

MILLIVOLT TRANSMITTER (v4) BMVT223

DESCRIPTION

The BMVT223 is a loop powered, isolating transmitter that offers an economical solution combining compactness with accuracy and flexibility. The BMVT223 is ideal in field enclosures or in larger control cabinets. Standard output is 4 - 20mA loop powered with a minimum supply voltage of 8V. Factory set output configurations include 10-50mA loop powered and a range of 3-wire connection versions. Double surge protection is standard with all Series 200 loop powered transmitters to prevent failure due to spikes induced by DC switched inductive loads. The BMVT223 accepts low level DC millivolt input signals. It features coding plugs to easily change ranges in the field without special tools or soldering. The BMVT223 can be factory configured for applications requiring "reverse acting" operation. Final calibration is trimmed using the front accessible zero and span 15-turn trim adjustments. A front mounted L.E.D. and a test socket verify module function and assist in calibration checks without disconnection of output wires.

Features

- Suitable for 12V battery supply systems or in automotive applications.
- Link selectable ranges of 20 to 1000mV cover external DC shunt applications.
- Reference for 3-wire connection is the negative supply..



Size: 23.5W x 71.5H x 109D (mm)
Mounting: Clip for 35mm DIN-Rail.

Housing material: ABS.

Connection: Screw terminals.

Weight: 110 g.

Protection class: IP40 (IP65 refer to

(BMVT523)

Accuracy error: <0.1% of range. Linearity: <0.1% of range.

Ambient operating

temperature range: -10...+65°C.

Temperature drift error: <0.5% within operating

range.

Supply voltage: 8 - 40V continuous (50V 30 seconds).

Load for 4 - 20mA output: RL max = $\frac{\text{SupplyVoltage}-8V}{0.02\Delta}$ [Ω].

Load change effect: 0.1% up to RL max. Response time: 0.2 sec for T_{90} . Front Zero adjust: +20% / -10%.

Front Span adjust: $\pm 25\%$. Internal offset adjust: $\pm 50\%$.

Input range: 20mV up to 1000mV Input impedance: $30k\Omega$ for 20-200 mV $140k\Omega$ for 250-1000mV

Input/output isolation: > 2kV r.m.s.

Factory input default range: 75mV for input 1 and 500mV for input 2.

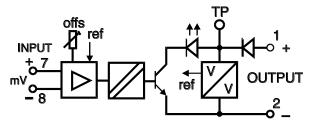
Electromagnetic compatibility: Complies with EN 50081-1, EN 50082-2, EN 61010-1

For inputs of 1 volt dc and above, refer to BSI231.

For input/output combinations refer to TYPE NO. DESIGNATION



BLOCK DIAGRAM





BASI Instrument AB P.O.Box 53 Tel: +46 40-880 09 SE-275 06 VOLLSJÖ...SWEDEN Fax: +4640-92 98 77 E-mail: sales@basi.se

MILLIVOLT TRANSMITTER

BMVT223

NoDS 23:10-E Issue: 10 29/07/11



BMVT223 - X X X X TYPE NO. DESIGNATION Output: -2-wire 3-wire 1 = 4 - 20mA6 = 0 - 1V. 0V Ref. 7 = 0 - 5V, min supply 10.5Vdc. 8 = 0 - 10V, min supply 15.5Vdc. 2 = 10 - 50 mA. 3-wire 3 = 0 - 1mA. 0V Ref. 4 = 0 - 10mA. 9 = Other (Specify). 5 = 0 - 20 mA. Input: 3 = 20 - 1000mV (see table 1, Specify required input). 1 = Direct.

2 = Reverse.

Options:-

0 = None.

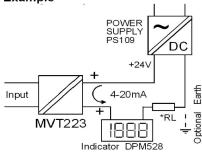
*) 1 = Output ramp (external capacitor set).

*) = Price Extra.

Front Controls

- 1. Test socket output signal access with reference to terminal (1) loop integrity is maintained when digital multimeter Rin <30 Ω is used.
- Loop indicator dim at 4mA, bright at 20mA.
- SPAN (full scale) adjust 15 turn.
- ZERO (start scale) adjust 15 turn.

Wiring Example



RL is input load of PLC, VSD, or other process instrument.

Link Selection Models

A 10 way 2 row header is used to set the input level (table 1) and input output response time (table 2). After the links have been set for the required input the span and zero adjustments must be set. Standard factory settings are

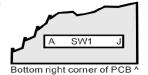
Input: 0-75mV, Response Time: 500mS.

Table 1

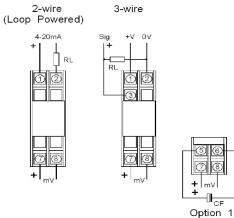
SW1	Α	В	С	D	Е	F	G	Н
0-20mV			X	Х	X	X	X	
0-40mV			X	X	X			
0-50mV			X	X	X		X	
0-60mV			Х	Х		X		
0-75mV			Х	X		X	X	
0-100mV			X	X			X	
0-150mV			X		X		X	
0-200mV			Х				Х	
0-250mV				Х	X		Х	
0-500mV				X			X	
0-750mV					Х		X	
0-1000mV							X	

Table 2 Response Time

SW1	ı	J
5mS		
50mS	Χ	
500mS		Х



Connection Diagrams



In the interest of development and improvement, BASI reserve the right to amend, without notice, details contained in this publication. BASI will accept no legal liability for any errors, omissions or amendments

BASI Instrument AB P.O.Box 53

Tel: +46 40-880 09 SE-275 06 VOLLSJÖ...SWEDEN Fax: +4640-92 98 77 E-mail: sales@basi.se

BMVT223

No**DS 23:10-E** Issue: **10** 29/07/11