

## Plug-in Signal Conditioners M-UNIT

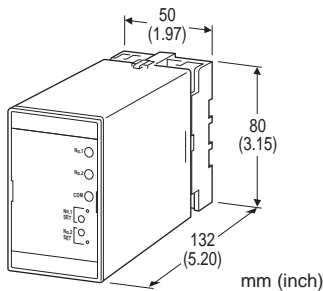
### DEVIATION ALARM

#### Functions & Features

- Providing relay contact closures at preset deviations of two DC input levels
- Dual (Hi/Lo) trip
- Energized or de-energized coil at tripped conditions selectable
- Multi-turn screwdriver setpoint adjustments
- Monitor jacks provided for setpoint adjustments
- Enclosed relays
- Relays can be powered 110 V DC
- Isolation up to 2000 V AC
- High-density mounting

#### Typical Applications

- Annunciator
- Various alarm applications



### MODEL: AYDV-6[1][2][3]-[4][5]

#### ORDERING INFORMATION

- Code number: AYDV-6[1][2][3]-[4][5]  
Specify a code from below for each [1] through [5].  
(e.g. AYDV-6622-B/Q)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### INPUT 2 (reference)

##### Voltage

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

#### [1] INPUT 1 (measured signal)

##### Current

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

H: 10 - 50 mA DC (Input resistance 100 Ω)

##### Voltage

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

#### [2] OUTPUT 1

1: Relay;

SPDT or transfer contact coil energized with deviation > setpoint

2: Relay;

SPDT or transfer contact coil de-energized with deviation > setpoint

#### [3] OUTPUT 2

1: Relay;

SPDT or transfer contact coil energized with deviation > setpoint

2: Relay;

SPDT or transfer contact coil de-energized with deviation > setpoint

#### [4] 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

P: 110 V DC

#### [5] OPTIONS

/Q: With options (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 to power

**Setpoint adjustments:** Multi-turn screwdriver adjustments (front); -50 - +50 % independently; deviation = input 1 (meas.) - input 2 (ref.)

**Monitor jacks:** Output -5 - +5 V for -50 - +50 % setpoints

**Hysteresis (deadband):** 0.2 ± 0.1 %



Front LEDs: Red lights turn on when the coils are energized.

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 to output to power to ground)

## INPUT SPECIFICATIONS

### ■ Input 1 (measured signal)

- DC Current: shunt resistor attached to input terminals (0.5 W)

## OUTPUT SPECIFICATIONS

### ■ Relay Contact:

- 100 V AC @ 1 A ( $\cos \phi = 1$ )
- 120 V AC @ 1 A ( $\cos \phi = 1$ )
- 240 V AC @ 0.5 A ( $\cos \phi = 1$ )
- 30 V DC @ 1 A (resistive load)

Maximum switching voltage: 380 V AC or 125 V DC

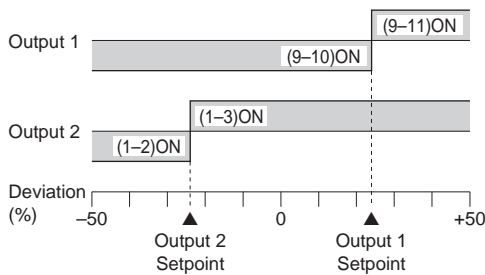
Maximum switching power: 120 VA or 30 W

Minimum load: 5 V DC @ 10 mA

Mechanical life:  $5 \times 10^7$  cycles

For maximum relay life with inductive loads, external protection is recommended.

### Alarm Trip Operation Terminal No. in parentheses



### Trip Operation in Power Failure

- Output 1: (9 - 10) turn ON with code 1  
(9 - 11) turn ON with code 2
- Output 2: (1 - 2) turn ON with code 1  
(1 - 3) turn ON with code 2

## INSTALLATION

### Power input

- AC: Operational voltage range: rating  $\pm 10\%$ , 50/60  $\pm 2$  Hz, approx. 2 VA
- DC: Operational voltage range: rating  $\pm 10\%$ , or 85 - 150 V for 110 V rating (ripple 10 % p-p max.)  
Approx. 2 W (80 mA at 24 V)

Operating temperature: -5 to +60°C (23 to 140°F)

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

Mounting: Surface or DIN rail

Weight: 400 g (0.88 lbs)

