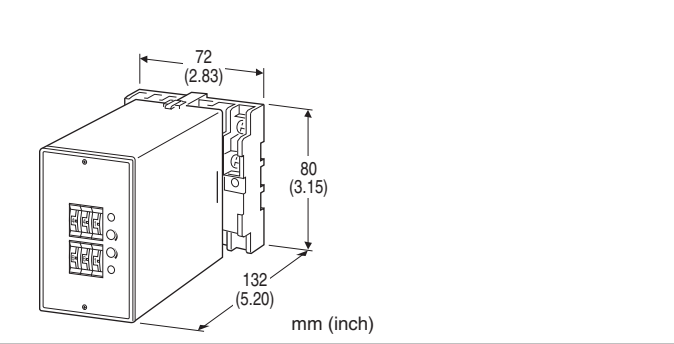


Limit Alarms (with DC output) AE-UNIT

DC ALARM

Functions & Features

- Providing SPDT relay outputs at preset DC input levels
- Dual (Hi/Lo) trip
- Additional isolated DC output proportional to the input
- Energized or deenergized coil at a tripped condition selectable
- Thumbwheel switch adjustments
- Relays can be powered 110 V DC



MODEL: AEV-[1][2][3][4][5][6]-[7]

ORDERING INFORMATION

- Code number: AEV-[1][2][3][4][5][6]-[7]
- Specify a code from below for each [1] through [7]. (e.g. AEV-6A1111-D)
- Special DC input and output ranges (For codes Z & 0)

[1] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)
- A1: 4 - 20 mA DC (Input resistance 50 Ω)
- B: 2 - 10 mA DC (Input resistance 500 Ω)
- C: 1 - 5 mA DC (Input resistance 1000 Ω)
- D: 0 - 20 mA DC (Input resistance 50 Ω)
- E: 0 - 16 mA DC (Input resistance 62.5 Ω)
- F: 0 - 10 mA DC (Input resistance 100 Ω)
- G: 0 - 1 mA DC (Input resistance 1000 Ω)
- H: 10 - 50 mA DC (Input resistance 100 Ω)
- J: 0 - 10 μA DC (Input resistance 1000 Ω)
- K: 0 - 100 μA DC (Input resistance 1000 Ω)
- GW: -1 - +1 mA DC (Input resistance 1000 Ω)
- FW: -10 - +10 mA DC (Input resistance 100 Ω)
- Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Input resistance 10 kΩ min.)
- 15: 0 - 50 mV DC (Input resistance 10 kΩ min.)
- 16: 0 - 60 mV DC (Input resistance 10 kΩ min.)

- 2: 0 - 100 mV DC (Input resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Input resistance 1 MΩ min.)
- 4: 0 - 10 V DC (Input resistance 1 MΩ min.)
- 5: 0 - 5 V DC (Input resistance 1 MΩ min.)
- 6: 1 - 5 V DC (Input resistance 1 MΩ min.)
- 4W: -10 - +10 V DC (Input resistance 1 MΩ min.)
- 5W: -5 - +5 V DC (Input resistance 1 MΩ min.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)

[2] DC OUTPUT

N: None

Current

- A: 4 - 20 mA DC (Load resistance 350 Ω max.)
- B: 2 - 10 mA DC (Load resistance 700 Ω max.)
- C: 1 - 5 mA DC (Load resistance 1400 Ω max.)
- D: 0 - 20 mA DC (Load resistance 350 Ω max.)
- E: 0 - 16 mA DC (Load resistance 430 Ω max.)
- F: 0 - 10 mA DC (Load resistance 700 Ω max.)
- G: 0 - 1 mA DC (Load resistance 7000 Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2: 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4: 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5: 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6: 1 - 5 V DC (Load resistance 5000 Ω min.)
- 4W: -10 - +10 V DC (Load resistance 10 kΩ min.)
- 5W: -5 - +5 V DC (Load resistance 5000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] 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)

[4] 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)

[5] ON DELAY TIME

- 0: 0.5 seconds
- 1: 1 second
- 2: 2 seconds
- 3: 3 seconds
- 4: 4 seconds



[6] POWER ON DELAY TIME

- 1: 1 second
- 2: 2 seconds
- 3: 3 seconds
- 4: 4 seconds
- 5: 5 seconds

[7] 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

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3.5 screw terminals

Housing material: Flame-resistant resin (black)

Isolation: Input to DC output to alarm output 1 to alarm output 2 to power

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

Span adjustment: 95 to 105 % (front)

Setpoint adjustments: Thumbwheel switches (front);

0 - 99 % independently; 1 % increments

Hysteresis (deadband) adjustments: Thumbwheel switches (front); 0.5, 1 - 9 % independently; 1 % increments (SW position 0 = 0.5); [Lo SP + Hysteresis] \leq 102

Front LEDs: Red lights turn on when the coils are energized.

