

## Limit Alarms (potentiometer adj.) A-UNIT

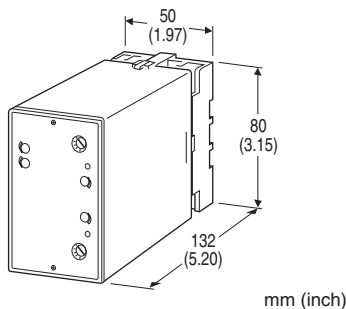
### RTD ALARM

#### 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  $\Omega$
- 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][2][3]-[4][5]

### ORDERING INFORMATION

- Code number: ARB-[1][2][3]-[4][5]

Specify a code from below for each of [1] through [5].

- (e.g. ARB-1111-B/BL/Q)
- Temperature range (e.g. 0 - 200°C)
- Specify the specification for option code /Q (e.g. /C01/S01)

### [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  $\Omega$  (JIS'81)

(Usable range: -200 to +500°C, -328 to +932°F; min.span: 100°C, 180°F)

6: Ni 508.4  $\Omega$

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

0: Specify

Note: Consult us for 2-wire RTD

### 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 (multiple selections)

Burnout

blank: Upscale burnout

/BL: Downscale burnout

Other Options

blank: none

/Q: Option other than the above (specify the specification)

### SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

## TERMINAL SCREW MATERIAL

/S01: Stainless steel

## GENERAL SPECIFICATIONS

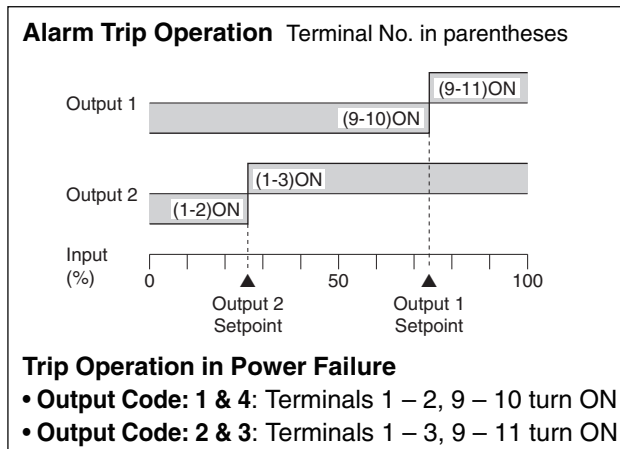
**Construction:** Plug-in  
**Connection:** M3.5 screw terminals  
**Screw terminal:** Chromated steel (standard) or stainless steel  
**Housing material:** Flame-resistant resin (black)  
**Isolation:** Input to output 1 to output 2 to power  
**Zero adjustment:** -5 to +5 % (front)  
**Span adjustment:** 95 to 105 % (front)  
**Setpoint adjustments:** 270°-turn screwdriver adjustments (front); 0 - 100 % independently  
**Hysteresis (deadband) adjustments:** 1 - 100 % (front)  
**Linearization:** Standard  
**Front LEDs:** 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

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

## 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:**  $5 \times 10^7$  cycles  
 For maximum relay life with inductive loads, external protection is recommended.



## INSTALLATION

### Power input

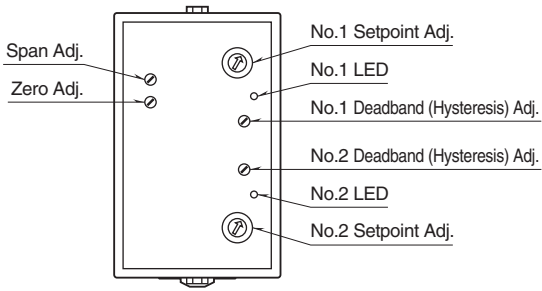
- **AC:** Operational voltage range: rating  $\pm 10$  %, 50/60  $\pm 2$  Hz, approx. 2 VA
- **DC:** Operational voltage range: rating  $\pm 10$  %, or 85 - 150 V for 110 V rating (ripple 10 % p-p max.) approx. 2 W (80 mA at 24 V)

