Plug-in Signal Conditioners M-UNIT

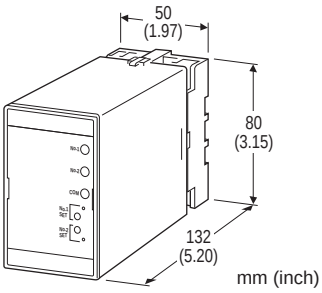
DC ALARM

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 MΩ 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

/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
Hysteresis (deadband): 0.2 ± 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)

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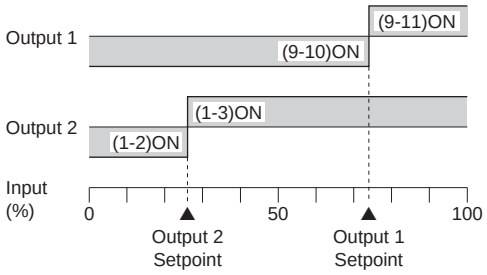
OUTPUT SPECIFICATIONS

■ **Relay Contact**:
100 V AC @ 1 A (cos ø = 1)
120 V AC @ 1 A (cos ø = 1)
240 V AC @ 0.5 A (cos ø = 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 x 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 ±10 %, 50/60 ±2 Hz, approx. 2 VA
•**DC**: Operational voltage range: rating ±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: ± 0.5 %
Trip point repeatability: ±0.05 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: ≤ 0.5 sec. (0 – 100 % at 90 % setpoint)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

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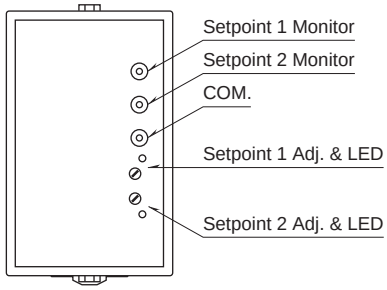
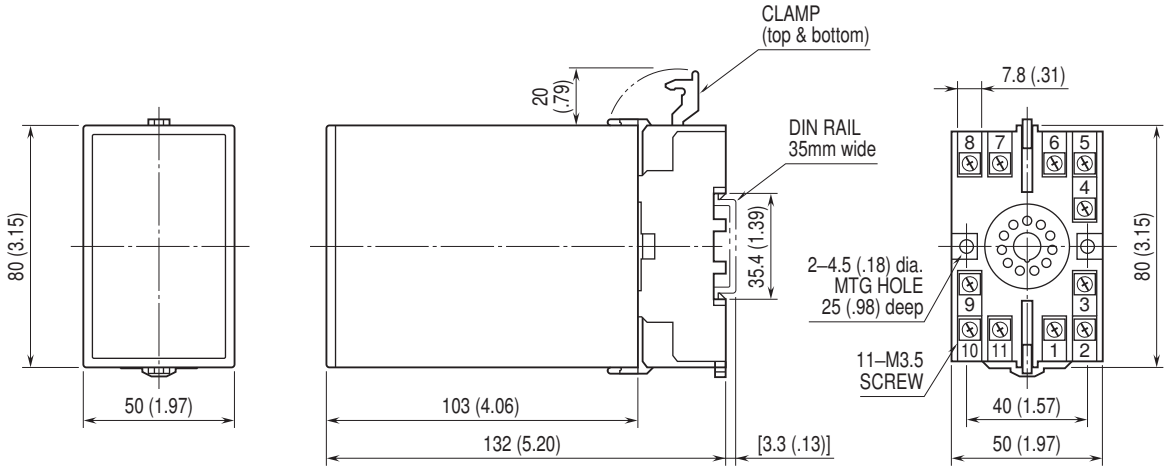
EXTERNAL VIEW

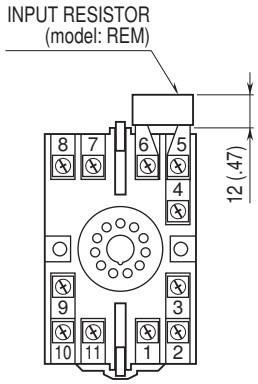


DIMENSIONS unit: mm (inch)



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

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached
for current input.

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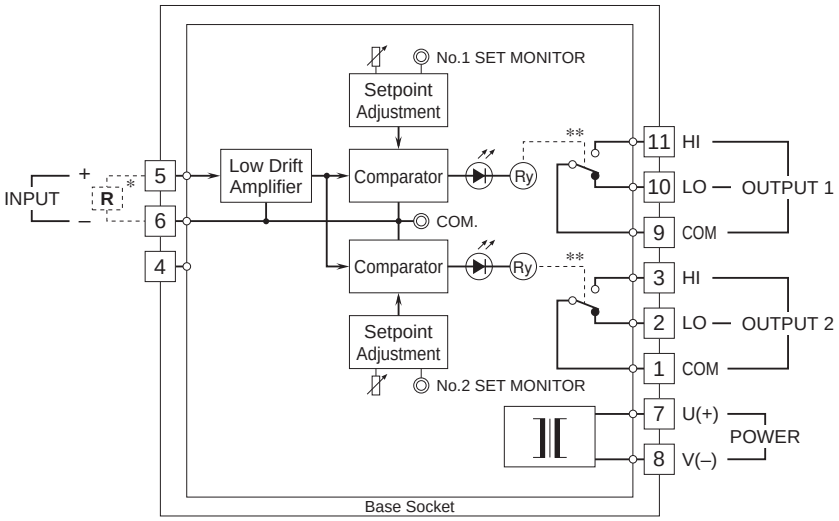
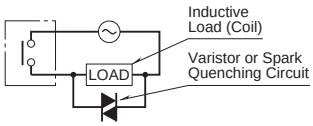
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



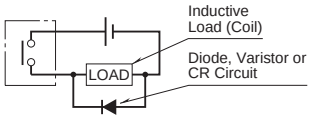
* Input shunt resistor attached for current input.
** Relay status for output code “1”, at power OFF.

■**Relay Protection**

•**AC Powered**



•**DC Powered**



⚠ Specifications are subject to change without notice.

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