

Limit Alarms (potentiometer adj.) A-UNIT

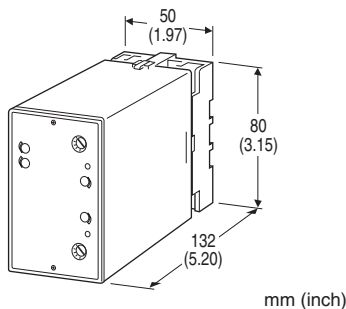
RTD ALARM

Functions & Features

- Providing SPDT relay outputs at preset input levels
- Direct input from an RTD
- Dual (Hi/Lo) trip
- Linearization
- Burnout protection
- "Active bridge" circuit containing two constant current sources allows large leadwire resistances up to 200 Ω
- Energized or de-energized coil at a tripped condition selectable
- Hysteresis (deadband) adjustable
- Enclosed relays
- Relays can be powered 110 V DC
- High-density mounting

Typical Applications

- Annunciator
- Various alarm applications



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

ORDERING INFORMATION

- Code number: ARB-[1]1[2][3]-[4][5]
- Specify a code from below for each [1] through [5].
(e.g. ARB-1111-B/BL)
- Temperature range (e.g. 0 - 200°C)

[1] INPUT RTD (2- or 3-wire)

- 1:** JPt 100 (JIS'89)
(Usable range: -200 to +500°C, -328 to +932°F; min.span: 50°C, 90°F)
- 3:** Pt 100 (JIS'89)
(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 50°C, 90°F)
- 4:** Pt 100 (JIS'97, IEC)
(Usable range: -200 to +650°C, -328 to +1202°F; min.span: 50°C, 90°F)
- 5:** Pt 50 Ω (JIS'81)
(Usable range: -200 to +500°C, -328 to +932°F; min.span: 100°C, 180°F)

6: Ni 508.4 Ω

(Usable range: -50 to +200°C, -58 to +392°F; min.span: 30°C, 54°F)

0: Specify

Note: Consult M-System for 2-wire RTD

[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

Burnout

- blank:** Upscale burnout
/BL: Downscale burnout



GENERAL SPECIFICATIONS

Construction: Plug-in
Connection: M3.5 screw terminals
Housing material: Flame-resistant resin (black)
Isolation: Input to output 1 to output 2 to power
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)
Linearization: Standard
Front LEDs: Lights turn 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.

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 lbs)

PERFORMANCE in percentage of span

Trip point repeatability: ±0.5 %
Temp. coefficient: ±0.05 %/°C (±0.03 %/°F)
Response time: ≤ 0.5 sec. (0 - 100 % at 90 % setpoint)
Burnout response: ≤ 10 sec.
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)

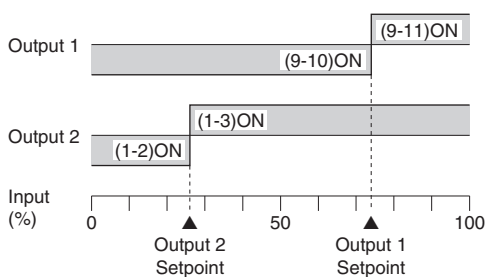
INPUT SPECIFICATIONS

Maximum leadwire resistance: 200 Ω per wire (3-wire)
Sensing current: 2 mA

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 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

