

SIGNAL TRANSMITTER
(high speed response)

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. Select 'N' for 'Standards & Approvals' code.

*2. Select 'CE' or 'UL' for 'Standards & Approvals' code.

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. Select 'N' for 'Standards & Approvals' code.

STANDARDS & APPROVALS _____

/N : Without CE or UL

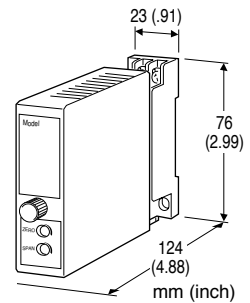
/CE : CE marking

/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

- Converts DC input from a sensor into a standard process signal
- Isolation between input and output
- 180-microsecond response
- 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 to +120% at 1 – 5V

Zero/span adjustments: ±5% (front)

INPUT & OUTPUT

■ INPUT

- **DC Current:** Shunt resistor attached to the input terminals (0.5W)

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

(Range)	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

Offset: Max. 1.5 times span

Input resistance: 1MΩ minimum

■ OUTPUT

• **DC Current:** -10 – +20mA DC

Minimum span: 1mA

Offset: Max. 1.5 times span

Load resistance: Output drive 15V maximum;
7V for bidirectional outputs

(Range)	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

Offset: Max. 1.5 times span

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

(Range)	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

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$

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

Response time: ≤ 180 microseconds (0 – 90%)

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

Insulation resistance: $\geq 100M\Omega$ 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 (2004/108/EC)

EN 61000-6-4 (EMI)

EN 61000-6-2 (EMS)

Low Voltage Directive (2006/95/EC)

EN 61010-1

Installation category II

Pollution degree 2

Max. operating voltage 300V

Input or output to power: Reinforced insulation

Input to output: Functional 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 61010B-1, CAN/CSA-C22.2 No.1010-1)

INSTALLATION

Power input

AC: Operational voltage range 85 – 264V
(90 – 264V for UL), 47 – 66 Hz,
approx. 4VA at 100V
approx. 5VA at 200V
approx. 6VA at 264V

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

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

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

Mounting: Surface or DIN rail

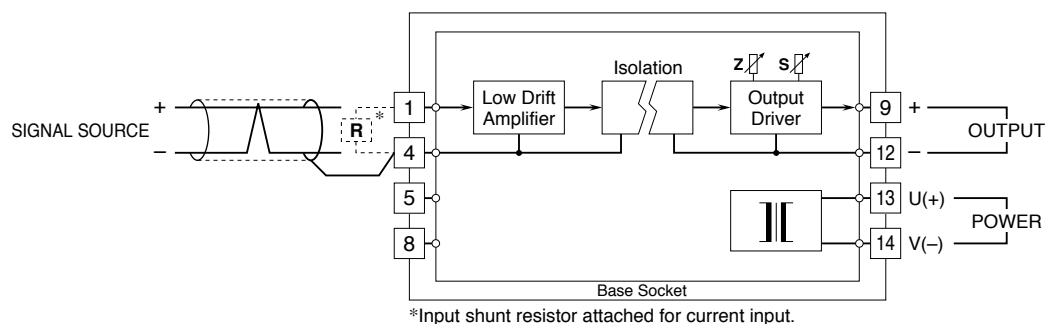
Dimensions: W23×H76×D124 mm (0.91”×2.99”×4.88”)

See General Spec. Sheet Figure A-1.

Weight: 150 g (0.33 lbs)

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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



The M2VF, by its fast-response feature, is not designed to eliminate noise present in the input signal. Use a shielded twisted-pair cable for preventing noise entering through the input wiring.