## PERFORMANCE in percentage of span

Setpoint monitor accuracy:  $\pm 0.5\%$

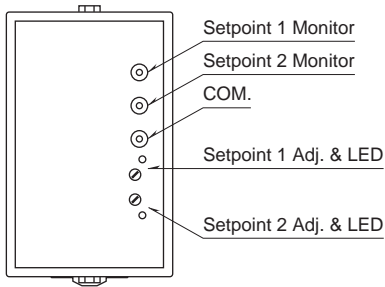
Trip point repeatability:  $\pm 0.05\%$

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

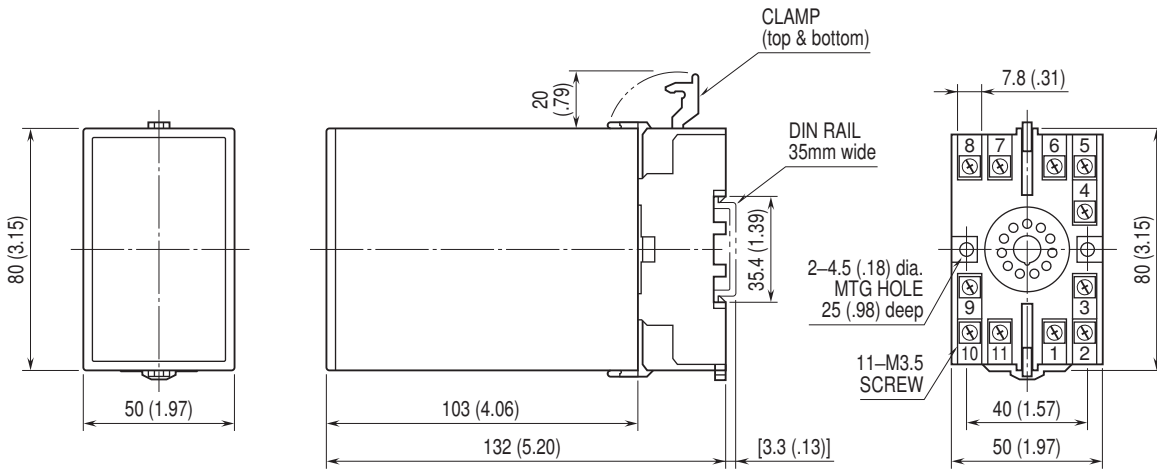
Response time:  $\leq 0.5$  sec. (0 - 100 % at 90 % setpoint)



## EXTERNAL VIEW

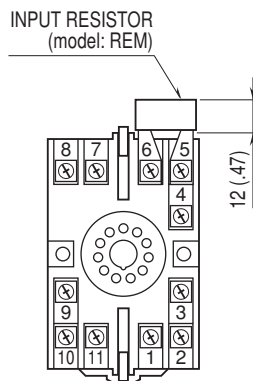


## DIMENSIONS unit: mm (inch)



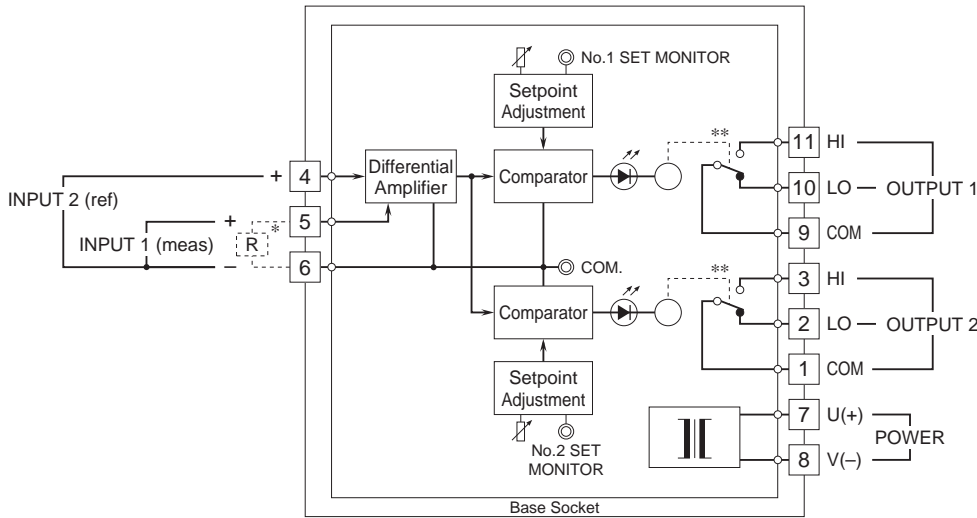
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm (inch)



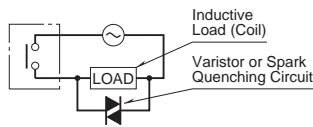
Input shunt resistor attached for current input.

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

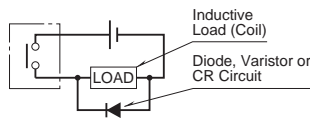


\* Input shunt resistor attached for current input.  
 \*\* Relay status for output code "1", at power OFF.

**Relay Protection**  
**AC Powered**



**DC Powered**



Specifications are subject to change without notice.

