

**Super-mini Signal Conditioners *Mini-M Series***

**SIGNAL TRANSMITTER**

MODEL **M2VS**

**MODEL & SUFFIX CODE SELECTION**

M2VS-□□-□□□□

MODEL \_\_\_\_\_

INPUT \_\_\_\_\_

<b>Current</b>	<b>Voltage</b>
A : 4 – 20mA DC	1 : 0 – 10mV DC
A1: 4 – 20mA DC *1	15: 0 – 50mV DC
B : 2 – 10mA DC	16: 0 – 60mV DC
C : 1 – 5mA DC	2 : 0 – 100mV DC
D : 0 – 20mA DC	3 : 0 – 1V DC
E : 0 – 16mA DC	4 : 0 – 10V DC
F : 0 – 10mA DC	5 : 0 – 5V DC
G : 0 – 1mA DC	6 : 1 – 5V DC
H : 10 – 50mA DC	4W : -10 – +10V DC
J : 0 – 10µA DC	5W : -5 – +5V DC
K : 0 – 100µA DC	0 : Specify voltage
GW: -1 – +1mA DC	
FW: -10 – +10mA DC	
Z : Specify current	

\*1 : 50Ω input resistance for Code A1

**OUTPUT** \_\_\_\_\_

<b>Current</b>	<b>Voltage</b>
A : 4 – 20mA DC	1 : 0 – 10mV DC
B : 2 – 10mA DC	2 : 0 – 100mV DC
C : 1 – 5mA DC	3 : 0 – 1V DC
D : 0 – 20mA DC	4 : 0 – 10V DC
E : 0 – 16mA DC	5 : 0 – 5V DC
F : 0 – 10mA DC	6 : 1 – 5V DC
G : 0 – 1mA DC	4W : -10 – +10V DC
Z : Specify current	5W : -5 – +5V DC
	0 : Specify voltage

**POWER INPUT** \_\_\_\_\_

<b>AC Power</b>	<b>DC Power</b>
M : 85 – 264V AC *2	R : 24V DC
M2: 100 – 240V AC	R2: 11 – 27V DC *2
	P : 110V DC

\*2 : CE or UL not available

**OPTIONS** (none or multiple selections) \_\_\_\_\_

/K : Fast response

**STANDARDS & APPROVALS** (must be specified) \_\_\_\_\_

/N : Without CE or UL

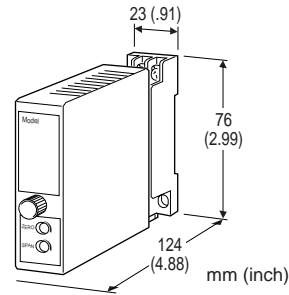
/CE : CE marking

/UL : UL approval (CE marking)

**ORDERING INFORMATION**

Specify code number and variables.

- **Code number** (e.g. M2VS-6A-M2/K/CE)
- **Special input and output ranges** (For codes Z & 0)



**Functions & Features**

- Converting a DC input into a standard process signal
- Universal power input
- Fast response type available
- High-density mounting
- CE marking
- UL approval

**Typical Applications**

- Isolation between control room and field instrumentation

**GENERAL SPECIFICATIONS**

**Construction:** plug-in

**Connection:** M3 screw terminals (torque 0.8 N·m)

**Housing material:** flame-resistant resin (black)

**Isolation:** input to output to power

**Overrange output:** approx. -10 – +120% at 1 – 5V

**Front adjustments:** zero and span; ±5%

**INPUT & OUTPUT**

**INPUT**

• **DC Current:** shunt resistor attached to input terminals (0.5W)

**Input resistance:** For resistance values other than listed below, specify when ordering.

Input	Input Resistance
4 – 20mA	: 250 (Ω) (50Ω for Code A1)
2 – 10mA	: 500
1 – 5mA	: 1000
0 – 20mA	: 50
0 – 16mA	: 62.5
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 100
0 – 10µA	: 1000
0 – 100µA	: 1000
-1 – +1mA	: 1000
-10 – +10mA	: 100

