

Limit Alarms (potentiometer adj.) A-UNIT

TWO-WIRE TRANSMITTER ALARM

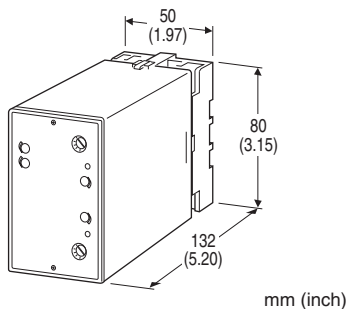
(with square root extractor)

Functions & Features

- Powering a 4 - 20 mA DC current loop
- Providing SPDT relay outputs at preset current levels
- Shortcircuit protection
- Square root extraction
- Applicable to smart transmitters
- 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: ADN-1[1][2]-[3][4]

ORDERING INFORMATION

- Code number: ADN-1[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].
(e.g. ADN-111-B/Q)
- Specify the specification for option code /Q
(e.g. /C01/S01)

INPUT

Current

4 - 20 mA DC (Input resistance 250 Ω)

SETPOINT ADJUSTMENTS

1: Single-turn screws

[1] 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)

[2] 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)

[3] 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

[4] 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

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

Setpoint adjustments: 270°-turn screwdriver adjustments (front); 0 - 100 % independently

Low-end cutout function: Below 1 % input. A setpoint below 10 % output equals 0 %.

Deadband (hysteresis) adjustments: 1 - 100% of square root value (rear)

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.

SUPPLY OUTPUT

Output voltage: 24 - 28 V DC with no load

Current rating: ≤ 22 mA DC

• **Shortcircuit Protection**

Current limited: 35 mA max.

Protected time duration: No limit

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

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)

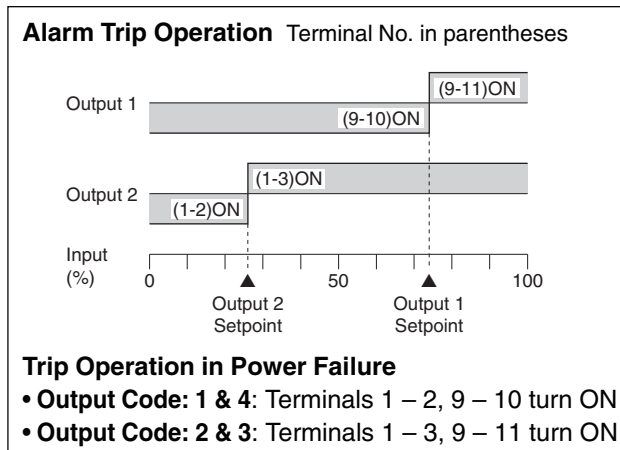
Maximum switching voltage: 380 V AC or 125 V DC

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.



INSTALLATION

Power input

• **AC:** Operational voltage range: rating ± 10 %, 50/60 ± 2 Hz, approx. 2.5 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: 380 g (0.84 lb)

PERFORMANCE in percentage of span

Trip point repeatability: ± 0.5 % with input 1 - 100 %

Temp. coefficient: ± 0.05 %/°C (± 0.03 %/°F)

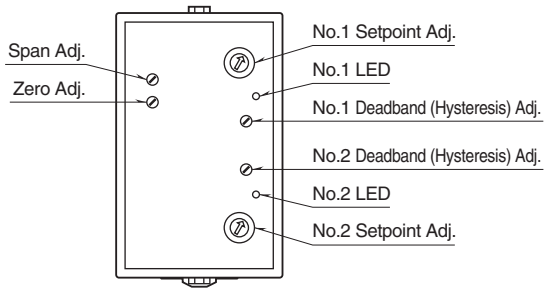
Response time: ≤ 1 sec. (0 - 100 % at 90 % setpoint)

