

Plug-in Signal Conditioners M-UNIT

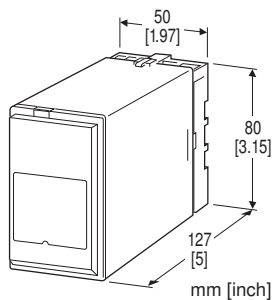
SIGNAL JUMP-UP CONVERTOR

Functions & Features

- Resonance circuit
- With trip point hysteresis
- I/O dielectric strength 2000 V AC
- DC isolation between inputs and outputs

Typical Applications

- Resonance circuit for vibrations resulting from control



MODEL: MZS-1[1][2]-[3][4]

ORDERING INFORMATION

- Code number: MZS-1[1][2]-[3][4]

Specify a code from below for each of [1] through [4].

- (e.g. MZS-16A-B/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

JUMP DIRECTION

- 1: Upwards

[1] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)

Voltage

- 6: 1 - 5 V DC (Input resistance 100 kΩ min.)

[2] OUTPUT

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 100 Ω min.)
- 4: 0 - 10 V DC (Load resistance 1000 Ω min.)
- 5: 0 - 5 V DC (Load resistance 500 Ω min.)
- 6: 1 - 5 V DC (Load resistance 500 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] POWER INPUT

AC Power

- B: 100 V AC
 - C: 110 V AC
 - D: 115 V AC
 - F: 120 V AC
 - G: 200 V AC
 - H: 220 V AC
 - J: 240 V AC
- DC Power
- S: 12 V DC
 - R: 24 V DC
 - V: 48 V DC

[4] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our 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 to power

Overrange output: Approx. -5 to +110 % at 1 - 5 V

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

Span adjustment: 95 to 105 % (front)

Jump up range: 10 - 100%

Hysteresis (deadband): Approx. 3%

INPUT SPECIFICATIONS

■ DC Current:

Shunt resistor attached to the input terminals (0.5 W)

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.

■ DC Voltage: -10 - +12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at ≥ 0.5 V

INSTALLATION

Power input

• **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2 VA

• **DC:** Operational voltage range: rating ± 10 %, ripple 10 %p-p max., approx. 2 W (80 mA at 24 V)

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: ± 0.1 %

Temp. coefficient: ± 0.05 %/°C (± 0.03 %/°F)

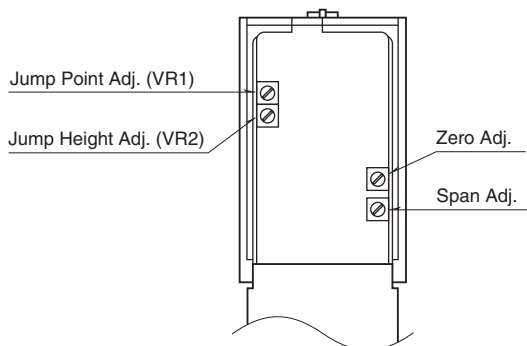
Response time: ≤ 0.5 sec. (0 - 90 %)

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 to power to ground)

EXTERNAL VIEW

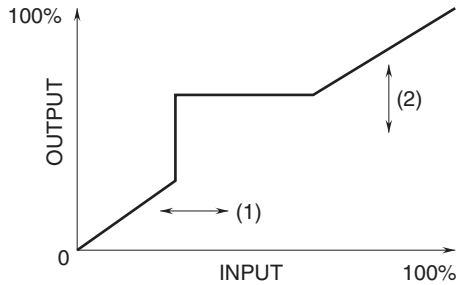


• Explanations

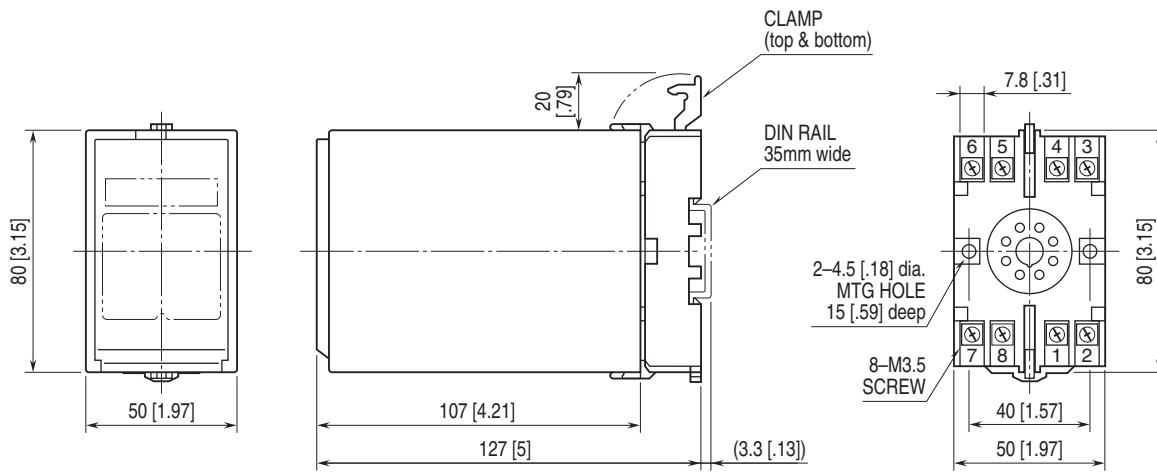
Use the Jump Point Adj. to set the jump point (1).
 Use the Jump Height Adj. to set the jump height (2).

• Settings

Turning the Adj. clockwise moves the jump point/height toward 100%.
 Turning the Adj. counterclockwise moves the jump point/height toward 0%.
 The hysteresis of the jump-up point is approx. 3%.

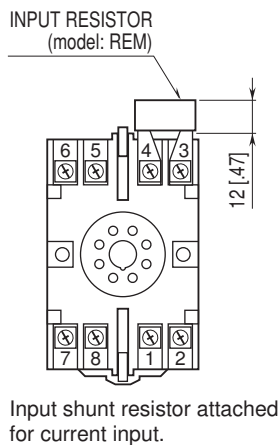


EXTERNAL DIMENSIONS unit: mm [inch]

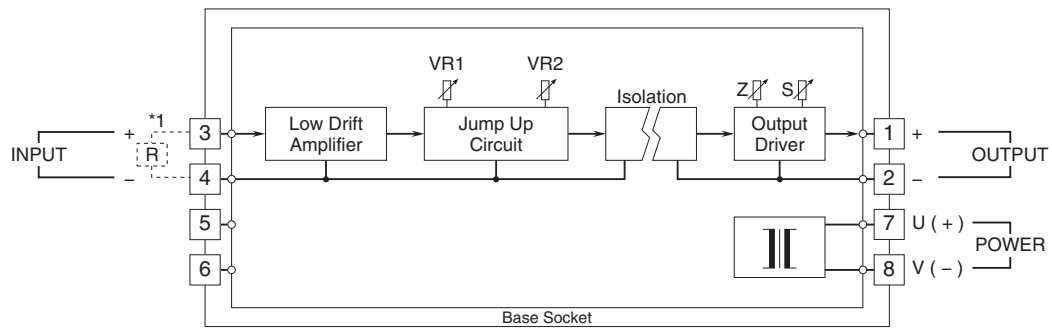


• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm [inch]



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*1. Input shunt resistor (R) attached for current input.



Specifications are subject to change without notice.