•DC Voltage: -300 – +300V DC

Minimum span: 3mV

Zero suppression/elevation: max. 1.5 times span

Input resistance

Input Span	Input Resistance
3 – 10mV	: 10k ( $\Omega$ minimum)
10 – 100mV	: 10k
0.1 – 1V	: 100k
$\geq 1V$	: 1M

## ■OUTPUT

•DC Current: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 15V maximum

Output	Load Resistance
4 – 20mA	: 750 ( $\Omega$ maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k

•DC Voltage: -10 – +12V DC

Minimum span: 5mV

Zero suppression/elevation: max. 1.5 times span

Load resistance: output drive 1mA maximum; at  $\geq 0.5V$

Output	Load Resistance
0 – 10mV	: 10k ( $\Omega$ minimum)
0 – 100mV	: 100k
0 – 1V	: 1000
0 – 10V	: 10k
0 – 5V	: 5000
1 – 5V	: 5000
-10 – +10V	: 10k
-5 – +5V	: 5000

## INSTALLATION

### Power input

**AC:** operational voltage range 85 – 264V (90 – 264V for UL);  
47 – 66 Hz; approx. 3VA at 100V  
approx. 4VA at 200V  
approx. 5VA at 264V

**DC:** operational voltage range for R: 24V  $\pm 10\%$ , R2: 11 – 27V, or P: 85 – 150V (110V  $\pm 10\%$  for UL);  
ripple 10% p-p max.; approx. 3W

**Operating temperature:** -5 to +55°C (23 to 131°F)

**Operating humidity:** 30 to 90% RH (non-condensing)

**Mounting:** surface or DIN rail

**Dimensions:** W23×H76×D124 mm (0.91"×2.99"×4.88")

See General Spec. Sheet Figure A-1.

**Weight:** 150 g (0.33 lbs)

**Terminal assignment:** See General Spec. Sheet Figure B-2.

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

**Temp. coefficient:**  $\pm 0.015\%/^{\circ}C$  ( $\pm 0.008\%/^{\circ}F$ )

**Response time:**  $\leq 0.5$  seconds (0 – 90%)

approx. 25 milliseconds with option /K

**Line voltage effect:**  $\pm 0.1\%$  over voltage range

**Insulation resistance:**  $\geq 100M\Omega$  with 500V DC

**Dielectric strength:** 2000V AC @1 minute

(input to output to power to ground)

## STANDARDS & APPROVALS

**CE conformity:** EMC Directive (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

Installation category II

Pollution degree 2

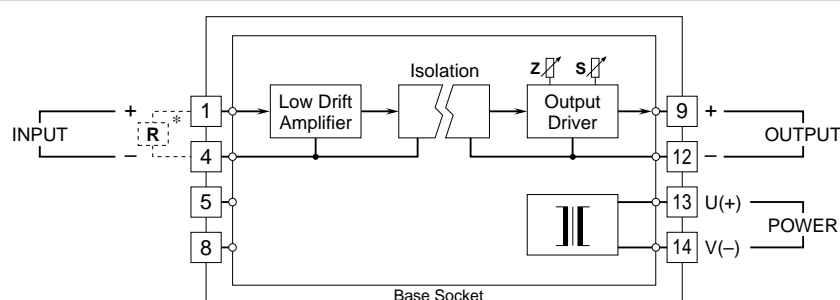
Max. operating voltage 300V

Input or output to power – Reinforced insulation

Input to output – Basic insulation

**Approval:** UL/C-UL nonincendive Class I, Division 2, Groups A, B, C, and D hazardous locations (UL 1604, CAN/CSA-C22.2 No.213);  
UL/C-UL general safety requirements (UL 3111-1, CAN/CSA-C22.2 No.1010-1)

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*Input shunt resistor attached for current input.

Specifications subject to change without notice.