Super-mini Signal Conditioners *Mini-M Series*

SIGNAL TRANSMITTER
(high speed response; isolated)

MODEL **M2VF**

MODEL & SUFFIX CODE SELECTION

M2VF–❑❑–❑❑

MODEL

INPUT

Current	Voltage
A : 4 – 20mA DC	**3** : 0 – 1V DC
B : 2 – 10mA DC	**4** : 0 – 10V DC
C : 1 – 5mA DC	**5** : 0 – 5V DC
D : 0 – 20mA DC	**6** : 1 – 5V DC
E : 0 – 16mA DC	**4W** : -10 – +10V DC
F : 0 – 10mA DC	**5W** : -5 – +5V DC
G : 0 – 1mA DC	**0** : Specify voltage *1
H : 10 – 50mA DC	**01**: Specify voltage *2
GW: -1 – +1mA DC	
FW : -10 – +10mA DC	
Z : Specify current	

*1 : CE or UL not available with this code.
*2 : Select this code for CE or UL.

OUTPUT

Current	Voltage
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
GW: -1 – +1mA DC	**5W** : -5 – +5V DC
FW : -10 – +10mA DC	**0** : Specify voltage
Z : Specify current	

POWER INPUT

AC Power	DC Power
M : 85 – 264V AC *3	**R** : 24V DC
M2: 100 – 240V AC	**R2**: 11 – 27V DC *3
	P : 110V DC *3

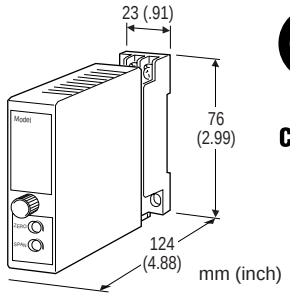
*3 : CE or UL not available

STANDARDS & APPROVALS

/N : Without CE or UL
/CE: CE marking
/UL : UL approval (CE marking)

ORDERING INFORMATION

Specify code number and variables.
- **Code number** (e.g. M2VF-6A-M2/CE)
- **Special input and output ranges** (For codes Z & 0)



Functions & Features

• Converting a DC input into a standard process signal • Isolation between input and output • 180-microsecond response • Universal power input • High-density mounting • CE marking • UL approval

Typical Applications

• Isolation for a vibration analyzing system

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)
2 – 10mA	: 500
1 – 5mA	: 1000
0 – 20mA	: 50
0 – 16mA	: 62.5
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 100
-1 – +1mA	: 1000
-10 – +10mA	: 100

•**DC Voltage**: -300 – +300V DC*
*-30 – +30V for code 01. Span 30V max.
Minimum span: 1V
Zero suppression/elevation: max. 1.5 times span
Input resistance: 1MΩ minimum

■**OUTPUT**
•**DC Current**: -10 – +20mA DC
Minimum span: 1mA
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 15V maximum; (7V for bidirectional outputs)

Output	Load Resistance
4 – 20mA	: 750 (Ω maximum)
2 – 10mA	: 1500
1 – 5mA	: 3000
0 – 20mA	: 750
0 – 16mA	: 900
0 – 10mA	: 1500
0 – 1mA	: 15k
-1 – +1mA	: 7000
-10 – +10mA	: 700

•**DC Voltage**: -10 – +12V DC
Minimum span: 5mV
Zero suppression/elevation: max. 1.5 times span
Load resistance: output drive 1mA maximum at ≥0.5V

Output	Load Resistance
0 – 10mV	: 10k (Ω 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 ±10%, R2: 11 – 27V, or P: 85 – 150V
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.

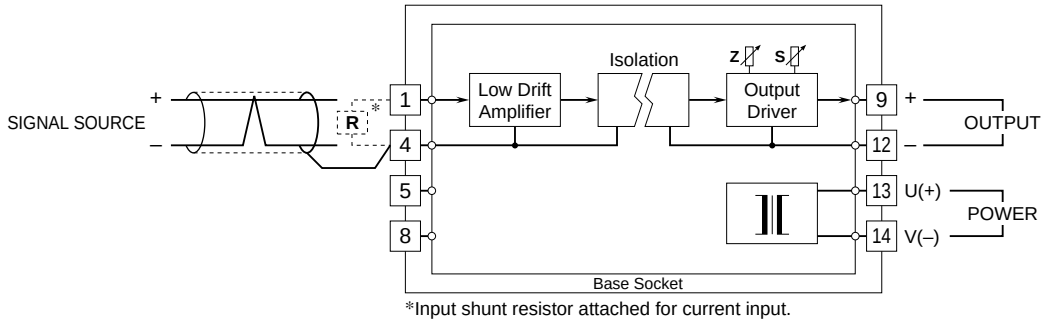
PERFORMANCE in percentage of span

Accuracy: ±0.1%
Temp. coefficient: ±0.015%/°C (±0.008%/°F)
Response time: approx. 180 microseconds (0 – 90%)
Line voltage effect: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 1000V AC @1 minute
(input to output)
2000V AC @1 minute
(input or 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 – Operational 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.

Remark: The M2VF, due to its fast-response design, does not eliminate noises included in the input signal. Use shielded twisted-pair cable for preventing them.

Specifications subject to change without notice.