

Limit Alarms (potentiometer adj.) A-UNIT

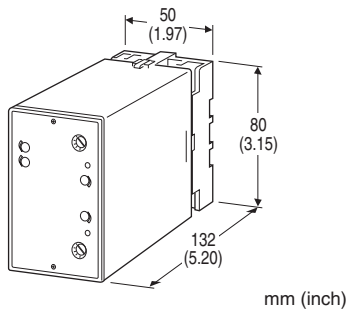
AC ALARM

Functions & Features

- Providing SPDT relay outputs at preset AC current/voltage levels
- True RMS sensing
- Dual (Hi/Lo) trip
- Energized or de-energized coil at a tripped condition selectable
- Deadband (hysteresis) adjustable
- Enclosed relays
- Relays can be powered 110 V DC
- High-density mounting

Typical Applications

- Annunciator
- Various alarm applications



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

ORDERING INFORMATION

- Code number: AAC-[1][2][3]-[4][5]
- Specify a code from below for each of [1] through [5].
(e.g. AAC-AA111-B/Q)
- Special input range (For codes AZ & A8)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

Current

- AA:** 0 - 10 mA AC (Input resistance 100 Ω)
- AB:** 0 - 50 mA AC (Input resistance 20 Ω)
- AC:** 0 - 100 mA AC (Input resistance 10 Ω)
- AD:** 0 - 500 mA AC (Input resistance 1 Ω)
- AZ:** Specify current (See INPUT SPECIFICATIONS)
(0 % input must be 0 mA.)

Voltage

- A1:** 0 - 100 mV AC (Input resistance 100 kΩ min.)

- A2:** 0 - 500 mV AC (Input resistance 100 kΩ min.)
- A3:** 0 - 1 V AC (Input resistance 100 kΩ min.)
- A4:** 0 - 5 V AC (Input resistance 100 kΩ min.)
- A5:** 0 - 10 V AC (Input resistance 100 kΩ min.)
- A6:** 0 - 120 V AC (Input resistance 100 kΩ min.)
- A7:** 0 - 150 V AC (Input resistance 100 kΩ min.)
- A8:** Specify voltage (See INPUT SPECIFICATIONS)
(0 % input must be 0 V.)

SETPOINT ADJUSTMENTS

1: Single-turn screws

[2] SETPOINT 1 OUTPUT

- 1: Hi (coil energized at alarm)
- 2: Hi (coil de-energized at alarm)
- 3: Lo (coil energized at alarm)
- 4: Lo (coil de-energized at alarm)

[3] SETPOINT 2 OUTPUT

- 1: Hi (coil energized at alarm)
- 2: Hi (coil de-energized at alarm)
- 3: Lo (coil energized at alarm)
- 4: Lo (coil de-energized at alarm)

[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 1 to output 2 to power
Input waveform: Up to 15 % of 3rd harmonic content
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)
Setpoint adjustments: 270°-turn screwdriver adjustments (front); 0 - 100 % independently
Hysteresis (deadband) adjustments: 1 - 100 % (front)
Front LEDs: LED turns on at a tripped condition; red for output 1, green for output 2
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

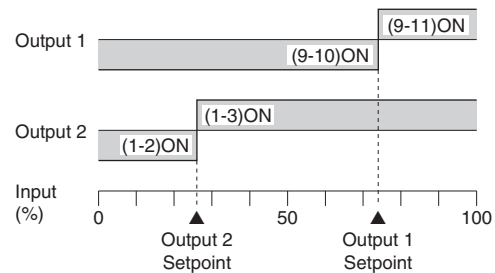
INPUT SPECIFICATIONS

Frequency: 40 Hz min., 1 kHz max.
■ AC Current: 0 - 1 A AC; input resistor incorporated
Minimum span: 1 mA
Input resistance
 Span 1 mA: 1 kΩ
 Span ≤ 2 mA: 500 Ω
 Span ≤ 5 mA: 200 Ω
 Span ≤ 10 mA: 100 Ω
 Span ≤ 20 mA: 50 Ω
 Span ≤ 50 mA: 20 Ω
 Span ≤ 100 mA: 10 Ω
 Span ≤ 500 mA: 1 Ω
 Span ≤ 1 A: 0.5 Ω
■ AC Voltage: 0 - 250 V AC
Minimum span: 50 mV
Input resistance: 100 kΩ min.

