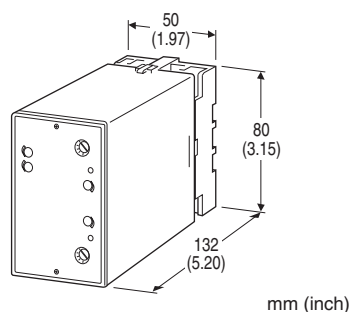


Limit Alarms (potentiometer adj.) A-UNIT**AC ALARM****Functions & Features**

- 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

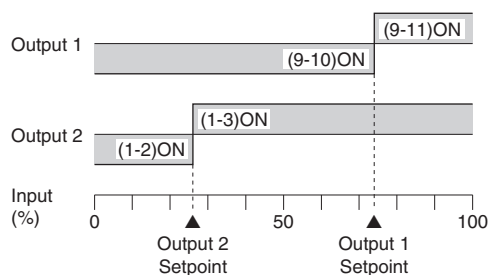
- /S01: Stainless steel

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 k Ω Span $\leq$ 2 mA: 500 Ω Span $\leq$ 5 mA: 200 Ω Span $\leq$ 10 mA: 100 Ω Span $\leq$ 20 mA: 50 Ω Span $\leq$ 50 mA: 20 Ω Span $\leq$ 100 mA: 10 Ω Span $\leq$ 500 mA: 1 Ω Span $\leq$ 1 A: 0.5 Ω **■ AC Voltage:** 0 – 250 V AC**Minimum span:** 50 mV**Input resistance:** 100 k Ω 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:** 5×10^7 cycles

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

Alarm Trip Operation Terminal No. in parentheses**Trip Operation in Power Failure**

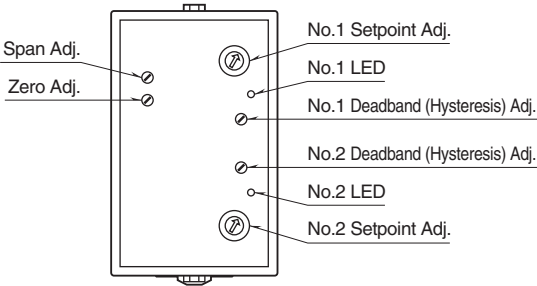
- **Output Code: 1 & 4:** Terminals 1 – 2, 9 – 10 turn ON
- **Output Code: 2 & 3:** Terminals 1 – 3, 9 – 11 turn ON

INSTALLATION**Power input**

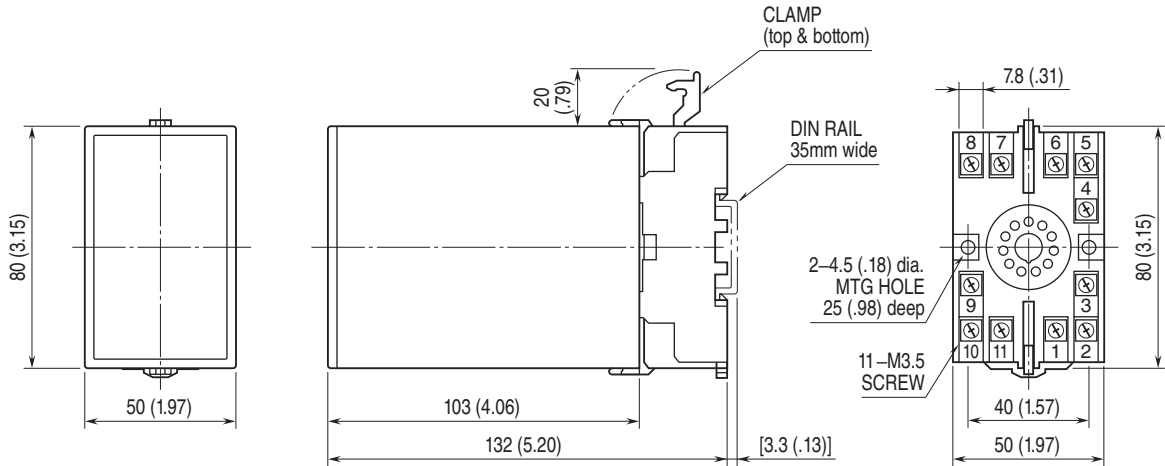
- **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2 VA
- **DC:** Operational voltage range: rating ± 10 %, or 85 – 150 V for 110 V rating (ripple 10 % p-p max.) approx. 2 W (80 mA at 24 V)

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 M Ω with 500 V DC**Dielectric strength:** 2000 V AC @1 minute (input to output 1 to output 2 to power to ground)

EXTERNAL VIEW

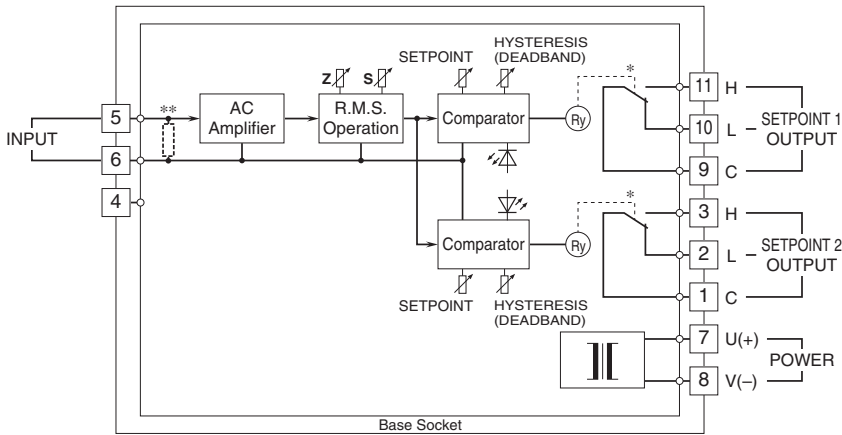


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

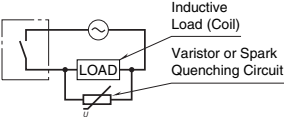
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



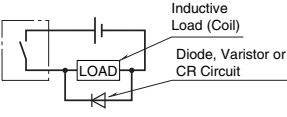
* Relay status for output codes "1" & "4", at power OFF.
**Input resistor incorporated for current input.

■ Relay Protection

• AC Powered



• DC Powered





Specifications are subject to change without notice.