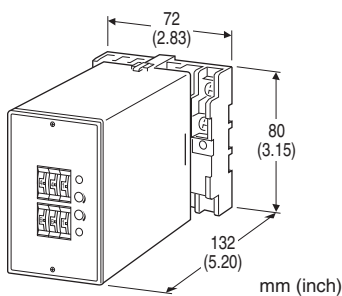


**Limit Alarms (with DC output) AE-UNIT**

**TWO-WIRE TRANSMITTER ALARM**

**Functions & Features**

- Powering a 4 – 20 mA DC current loop
- Providing SPDT relay outputs at preset current levels
- Dual (Hi/Lo) trip
- Shortcircuit protection
- Additional isolated DC output proportional to the input
- Energized or de-energized coil at a tripped condition selectable
- Thumbwheel switch adjustments
- Relays can be powered 110 V DC



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

**ORDERING INFORMATION**

- Code number: AEDY-[1][2][3][4][5]-[6][7]
- Specify a code from below for each [1] through [7].  
(e.g. AEDY-A2101-D/Q)
- Special DC output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

**INPUT**

**Current**

4 – 20 mA DC (Input resistance 250 Ω)

**[1] 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)

**[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] ON DELAY TIME**

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

**[5] POWER ON DELAY TIME**

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

**[6] 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

**[7] 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 DC output to alarm output 1 to alarm output 2 to power  
**Overrange output:** Approx. -10 to +120 % at 1 - 5 V  
**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] ≤ 102  
**Front LEDs:** Red lights turn on when the coils are energized.

**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

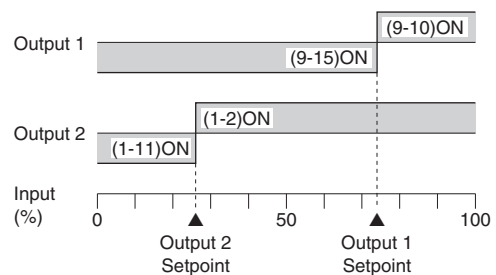
**INPUT SPECIFICATIONS**

- **DC Current:** Input resistor incorporated

**OUTPUT SPECIFICATIONS**

- **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 ≥ 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 x 10<sup>7</sup> 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 lb)

## PERFORMANCE in percentage of span

### •DC output

**Accuracy:**  $\pm 0.1\%$

**Response time:**  $\leq 0.7$  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 0.7 sec.,  
whichever is greater.

**Power ON delay time accuracy:** Rating  $\pm 30\%$

**Trip point repeatability:**  $\pm 0.05\%$

**Temp. coefficient:**  $\pm 0.015\%/^{\circ}\text{C}$  ( $\pm 0.008\%/^{\circ}\text{F}$ )

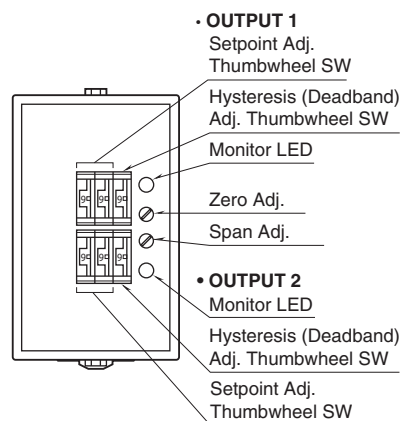
**Line voltage effect:**  $\pm 0.1\%$  over voltage range

