

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

**PT ALARM**

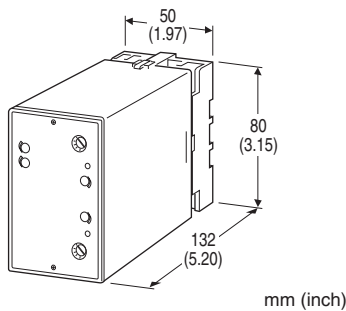
(RMS sensing)

**Functions & Features**

- Providing SPDT relay outputs at preset AC voltage levels from a VT
- RMS sensing
- Dual (Hi/Lo) trip
- 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: APTE-[1]1[2][3]-[4]**

**ORDERING INFORMATION**

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

**[1] INPUT**

Voltage

- 1: 0 - 110 V AC
- 2: 0 - 220 V AC
- 5: 0 - 150 V AC
- 6: 0 - 300 V AC

**[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

**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
- Input waveform:** Up to 15 % of 3rd harmonic content
- 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)
- 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**

- Frequency:** 50 or 60 Hz
- Input burden:** 0.5 VA max.
- Overload capacity:** 200 % of rating for 1 minute, 120 % continuous
- Operational range:** 0 - 100 % of rating

**OUTPUT SPECIFICATIONS**

■ **Relay Contact:** 100 V AC @ 1 A ( $\cos \varnothing = 1$ )

120 V AC @ 1 A ( $\cos \varnothing = 1$ )

240 V AC @ 0.5 A ( $\cos \varnothing = 1$ )

30 V DC @ 1 A (resistive load)

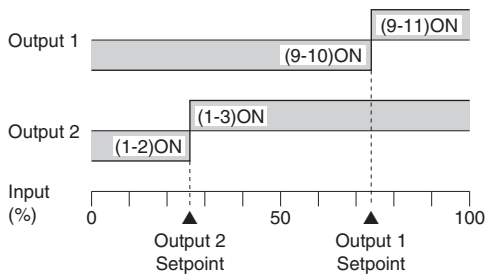
**Maximum switching voltage:** 380 V AC or 125 V DC

**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.

**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  $\pm 10\%$ , 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:**  $\pm 0.05\%/^{\circ}\text{C}$  ( $\pm 0.03\%/^{\circ}\text{F}$ )

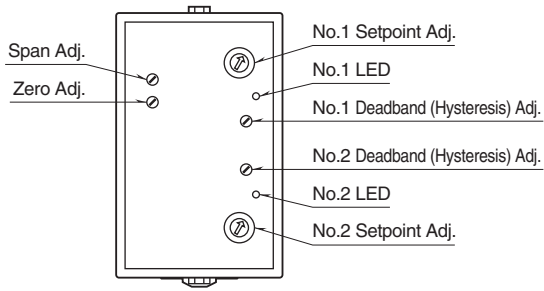
**Response time:**  $\leq 0.7$  sec. (0 – 100 % at 90 % setpoint)

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

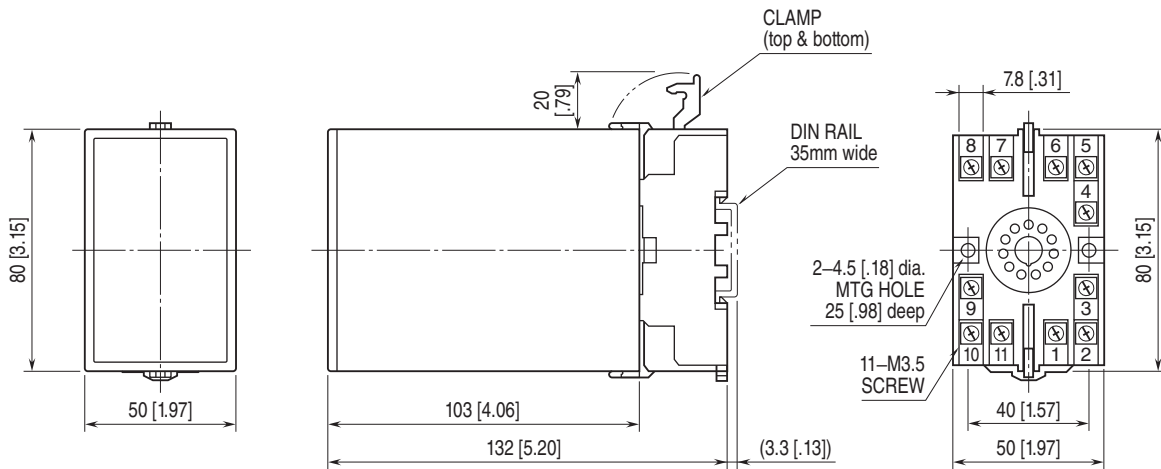
**Insulation resistance:**  $\geq 100\text{ M}\Omega$  with 500 V DC

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

## EXTERNAL VIEW

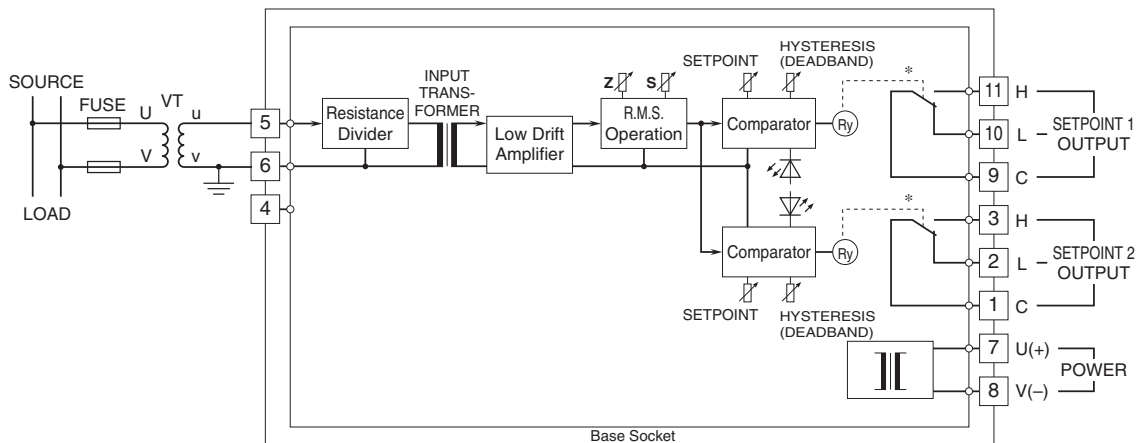


## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

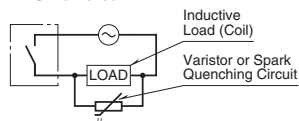
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



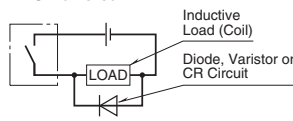
\*Relay status for output codes "1" & "4", at power OFF.

### ■ Relay Protection

#### • AC Powered



#### • DC Powered





Specifications are subject to change without notice.