and connect to the power pack (refer to the wiring diagram located on the power pack). Install LVDT using 2x M4 screws as shown but do not tighten yet
5. Connect supply to power pack.
6. Connect a milli-ammeter, scale 0-20mA, to the output terminals on the power pack to monitor the loop current.
7. Switch on supply.
8. Secure LVDT screws when output is indicated at 6mA when pointer is set TDC
9. Rotate switch plate to indicate the maximum reference temperature (e.g. 120°C) required Adjust the 'G' potentiometer to obtain full range output.
10. Rotate switch plate to indicate minimum reference temperature required (e.g. 60°C) Adjust the 'Z' potentiometer to obtain correct output.
11. Repeat steps 9 and 10 until the correct output is obtained for the temperature range.
12. Check temperature instrument mechanism for freedom of movement by rotation of the switch plate.

DO NOT FORCE THE SWITCH PLATE BACK PAST AMBIENT TEMPERATURE AS THIS WILL PLACE STRAIN ON THE BELLOWS MECHANISM.

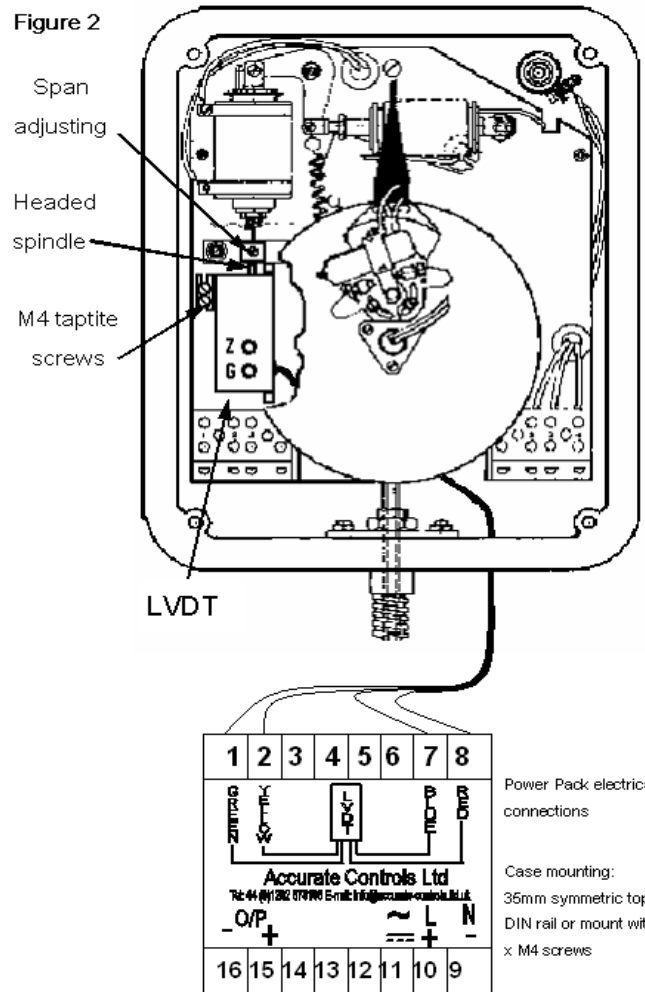
NOTE: It is recommended that the LVDT is calibrated over a reduced scale temperature range.

For example:

For a 0-150°C scale range with an LVDT output of 0-20mA calibrate between 60°C (8mA) and 120°C (16mA). This allows for maximum accuracy over the normal transformer operating temperature range.

See Tables over for mA output values against temperature for the most common ranges.

Figure 2



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Poole, Dorset, BH17 0UJ, United Kingdom.

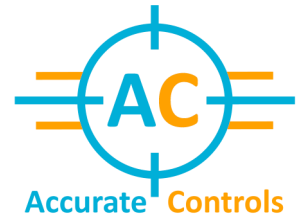
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mA Output Tables for Accurate Controls LVDT



Scale °C	0 -10mA	0 - 20mA	4 - 20mA
0	0.00	0.00	4.00
10	0.83	1.67	5.33
20	1.67	3.33	6.67
30	2.50	5.00	8.00
40	3.33	6.67	9.33
50	4.17	8.33	10.67
60	5.00	10.00	12.00
70	5.83	11.67	13.33
80	6.67	13.33	14.67
90	7.50	15.00	16.00
100	8.33	16.67	17.33
110	9.17	18.33	18.67
120	10.00	20.00	20.00

Scale °C	0 -10mA	0 - 20mA	4 - 20mA
30	0.00	0.00	4.00
40	0.83	1.67	5.33
50	1.67	3.33	6.67
60	2.50	5.00	8.00
70	3.33	6.67	9.33
80	4.17	8.33	10.67
90	5.00	10.00	12.00
100	5.83	11.67	13.33
120	7.50	15.00	16.00
130	8.33	16.67	17.33
140	9.17	18.33	18.67
150	10.00	20.00	20.00

Scale °C	0 -10mA	2-10mA	0 - 20mA	4 - 20mA
0	0.00	2.00	0.00	4.00
20	1.33	3.07	2.67	6.13
30	2.00	3.60	4.00	7.20
40	2.67	4.14	5.33	8.27
50	3.33	4.67	6.67	9.33
60	4.00	5.20	8.00	10.40
70	4.67	5.74	9.33	11.47
80	5.33	6.27	10.67	12.53
90	6.00	6.80	12.00	13.60
100	6.67	7.34	13.33	14.67
120	8.00	8.40	16.00	16.80
130	8.67	8.94	17.33	17.87
140	9.33	9.47	18.67	18.93
150	10.00	10.00	20.00	20.00

mA output	Scale Range °C		
	0-120	0 - 150	30 - 150
4	0	0	30
6	15	19	45
8	30	38	60
10	45	56	75
12	60	75	90
14	75	94	105
16	90	113	120
18	105	131	135
20	120	150	150

mA output	Scale Range °C		
	0-120	0 - 150	30 - 150
0	0	0	30
1	12	15	42
2	24	30	54
3	36	45	66
4	48	60	78
5	60	75	90
6	72	90	102
7	84	105	114
8	96	120	126
9	108	135	138
10	120	150	150

mA output	Scale Range °C		
	0-120	0 - 150	30 - 150
0	0	0	30
2	12	15	42
4	24	30	54
6	36	45	66
8	48	60	78
10	60	75	90
12	72	90	102
14	84	105	114
16	96	120	126
18	108	135	138
20	120	150	150