INPUT SPECIFICATIONS**DC Current:**

Shunt resistor attached to the input terminals (0.5 W)
Specify input resistance value for code Z.

DC Voltage: -300 - +300 V DC

Minimum span: 10 mV

Offset: Max. 1.5 times span

Input resistance

Span 10 - 100 mV : \geq 10 k Ω

Span 0.1 - 1 V : \geq 100 k Ω

Span \geq 1 V : \geq 1 M Ω

OUTPUT SPECIFICATIONS**DC Output**

•DC Current: 0 - 20 mA DC

Minimum span: 1 mA

Offset: Max. 1.5 times span

Load resistance: Output drive 7 V maximum

•DC Voltage: -10 - +12 V DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

Load resistance: Output drive 1 mA maximum; at \geq 0.5 V

Alarm Output: 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)

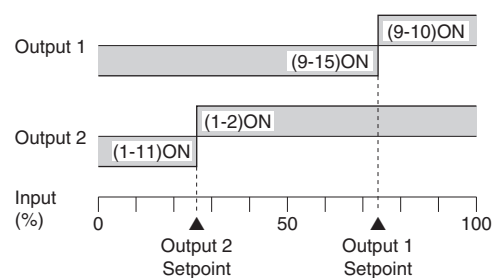
Maximum switching voltage: 380 V AC or 125 V DC

Maximum switching power: 120 VA or 30 W

Minimum load: 5 V DC @ 10 mA

Mechanical life: 5×10^7 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 - 11, 9 - 15 turn ON

•Output Code: 2 & 3: Terminals 1 - 2, 9 - 10 turn ON

INSTALLATION**Power input**

•AC: Operational voltage range: rating \pm 10 %, 50/60 \pm 2 Hz, approx. 3 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 +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail

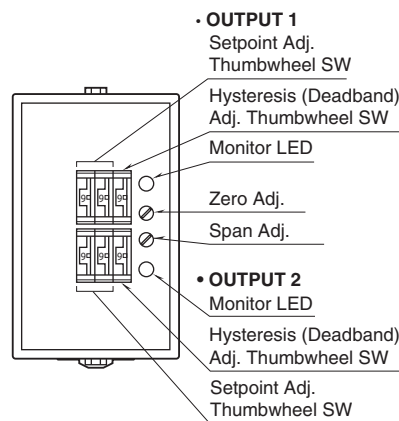
Weight: 450 g (0.99 lbs)



