

Space-saving Dual Output Signal Conditioners Mini-MW Series

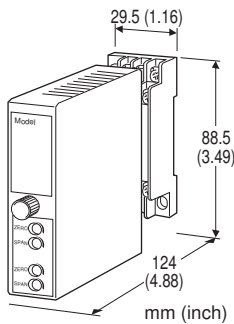
ABSOLUTE VALUE OUTPUT TRANSMITTER

Functions & Features

- Converts polarized DC input into standard process signals proportional to absolute value of input.
- Two independent output ranges
- Fast response type available

Typical Applications

- Monitor rotation speed of a machine rotating forward and reverse
- Monitor a deviation between SV and PV



MODEL: W2VABS-[1][2][3]-[4][5]

ORDERING INFORMATION

- Code number: W2VABS-[1][2][3]-[4][5]
Specify a code from below for each of [1] through [5].
(e.g. W2VABS-2W11-M2/K/N/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

- DW:** -20 - 0 - +20 mA DC (Input resistance 50 Ω)
EW: -16 - 0 - +16 mA DC (Input resistance 62.5 Ω)
FW: -10 - 0 - +10 mA DC (Input resistance 100 Ω)
GW: -1 - 0 - +1 mA DC (Input resistance 1000 Ω)
KW: -100 - 0 - +100 μA DC (Input resistance 1000 Ω)
Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 15W:** -50 - 0 - +50 mV DC (Input resistance 10 kΩ min.)

- 16W:** -60 - 0 - +60 mV DC (Input resistance 10 kΩ min.)
2W: -100 - 0 - +100 mV DC (Input resistance 100 kΩ min.)
3W: -1 - 0 - +1 V DC (Input resistance 1 MΩ min.)
4W: -10 - 0 - +10 V DC (Input resistance 1 MΩ min.)
5W: -5 - 0 - +5 V DC (Input resistance 1 MΩ min.)
0: Specify voltage (See INPUT SPECIFICATIONS)

[2] OUTPUT 1

Current

- A:** 4 - 20 mA DC (Load resistance 750 Ω max.)
B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
C: 1 - 5 mA DC (Load resistance 3000 Ω max.)
D: 0 - 20 mA DC (Load resistance 750 Ω max.)
E: 0 - 16 mA DC (Load resistance 900 Ω max.)
F: 0 - 10 mA DC (Load resistance 1500 Ω max.)
G: 0 - 1 mA DC (Load resistance 15 kΩ max.)
Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1:** 0 - 10 mV DC (Load resistance 10 kΩ min.)
2: 0 - 100 mV DC (Load resistance 100 kΩ min.)
3: 0 - 1 V DC (Load resistance 1000 Ω min.)
4: 0 - 10 V DC (Load resistance 10 kΩ min.)
5: 0 - 5 V DC (Load resistance 5000 Ω min.)
6: 1 - 5 V DC (Load resistance 5000 Ω min.)
0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] OUTPUT 2

Y: None

Current

- A:** 4 - 20 mA DC (Load resistance 350 Ω max.)
B: 2 - 10 mA DC (Load resistance 700 Ω max.)
C: 1 - 5 mA DC (Load resistance 1400 Ω max.)
D: 0 - 20 mA DC (Load resistance 350 Ω max.)
E: 0 - 16 mA DC (Load resistance 430 Ω max.)
F: 0 - 10 mA DC (Load resistance 700 Ω max.)
G: 0 - 1 mA DC (Load resistance 7000 Ω 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

- R:** 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
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)

Response Time (0 - 90 %)

blank: Standard (≤ 0.5 sec.)

/K: Fast Response (Approx. 25 msec.)

Standards & Approvals (must be specified)

/N: Without CE

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 screw terminals (torque 0.8 N·m)

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

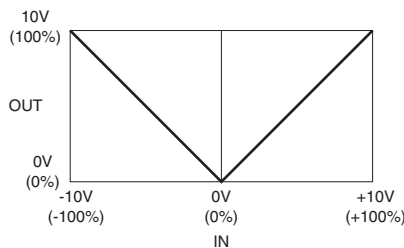
Isolation: Input to output 1 to output 2 to power

Overrange output: 0 to 120 % (approx.) at 1 - 5 V

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

Span adjustment: 95 to 105 % (front)

Adjustable individually for each output 1 and output 2.



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: 50 mV

Input 0 % corresponds 0 mA or 0 V.

Absolute value at ± 100 % of input corresponds same value.