**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)

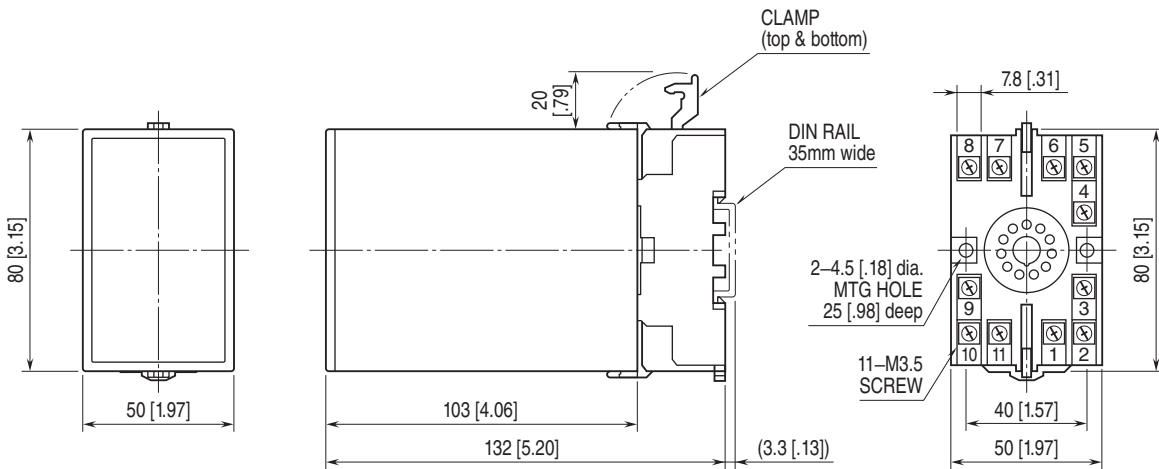
## PERFORMANCE in percentage of span

**Trip point repeatability:**  $\pm 0.5$  %  
**Temp. coefficient:**  $\pm 0.05$  %/°C ( $\pm 0.03$  %/°F)  
**Response time:**  $\leq 0.5$  sec. (0 - 100 % at 90 % setpoint)  
**Burnout response:**  $\leq 10$  sec.  
**Line voltage effect:**  $\pm 0.1$  % over voltage range  
**Insulation resistance:**  $\geq 100$  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

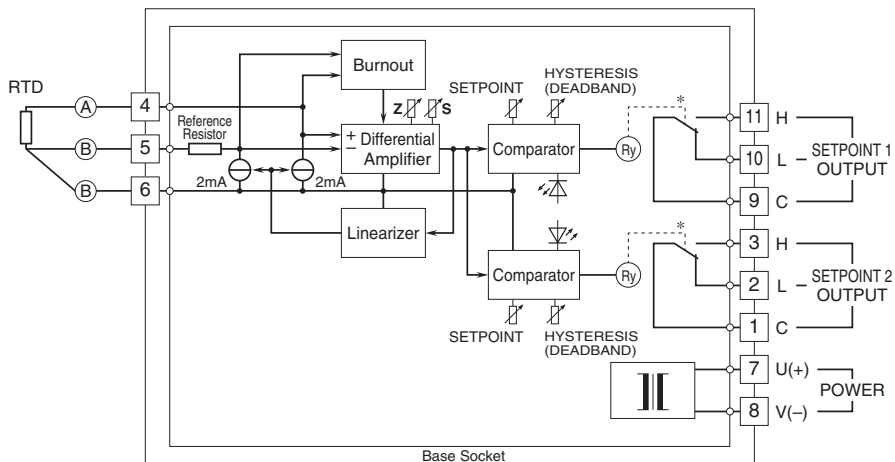


## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

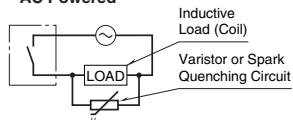
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



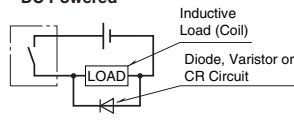
\*Relay status for output codes "1" & "4", at power OFF.

### ■ Relay Protection

#### • AC Powered



#### • DC Powered





Specifications are subject to change without notice.