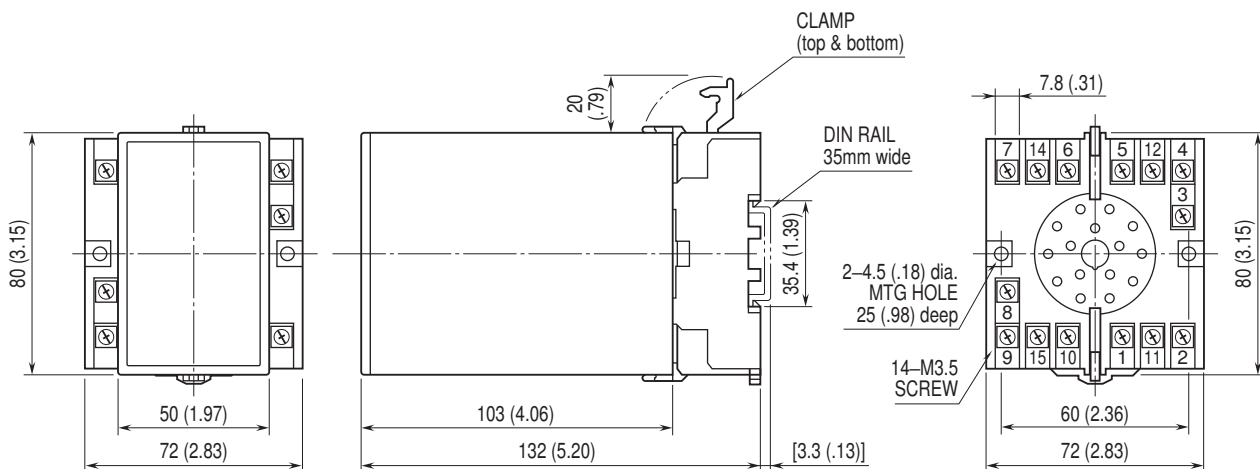
PERFORMANCE in percentage of span

- DC output
 - Accuracy: $\pm 0.1\%$
 - Response time: ≤ 0.5 sec. (0 - 90 %)
- Alarm output
 - Setpoint accuracy: $\pm 0.5\%$
 - Hysteresis (Deadband) setpoint accuracy: $\pm 0.3\%$
 - ON delay time accuracy: rating $\pm 20\%$ or 0.3 sec., whichever is greater.
 - Power ON delay time accuracy: rating $\pm 30\%$
 - Trip point repeatability: $\pm 0.05\%$
- Temp. coefficient: $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$)
- Line voltage effect: $\pm 0.1\%$ over voltage range
- Insulation resistance: $\geq 100\ \text{M}\Omega$ with 500 V DC
- Dielectric strength: 2000 V AC @ 1 minute
(input to DC output to alarm output 1 to alarm output 2 to power to ground)

EXTERNAL VIEW

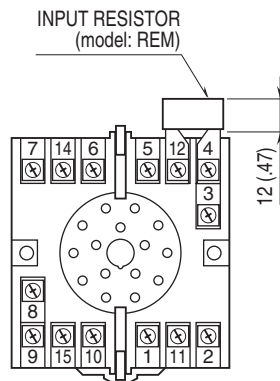


DIMENSIONS unit: mm (inch)



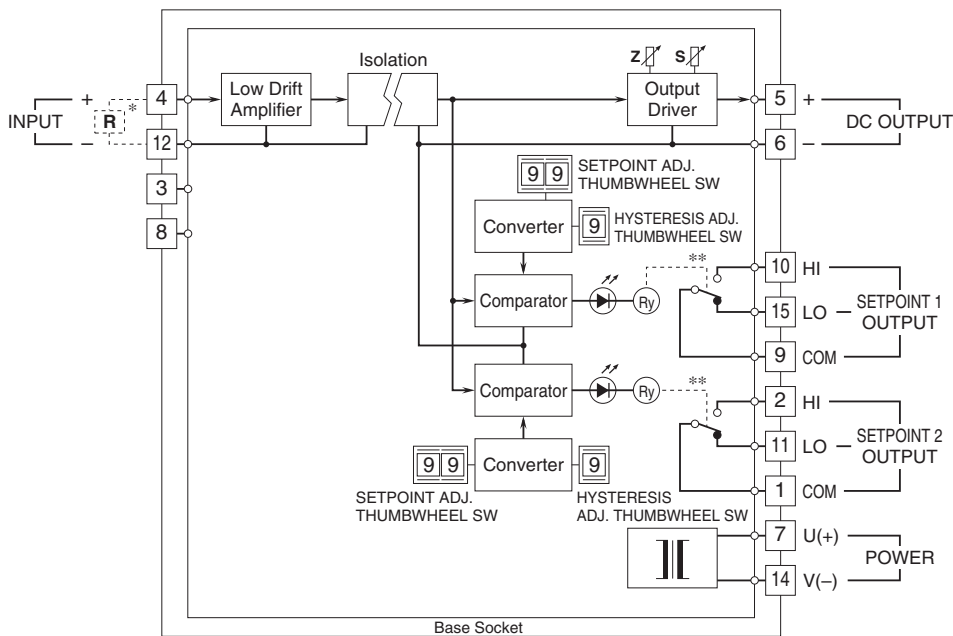
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



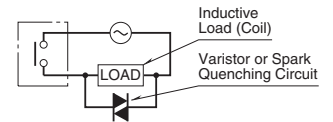
Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

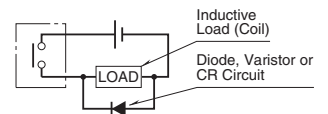


* Input shunt resistor attached for current input.
 **Relay status for output codes "1" & "4", at power OFF.

Relay Protection •AC Powered



•DC Powered



Specifications are subject to change without notice.