

## Dual Output Plug-in Signal Conditioners W-UNIT

### SIGNAL TRANSMITTER

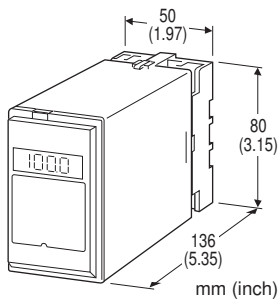
(high speed response; isolated)

#### Functions & Features

- Converting a DC input
- Two independent output ranges
- 180-microsecond response
- Universal power input
- LCD meter

#### Typical Applications

- Isolation for a vibration analyzing system



### MODEL: WVF-[1][2][3]-[4][5]

#### ORDERING INFORMATION

- Code number: WVF-[1][2][3]-[4][5]

Specify a code from below for each [1] through [5].

(e.g. WVF-6A6-M2/E/Q)

- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q

(e.g. /C01/S01)

Note: When the user requires a current and a voltage output, specify the current to be the Output 1 which allows a greater load.

#### [1] INPUT

##### Current

- A: 4 - 20 mA DC (Input resistance 250  $\Omega$ )
- B: 2 - 10 mA DC (Input resistance 500  $\Omega$ )
- C: 1 - 5 mA DC (Input resistance 1000  $\Omega$ )
- D: 0 - 20 mA DC (Input resistance 50  $\Omega$ )
- E: 0 - 16 mA DC (Input resistance 62.5  $\Omega$ )
- F: 0 - 10 mA DC (Input resistance 100  $\Omega$ )
- G: 0 - 1 mA DC (Input resistance 1000  $\Omega$ )
- H: 10 - 50 mA DC (Input resistance 100  $\Omega$ )
- GW: -1 - +1 mA DC (Input resistance 1000  $\Omega$ )
- FW: -10 - +10 mA DC (Input resistance 100  $\Omega$ )
- Z: Specify current (See INPUT SPECIFICATIONS)

##### Voltage

- 3: 0 - 1 V DC (Input resistance 1 M $\Omega$  min.)
- 4: 0 - 10 V DC (Input resistance 1 M $\Omega$  min.)
- 5: 0 - 5 V DC (Input resistance 1 M $\Omega$  min.)
- 6: 1 - 5 V DC (Input resistance 1 M $\Omega$  min.)
- 4W: -10 - +10 V DC (Input resistance 1 M $\Omega$  min.)
- 5W: -5 - +5 V DC (Input resistance 1 M $\Omega$  min.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)

#### [2] OUTPUT 1

##### Current

- A: 4 - 20 mA DC (Load resistance 600  $\Omega$  max.)
- B: 2 - 10 mA DC (Load resistance 1200  $\Omega$  max.)
- C: 1 - 5 mA DC (Load resistance 2400  $\Omega$  max.)
- D: 0 - 20 mA DC (Load resistance 600  $\Omega$  max.)
- E: 0 - 16 mA DC (Load resistance 750  $\Omega$  max.)
- F: 0 - 10 mA DC (Load resistance 1200  $\Omega$  max.)
- G: 0 - 1 mA DC (Load resistance 12 k $\Omega$  max.)
- FW: -10 - +10 mA DC (Load resistance 700  $\Omega$  max.)
- GW: -1 - +1 mA DC (Load resistance 7000  $\Omega$  max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k $\Omega$  min.)
- 2: 0 - 100 mV DC (Load resistance 100 k $\Omega$  min.)
- 3: 0 - 1 V DC (Load resistance 1000  $\Omega$  min.)
- 4: 0 - 10 V DC (Load resistance 10 k $\Omega$  min.)
- 5: 0 - 5 V DC (Load resistance 5000  $\Omega$  min.)
- 6: 1 - 5 V DC (Load resistance 5000  $\Omega$  min.)
- 4W: -10 - +10 V DC (Load resistance 10 k $\Omega$  min.)
- 5W: -5 - +5 V DC (Load resistance 5000  $\Omega$  min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

#### [3] OUTPUT 2

##### Current

- A: 4 - 20 mA DC (Load resistance 350  $\Omega$  max.)
- B: 2 - 10 mA DC (Load resistance 700  $\Omega$  max.)
- C: 1 - 5 mA DC (Load resistance 1400  $\Omega$  max.)
- D: 0 - 20 mA DC (Load resistance 350  $\Omega$  max.)
- E: 0 - 16 mA DC (Load resistance 430  $\Omega$  max.)
- F: 0 - 10 mA DC (Load resistance 700  $\Omega$  max.)
- G: 0 - 1 mA DC (Load resistance 7000  $\Omega$  max.)
- FW: -10 - +10 mA DC (Load resistance 700  $\Omega$  max.)
- GW: -1 - +1 mA DC (Load resistance 7000  $\Omega$  max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

Same range availability as Output 1

#### [4] POWER INPUT

##### AC Power

- M2: 100 - 240 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)



## DC Power

R2: 11 - 27 V DC

(Operational voltage range 11 - 27 V, ripple 10 %p-p max.)

P: 110 V DC

(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

## [5] OPTIONS (multiple selections)

### Input Signal Indicator

blank: Without

/E: With (0.0 - 100.0 % display)

### Other Options

blank: none

/Q: Option other than the above (specify the specification)

## SPECIFICATIONS OF OPTION: Q (multiple selections)

### COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

### TERMINAL SCREW MATERIAL

/S01: Stainless steel

## GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 - 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

LCD meter: Indicating input; 0.1 % increments

## INPUT SPECIFICATIONS

### DC Current:

Shunt resistor attached to the input terminals (0.5 W)

Specify input resistance value for code Z.