Line voltage effect: ± 0.1 % over voltage range

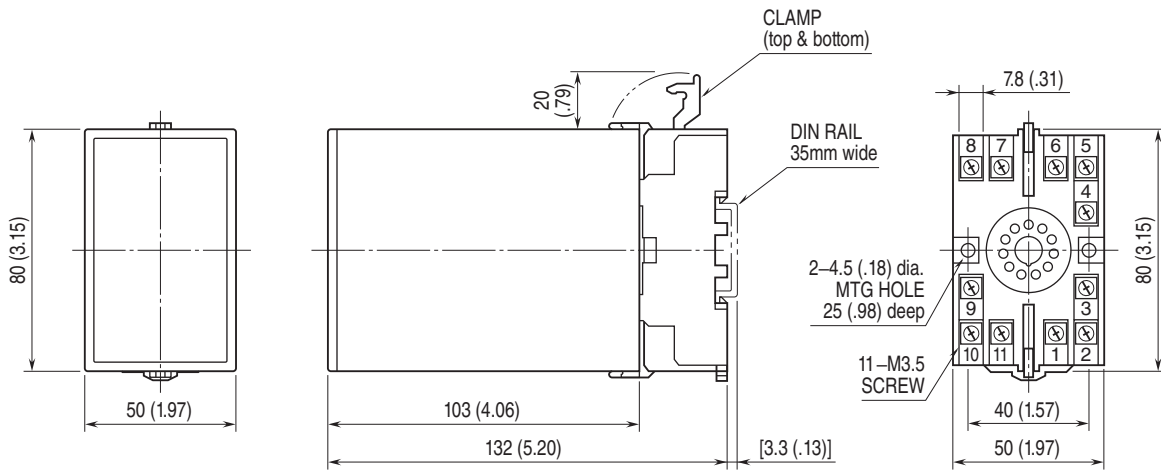
Insulation resistance: ≥ 100 M Ω with 500 V DC

Dielectric strength: 2000 V AC @1 minute (input to output 1 to output 2 to power to ground)

EXTERNAL VIEW

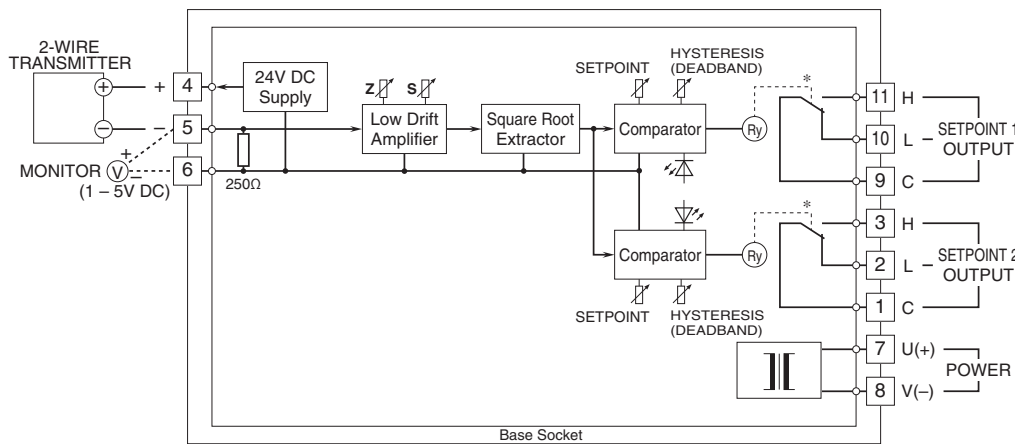


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

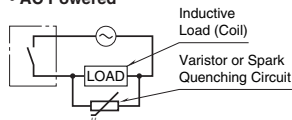
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



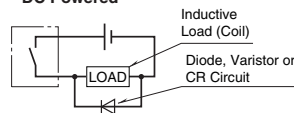
* Relay status for output codes "1" & "4", at power OFF.

Relay Protection

• AC Powered



• DC Powered





Specifications are subject to change without notice.