

Space-saving Dual Output Signal Conditioners *Mini-MW Series*
SIGNAL TRANSMITTER
(high speed response; isolated)

MODEL **W2VF**
MODEL & SUFFIX CODE SELECTION

MODEL W2VF-□□□-□□

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 1

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

OUTPUT 2

Same range availability as Output 1

Y : None

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

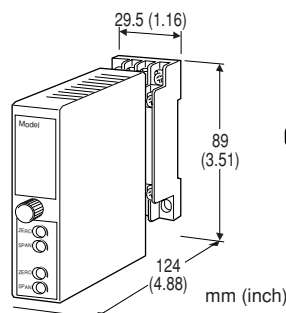
/UL : UL approval (CE marking)

ORDERING INFORMATION

Specify code number and variables. When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

• **Code number** (e.g. W2VF-6A6-M2/CE)

• **Special input and output ranges** (For codes Z & 0)

ISOLATION

CE
UL
Functions & Features

- Converting a DC input
- Two independent output ranges
- 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 1 to output 2 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

■OUTPUTS (two)

•**DC Current:** -10 – +20mA DC

Minimum span: 1mA

Zero suppression/elevation: 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	Ch.1 L.R.	Ch.2 L.R.
4 – 20mA	: 750	350 (Ω 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 Out. 2)

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 (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. 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;
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: 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 (89/336/EEC)

EMI EN61000-6-4

EMS EN61000-6-2

Low Voltage Directive (73/23/EEC)

EN61010-1

Installation category II; Pollution degree 2

Max. operating voltage 300V

Input or output 1 or output 2 to power
– Reinforced insulation

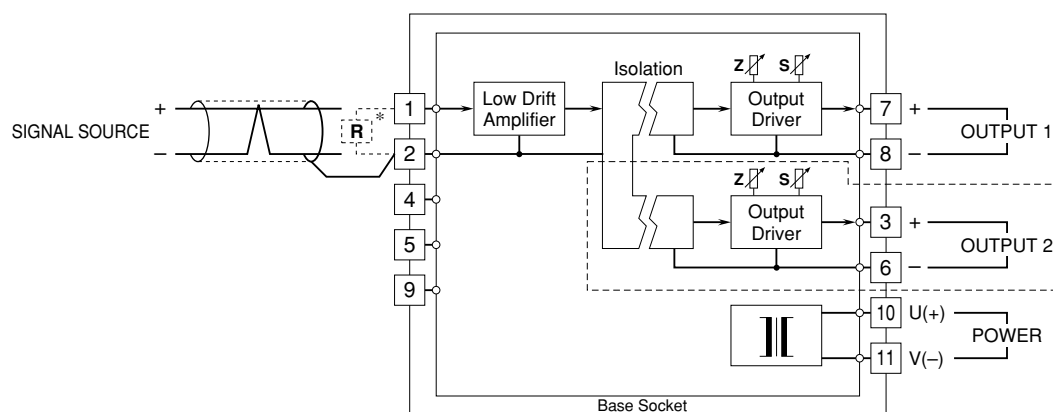
Input to output 1 to output 2

– Operational insulation

Approval: UL/C-UL nonincendive

Class I, Division 2, Groups A, B, C, and D
(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 section enclosed by broken line is only with 2nd output option.

Remark: The W2VF, due to its fast-response design, does not eliminate noises included in the input signal.
Use shielded twisted-pair cable for preventing them.