**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

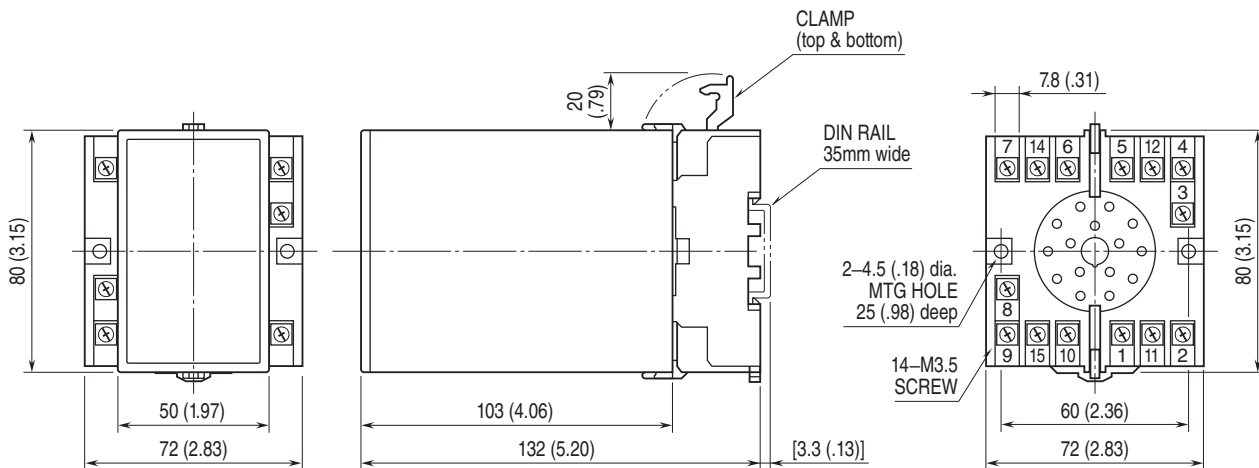
**Dielectric strength:** 2000 V AC @ 1 minute

(input to DC output to alarm output 1 to alarm output 2 to  
power to ground)

## EXTERNAL VIEW

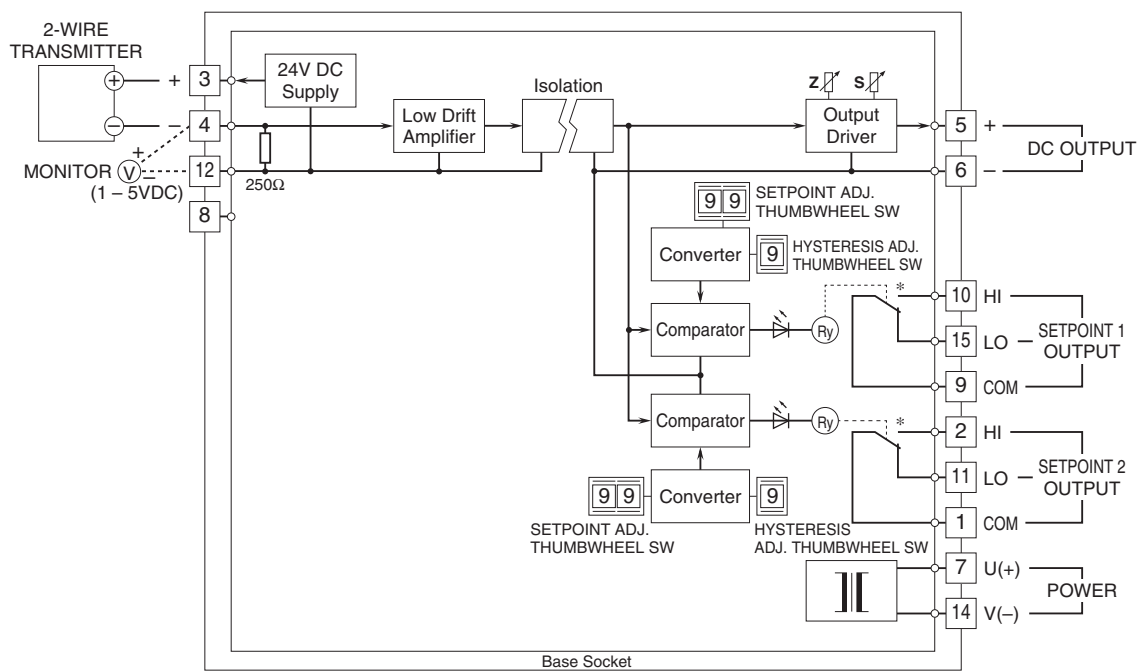


## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

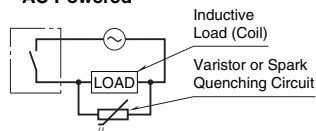
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



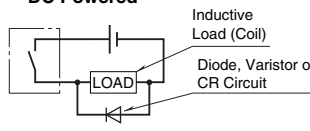
\*Relay status for output codes "1" & "4", at power OFF.

### ■ Relay Protection

#### • AC Powered



#### • DC Powered



Specifications are subject to change without notice.