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 x 10⁷ 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 Code: 1 & 4:** Terminals 1 - 2, 9 - 10 turn ON
- **Output Code: 2 & 3:** Terminals 1 - 3, 9 - 11 turn ON

INSTALLATION

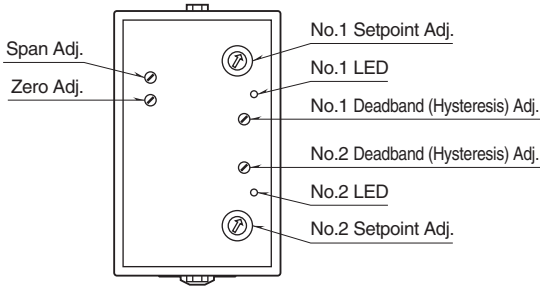
Power input

- **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: 450 g (0.99 lb)

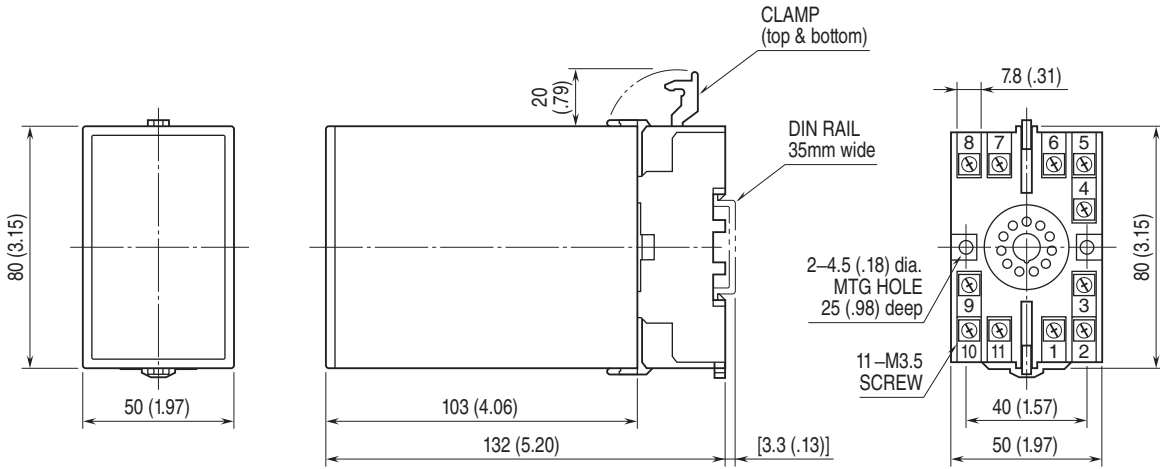
PERFORMANCE in percentage of span

Trip point repeatability: ± 0.5 %
Temp. coefficient: ± 0.05 %/°C (± 0.03 %/°F)
Response time: ≤ 0.7 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 1 to output 2 to power to ground)

EXTERNAL VIEW

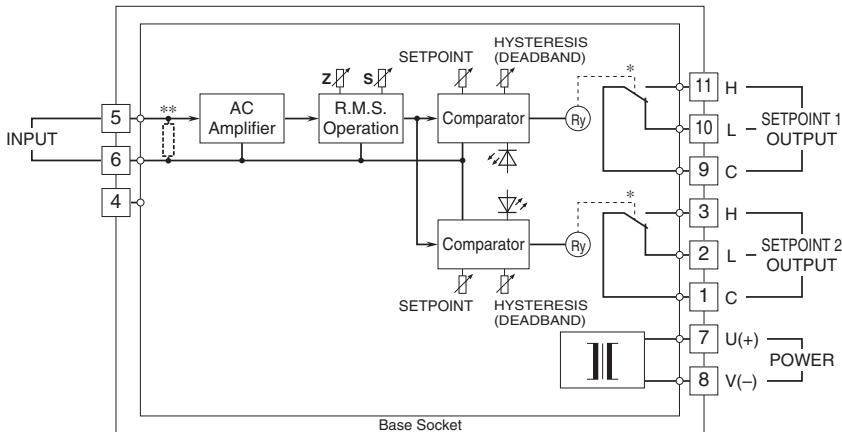


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

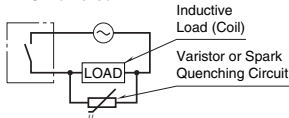
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



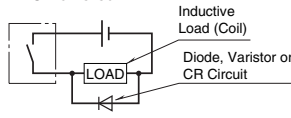
* Relay status for output codes "1" & "4", at power OFF.
**Input resistor incorporated for current input.

■ Relay Protection

• AC Powered



• DC Powered





Specifications are subject to change without notice.