

Millivolt Transmitter v5 MVT123

DESCRIPTION

The MVT123 is a universal field configurable isolating signal converter providing true three way galvanic isolation up to 2000Vrms for mV signals and DC shunt inputs. Inputs, outputs and response time are programmable via internal coding plugs. The coding plugs enable a large combination of signals to be isolated and/or converted. The MVT123 has a wide range of response times from very fast ($t^{90} = 5$ milliseconds) to very slow ($t^{90} = 0.5$ seconds). Programming is simply a matter of referring to the table, nuclipping the case and setting the appropriate coding plug. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output signal level is indicated by a green LED on the front of the module, giving a clear indication of module function, signal presence and loop condition for current outputs. Various power supply choices are available ranging from 240Vac down to 8Vdc.



General Specifications

Size: Housing material: Mounting: Termination: Weight: Protection class: mV Input spans: Input impedance:

Accuracy: Front OFFS adjust: Front SPAN adjust: Linearity: Repeatability: Response time:

Temperature effect: Operating temp. range: Storage temp. range: Output loop drive: Output load change effect: Input/output isolation: Power requirements:

52 W x 70 H x 110 D (mm). ABS. DIN-Rail, gear plate. Screw terminals on front. 0.370 kg. IP40. 20mV up to 1000mV. 30kΩ (20-200mV) 140kΩ (250-1000mV). 0.15% of span. ±20% typical ±20% typical 0.15% of span above 0.2mA. 0.1% of span. 0.5 sec for T₉₀ standard 0.05 seconds selectable 5 milliseconds selectable. 0.025% per °C. -10...-60°C. -20...+70°C.

Block Diagram



10mA into 0 - 1.8kΩ, 20mA into 0 - 900Ω Higher output drive on request. less than 0.2% up to maximum load stated. >2kV rms. 3W.

Electromagnetic compatibility: Complies with AS/NZS 4251.1 (EN 50081.1) '

Connections



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

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MVT123 – X 00 X X 3 0

TYPE NO. DESIGNATION

Power Supply:__

1 = 90-280Vac 50/60Hz (65-280Vdc). *) 3 = 16-48Vac 50/60Hz (10-60Vdc) *) 6 = 8 - 60Vdc.
*) 9 = Other (Specify).

Input:-

00 = As per programming table 1, (Specify required input).

Output: ·

0 = As per programming table 2, (Specify required output).

*) 9 = Other process output (less than 11V / 22mA)

Action:-

1 = Direct.

*) 2 = Reverse.

Factory default range is 75mV input, 4-20mA output, 0.5 sec response unless otherwise requested.

*) = Price Extra.

To Change Ranges

- 1. Disconnect power to unit.
- 2. UN-clip housing lid and withdraw unit from housing.
- 3. Set the coding plugs as required.
- 4. Reassemble unit and connect power.
- 5. Adjust "span" and "offs" pots to re-calibrate.
- 6. Change the label information to the new input/output values.

Table 1 Input Selection SW1

Input Impedance is $140k\Omega$ for 250 to 1000mV; $30k\Omega$ for 20 to 200mV ranges.

Input	1	2	3	4	5	6	7	8
0-20mV			Х	Х	Х	Х	Х	
0-40mV			Х	Х	Х			
0-50mV			Х	Х	Х		Х	
0-60mV			Х	Х		Х		
0-75mV			Х	Х		Х	Х	
0-100mV			Х	Х			Х	
0-150mV			Х		Х		Х	
0-200mV			Х				Х	
0-250mV				Х	Х		Х	
0-500mV				Х			Х	
0-750mV					Х		Х	
0-1000mV							Х	

Table 2 Output Selection SW2

Output	1	2	3	4	5	6	7	8	9	10
4-20mA	Х	Х								
0-20mA					Х					
0-10mA			Х							
0-1mA				Х						
0-1V					Х				Х	
0-2V					Х					Х
0-5V					Х			Х		
1-5V	Х	Х						Х		
0-10V					Х		Х			

Switch Locations



Table 3 Response Time SW1

•		
response time	9	10
5msec		
50msec	X	
500msec		X

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