• Input resistance

Span 50 - 100 mV : ≥ 10 k Ω

Span 0.1 - 1 V : ≥ 100 k Ω

Span ≥ 1 V : ≥ 1 M Ω

The span is the difference between 100 % and 0 % inputs.

OUTPUT SPECIFICATIONS

■ DC Current: 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 15 V max. for Output 1;

7 V max. for Output 2

■ 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 ≥ 0.5 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: 200 g (0.44 lb)

PERFORMANCE in percentage of span

Accuracy: ± 0.1 %

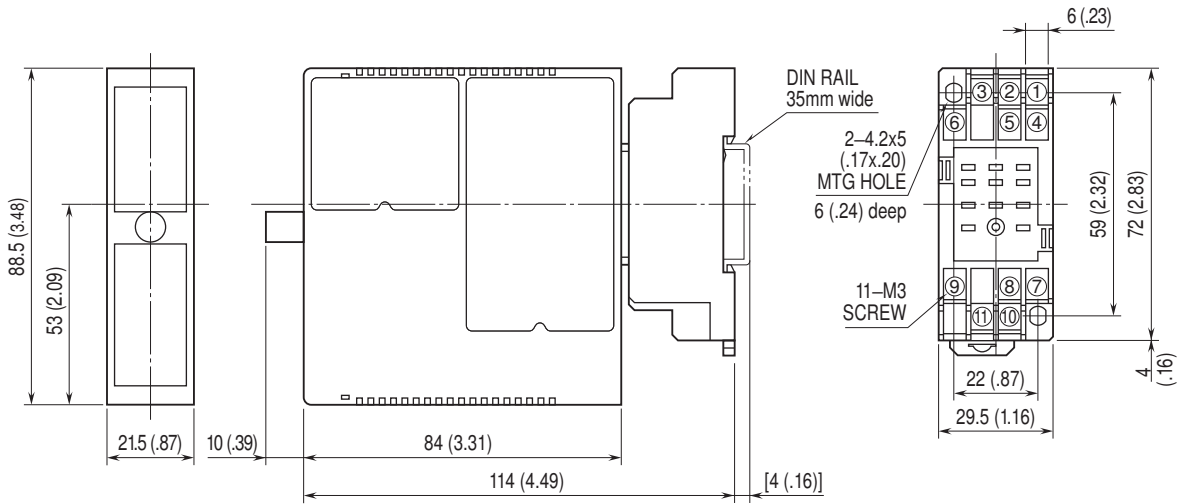
Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F)

Line voltage effect: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

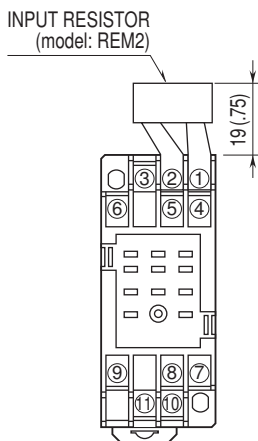
Dielectric strength: 2000 V AC @1 minute (input to output 1 to output 2 to power to ground)

EXTERNAL DIMENSIONS unit: mm (inch)



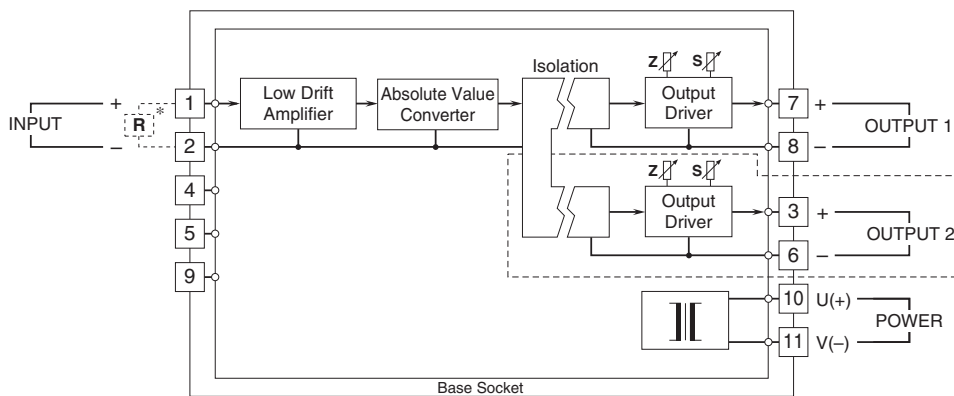
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor attached for current input.

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



Specifications are subject to change without notice.