Limit Alarms (potentiometer adj.) A-UNIT

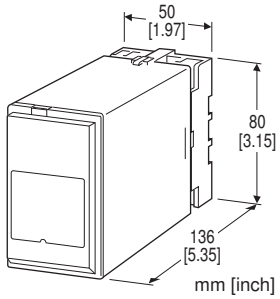
ANGLE SENSOR ALARM

Functions & Features

• Providing SPDT relay outputs at preset voltage level provided from Angle Sensor (model: NRA)
• Dual (Hi/Lo) trip
• Energized or de-energized coil at a tripped condition selectable
• 50 % zero/span adjustments
• Hysteresis (deadband) adjustable
• Enclosed relays
• Relays can be powered 110 V DC
• High-density mounting

Typical Applications

• Annunciator
• Various alarm applications



MODEL: ANR-[1]1[2][3]-[4]

ORDERING INFORMATION

• Code number: ANR-[1]1[2][3]-[4]
Specify a code from below for each of [1] through [4].
(e.g. ANR-1111-B)

[1] ACTION

1: Direct (output increases with input increase)
2: Reverse (output increases with input decrease)

[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

RELATED PRODUCTS

• Brushless angle sensor (model: NRA)

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: 0 – 50 % of linearity-assured range of the angle sensor (front)
Span adjustment: 50 – 100 % of linearity-assured range of the angle sensor (front)
Setpoint adjustments: 270°-turn screwdriver adjustments (front); 0 – 100 % independently
Hysteresis (deadband) adjustments: 1 – 100 % (front)
LEDs: LED turns on at a tripped condition; red for output 1, green for output 2 (located behind the front cover)
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

INPUT SPECIFICATIONS

Input: 2 – 3 V DC (output from Angle Sensor)
Excitation: 5 V DC ±2 %

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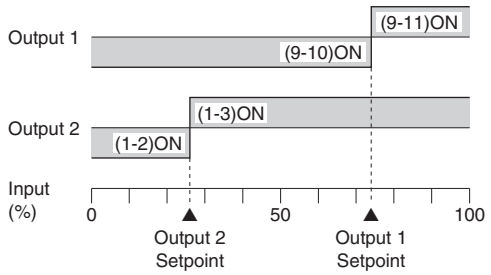
OUTPUT SPECIFICATIONS

■ **Relay Contact**: 100 V AC @ 1 A (cos ø = 1)
120 V AC @ 1 A (cos ø = 1)
240 V AC @ 0.5 A (cos ø = 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 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: Approx. 0.5 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)

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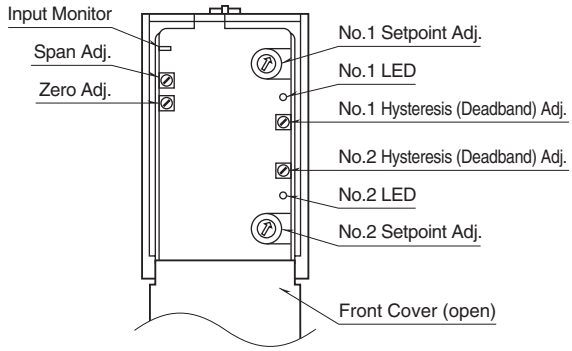
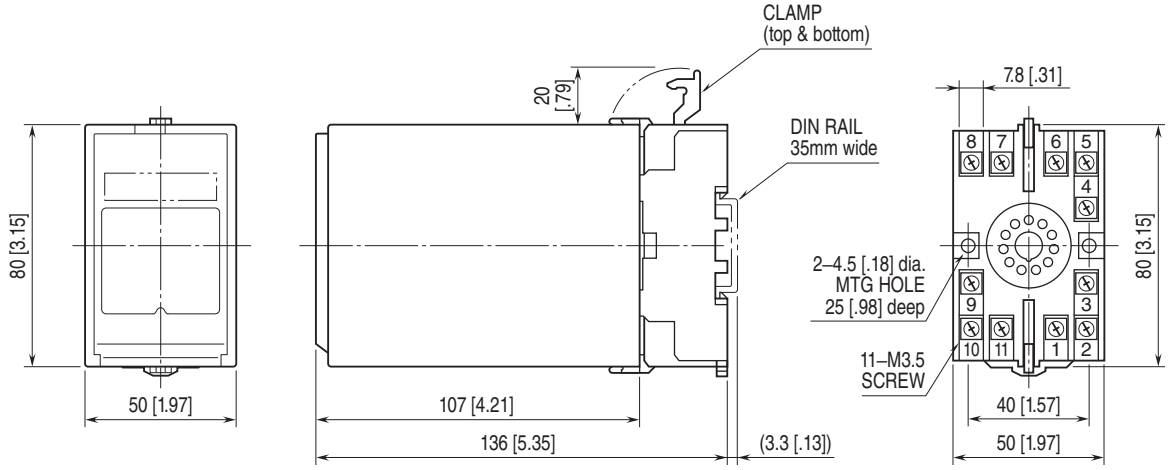
EXTERNAL VIEW

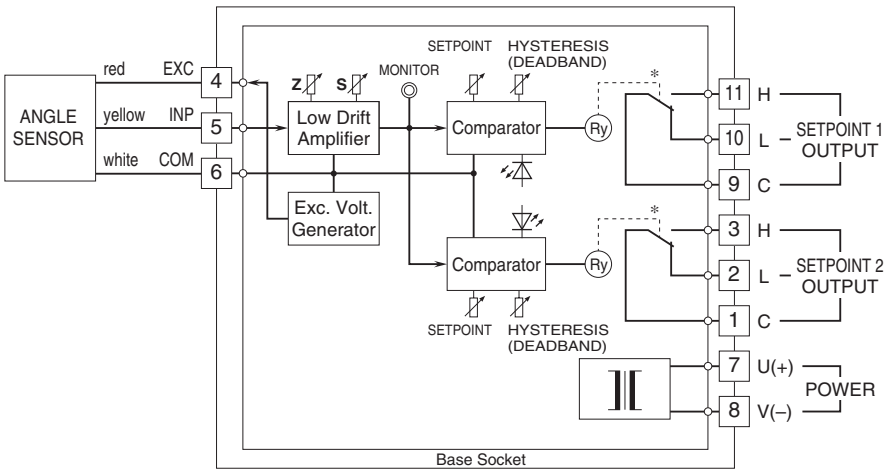


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

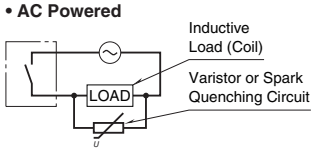
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



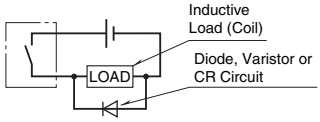
*Relay status for output codes “1” & “4”, at power OFF.

■ **Relay Protection**

• AC Powered



• DC Powered



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⚠ Specifications are subject to change without notice.

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