### DC Voltage: -300 - +300 V DC

Minimum span: 1 V

Offset: Max. 1.5 times span

Input resistance:  $\geq 1 \text{ M}\Omega$

## OUTPUT SPECIFICATIONS

### DC Current: -10 - +20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 12 V max. for Output 1; 7 V max. for Output 2 (7 V for both outputs for bidirectional outputs)

### DC Voltage: -10 - +12 V DC (up to 10 V for Output 2)

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 1 mA max.; at  $\geq 0.5 \text{ V}$

## INSTALLATION

### Power Consumption

#### •AC:

Approx. 4 VA at 100 V

Approx. 5 VA at 200 V

Approx. 6 VA at 240 V

#### •DC: Approx. 3 W

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

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

Mounting: Surface or DIN rail

Weight: 400 g (0.88 lb)

## PERFORMANCE in percentage of span

Accuracy:  $\pm 0.1 \%$

Display accuracy:  $\pm(0.1 \%$  of FS + 1 digit)

Temp. coefficient:  $\pm 0.015 \%$ /°C ( $\pm 0.008 \%$ /°F)

Response time:  $\leq 180 \mu\text{sec}$ . (0 - 90 %)

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

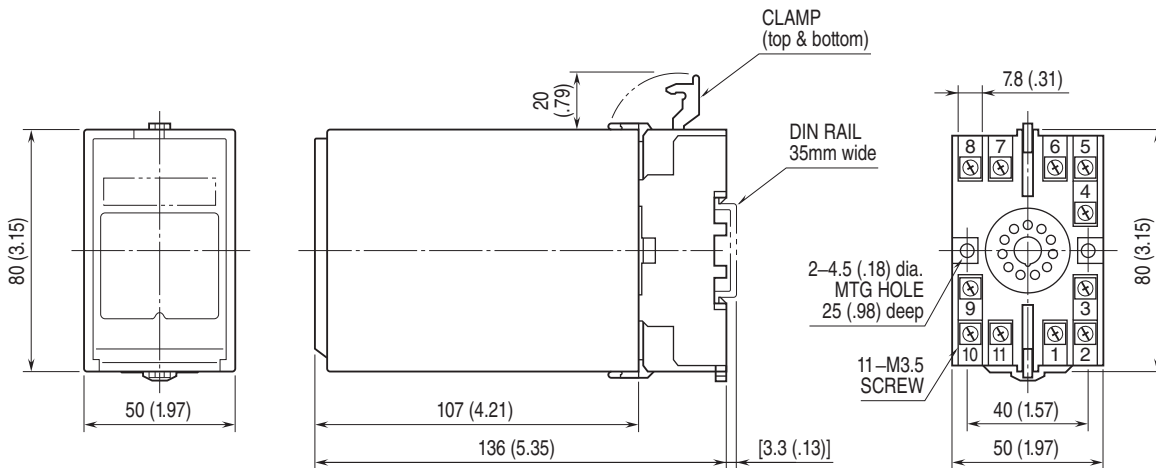
Insulation resistance:  $\geq 100 \text{ M}\Omega$  with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input or output1 or output 2 to power to ground)

1000 V AC @1 minute (input to output 1 to output 2)

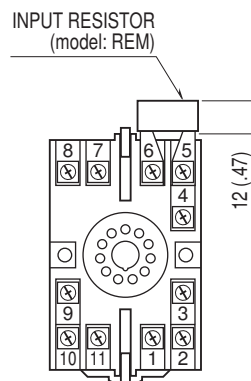


## DIMENSIONS unit: mm (inch)



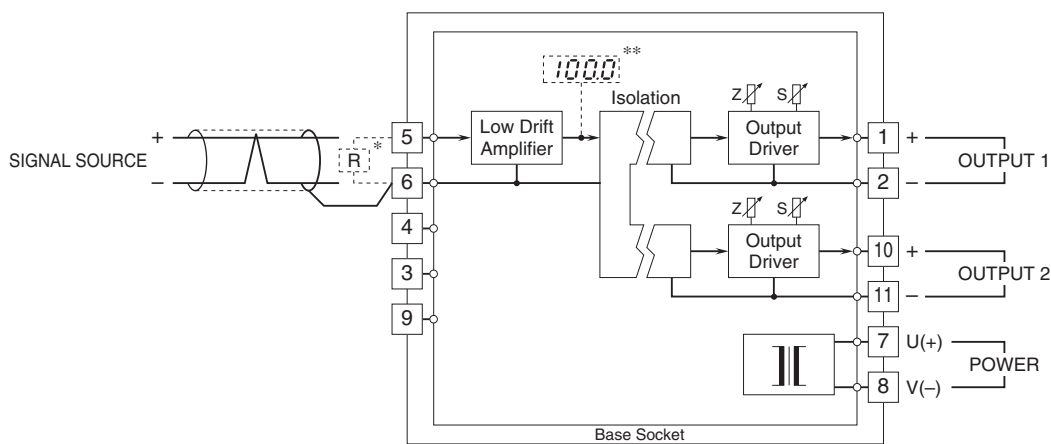
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\* Input shunt resistor attached for current input.

\*\* Option /E

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



Specifications are subject to change without notice.

