

Plug-in Signal Conditioners M-UNIT

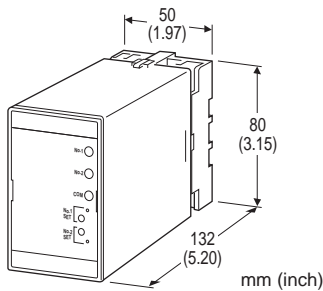
DC ALARM

Functions & Features

- Providing relay contact closures at preset DC input levels
- Dual (Hi/Lo) trip
- Energized or deenergized 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: AYAV-[1][2][3]-[4][5]

ORDERING INFORMATION

- Code number: AYAV-[1][2][3]-[4][5]
Specify a code from below for each [1] through [5].
(e.g. AYAV-612-B/Q)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

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 M Ω min.)

[2] OUTPUT 1

- 1: Relay; SPDT or transfer contact
(coil energized with input > setpoint)
2: Relay; SPDT or transfer contact
(coil de-energized with input > setpoint)

[3] OUTPUT 2

- 1: Relay; SPDT or transfer contact
(coil energized with input > setpoint)
2: Relay; SPDT or transfer contact
(coil de-energized with input > 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

- blank: none
/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); 0 - 100 % independently

Setpoint monitor: Output 0 - 10 V for 0 - 100 % setpoints

Monitor jack diameter: 2 mm (.08")

Hysteresis (deadband): 0.2 \pm 0.1 %

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

INPUT SPECIFICATIONS

■ DC Current:

Shunt resistor attached to the input terminals (0.5 W)

OUTPUT SPECIFICATIONS

■ Relay Contact:

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

Maximum switching voltage: 380 V AC or 125 V DC

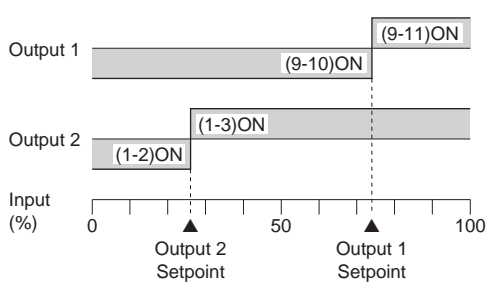
Maximum switching power: 120 VA or 30 W

Minimum load: 5 V DC @ 10 mA

Mechanical life: 5×10^7 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 ± 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. 1.3 W (50 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 lb)

PERFORMANCE in percentage of span

Setpoint monitor accuracy: $\pm 0.5\%$

Trip point repeatability: $\pm 0.05\%$

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

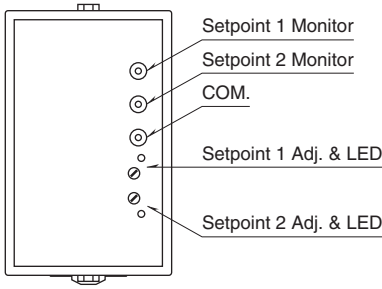
Response time: ≤ 0.5 sec. (0 – 100 % at 90 % setpoint)

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

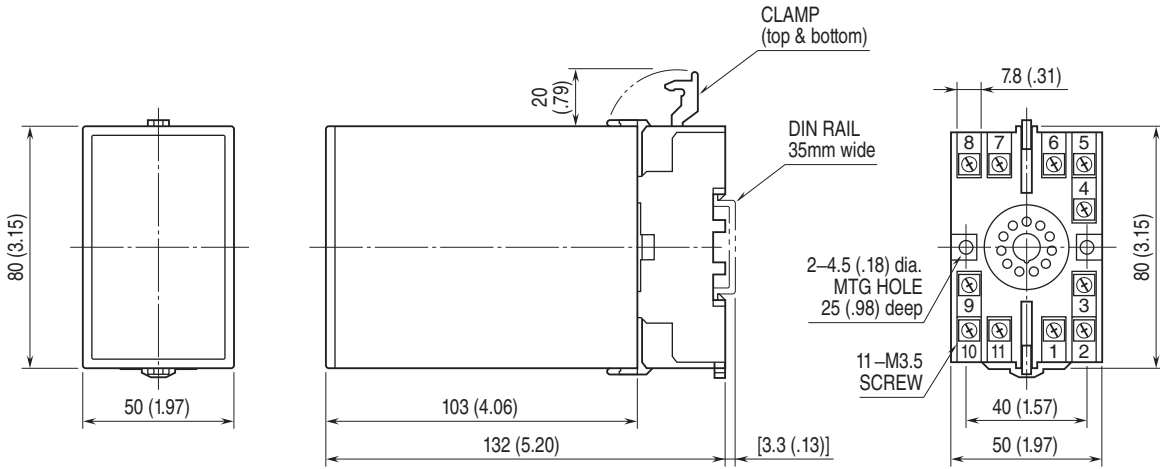
Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

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

EXTERNAL VIEW

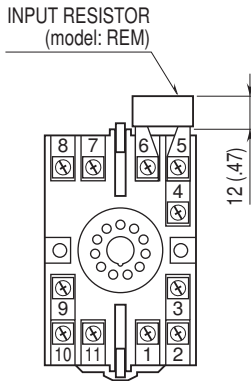


EXTERNAL DIMENSIONS unit: mm (inch)



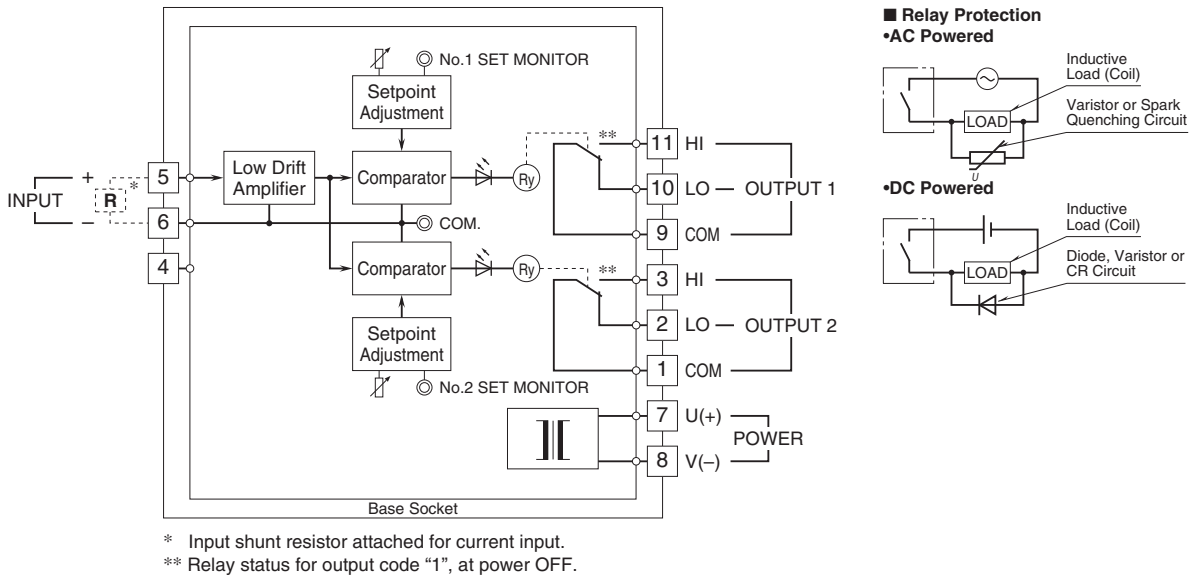
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.