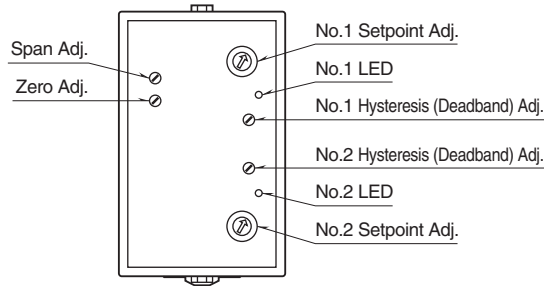
INSTALLATION

Power input

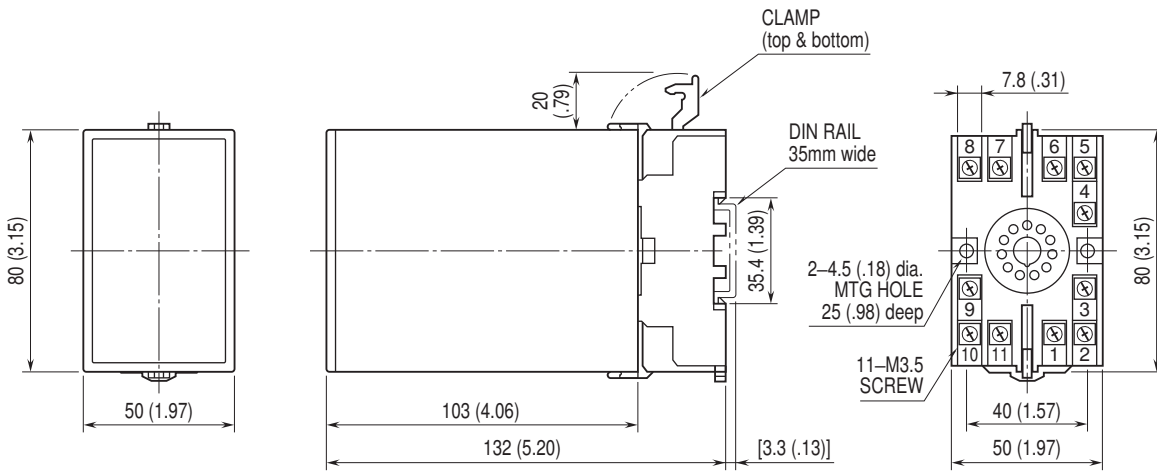
- **AC:** Operational voltage range: rating ±10 %, 50/60 ±2 Hz, approx. 2 VA
- **DC:** Operational voltage range: rating ±10 %, or 85 - 150 V



EXTERNAL VIEW

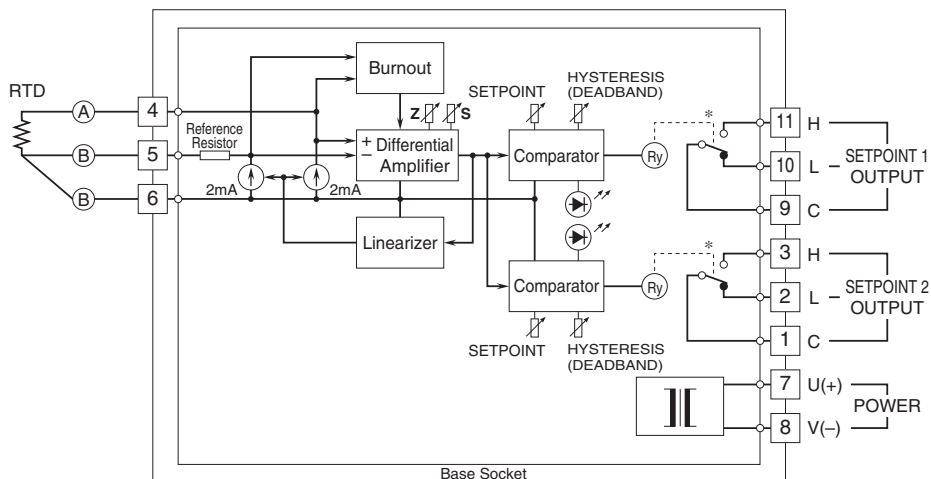


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



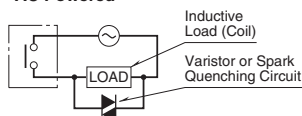
• When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

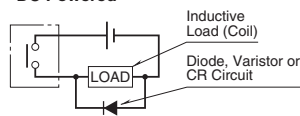


*Relay status for output codes "1" & "4", at power OFF.

■ Relay Protection
• AC Powered



• DC Powered





Specifications are subject to change without notice.

