

**SIGNAL TRANSMITTER**  
(high speed response)

**MODEL W2VF**
**MODEL & SUFFIX CODE SELECTION**
**W2VF-□□□□□**
**MODEL**
**INPUT**
**Current**
**A** : 4 – 20mA DC

**B** : 2 – 10mA DC

**C** : 1 – 5mA DC

**D** : 0 – 20mA DC

**E** : 0 – 16mA DC

**F** : 0 – 10mA DC

**G** : 0 – 1mA DC

**H** : 10 – 50mA DC

**GW** : -1 – +1mA DC

**FW** : -10 – +10mA DC

**Z** : Specify current

**Voltage**
**3** : 0 – 1V DC

**4** : 0 – 10V DC

**5** : 0 – 5V DC

**6** : 1 – 5V DC

**4W** : -10 – +10V DC

**5W** : -5 – +5V DC

**0** : Specify voltage \*1

**01** : Specify voltage \*2

\*1. Select 'N' for 'Standards &amp; Approvals' code.

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

**OUTPUT 1**
**Current**
**A** : 4 – 20mA DC

**B** : 2 – 10mA DC

**C** : 1 – 5mA DC

**D** : 0 – 20mA DC

**E** : 0 – 16mA DC

**F** : 0 – 10mA DC

**G** : 0 – 1mA DC

**GW** : -1 – +1mA DC

**FW** : -10 – +10mA DC

**Z** : Specify current

**Voltage**
**1** : 0 – 10mV DC

**2** : 0 – 100mV DC

**3** : 0 – 1V DC

**4** : 0 – 10V DC

**5** : 0 – 5V DC

**6** : 1 – 5V DC

**4W** : -10 – +10V DC

**5W** : -5 – +5V DC

**0** : Specify voltage

**OUTPUT 2**

Same range availability as Output 1

**Y** : None

**POWER INPUT**
**AC Power**
**M** : 85 – 264V AC \*3

**M2** : 100 – 240V AC

**DC Power**
**R** : 24V DC

**R2** : 11 – 27V DC \*3

**P** : 110V DC \*3

\*3. Select 'N' for 'Standards &amp; Approvals' code.

**STANDARDS & APPROVALS**
**/N** : Without CE or UL

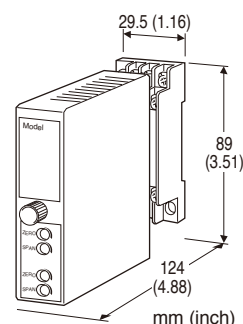
**/CE** : CE marking

**/UL** : UL approval (CE marking)

**ORDERING INFORMATION**

Specify code number and variables. If one of the outputs should be a current range, specify it for the Output 1 to allow a greater load.

- Code number (e.g. W2VF-6A6-M2/CE)
- Special input and output ranges (For codes Z & 0)


**Functions & Features**

- Converts DC input from a sensor into two standard process signals
- Isolation between input and output
- Two independent output ranges
- 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 1 to output 2 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

## ■ OUTPUTS (two)

• **DC Current:** -10 – +20mA DC

**Minimum span:** 1mA

**Offset:** Max. 1.5 times span

**Load resistance:** Output drive 15V max. for Output 1;  
7V max. for Output 2 (7V for both outputs  
for bidirectional outputs)

|                  | (Output 1) | (Output 2)           |
|------------------|------------|----------------------|
| (Range) 4 – 20mA | : 750      | 350 ( $\Omega$ max.) |
| 2 – 10mA         | : 1500     | 700                  |
| 1 – 5mA          | : 3000     | 1400                 |
| 0 – 20mA         | : 750      | 350                  |
| 0 – 16mA         | : 900      | 430                  |
| 0 – 10mA         | : 1500     | 700                  |
| 0 – 1mA          | : 15k      | 7000                 |
| -1 – +1mA        | : 7000     | 7000                 |
| -10 – +10mA      | : 700      | 700                  |

• **DC Voltage:** -10 – +12V DC (up to 10V for Output 2)

**Minimum span:** 5mV

**Offset:** Max. 1.5 times span

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

|                  |                           |
|------------------|---------------------------|
| (Range) 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. 4VA at 100V  
approx. 5VA at 200V  
approx. 6VA at 240V
- 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:** W29.5×H89×D124 mm (1.16"×3.51"×4.88")  
See General Spec. Sheet Figure A-1.

**Weight:** 200 g (0.44 lbs)

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

## PERFORMANCE in percentage of span

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

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

**Response time:** Approx. 180 microseconds (0 – 90%)

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

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

**Dielectric strength:** 2000V AC @1 minute (input or output  
1 or output 2 to power to ground)  
1000V AC @1 minute  
(input to output 1 to output 2)

## 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 1 or output 2 to power:

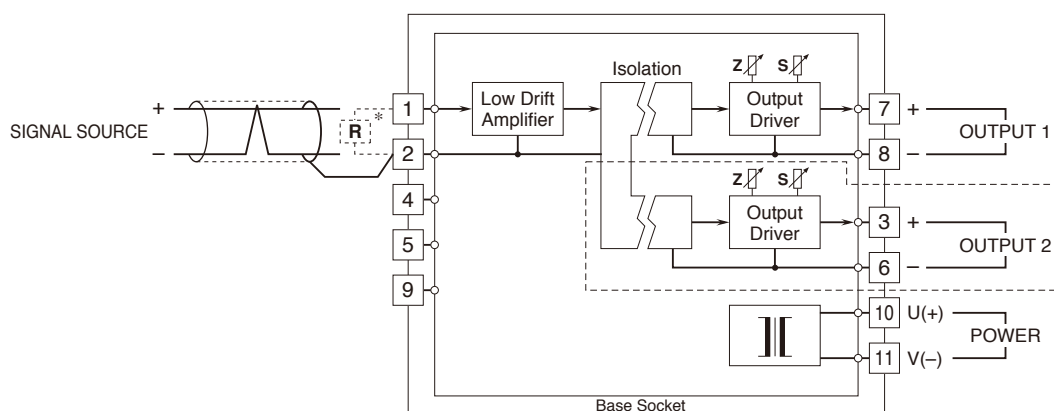
Reinforced insulation

Input to output 1 to output 2:

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)

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*Input shunt resistor attached for current input.

Remark: The section enclosed by broken line is only with 2nd output option.

The W2VF, 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.