

Plug-in Signal Conditioners M-UNIT

DEVIATION ALARM

MODEL **AYDV**

MODEL & SUFFIX CODE SELECTION

MODEL _____ **AYDV-6**□□□□

INPUT 2 (reference) _____

6 : 1 – 5V DC

INPUT 1 (measured signal) _____

Current

A : 4 – 20mA DC

H : 10 – 50mA DC

Voltage

6 : 1 – 5V DC

OUTPUT 1 _____

1 : Relay; SPDT or transfer contact
coil energized with deviation > setpoint

2 : Relay; SPDT or transfer contact
coil de-energized with deviation > setpoint

OUTPUT 2 _____

1 : Relay; SPDT or transfer contact
coil energized with deviation > setpoint

2 : Relay; SPDT or transfer contact
coil de-energized with deviation > setpoint

POWER INPUT _____

AC Power		DC Power
B : 100V AC	G : 200V AC	S : 12V DC
C : 110V AC	H : 220V AC	R : 24V DC
D : 115V AC	J : 240V AC	V : 48V DC
F : 120V AC		P : 110V DC

ORDERING INFORMATION

Specify code number. (e.g. AYDV-6622-B)

GENERAL SPECIFICATIONS

Construction: plug-in

Connection: M3.5 screw terminals

Housing material: flame-resistant resin (black)

Isolation: input to output to power

Setpoint adjustments: multi-turn screwdriver adjustments (front); -50 – +50% independently; deviation = input 1 (meas.) – input 2 (ref.)

Monitor jacks: output -5 – +5V for -50 – +50% setpoints

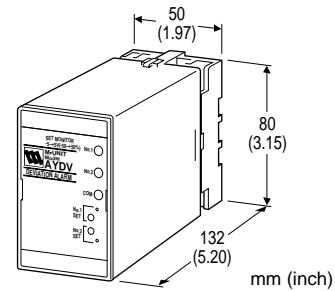
Hysteresis (deadband): 0.2 ± 0.1%

Front LEDs: red lights turn on when coils are energized.

INPUT & OUTPUT

■ **INPUT 2 (reference):** 1 – 5V DC

Input resistance: 1MΩ minimum



Functions & Features

- Providing relay contact closures at preset deviations of two DC input levels
- Dual (Hi/Lo) trip
- Energized or de-energized coil at tripped conditions selectable
- Multi-turn screwdriver setpoint adjustments
- Monitor jacks provided for setpoint adjustments
- Enclosed relays
- Relays can be powered 110V DC
- Isolation up to 2000V AC
- High-density mounting

Typical Applications

- Annunciator
- Various alarm applications

■ **INPUT 1 (measured signal)**

- **DC Current:** shunt resistor attached to input terminals (0.5W)

Input resistance

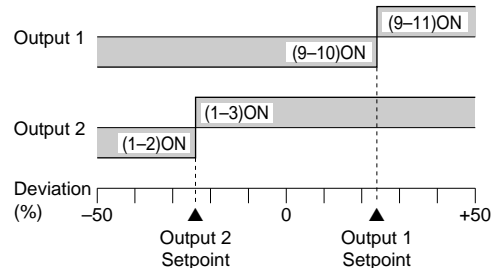
Input	Input Resistance
4 – 20mA	: 250 (Ω)
10 – 50mA	: 100

- **DC Voltage:** 1 – 5V DC

Input resistance: 1MΩ minimum

■ **OUTPUT**

Alarm Trip Operation Terminal No. in parentheses



Trip Operation in Power Failure

- **Output 1:** (9 – 10) turn ON with code 1
(9 – 11) turn ON with code 2
- **Output 2:** (1 – 2) turn ON with code 1
(1 – 3) turn ON with code 2

- Relay Contact:** 120V AC @1A (cosφ=1)
240V AC @0.5A (cosφ=1)
30V DC @1A (resistive load)
electrical life 5×10^5 cycles (rate 30/min.)
- Maximum switching voltage:** 380V AC or 125V DC
- Maximum switching power:** 100VA or 30W
- Minimum load:** 5V DC @10mA
- Mechanical life:** 5×10^7 cycles
For maximum relay life with inductive loads, external protection is recommended.

PERFORMANCE in percentage of span

- Setpoint monitor accuracy:** $\pm 0.5\%$
- Trip point repeatability:** $\pm 0.05\%$
- Temp. coefficient:** $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$)
- Response time:** ≤ 0.5 seconds (0 – 100% at 90% setpoint)
- Line voltage effect:** $\pm 0.1\%$ over voltage range
- Insulation resistance:** $\geq 100\text{M}\Omega$ with 500V DC
- Dielectric strength:** 2000V AC @1 minute
(input to output to power to ground)

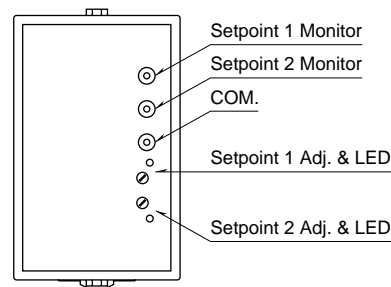
INSTALLATION

Power input

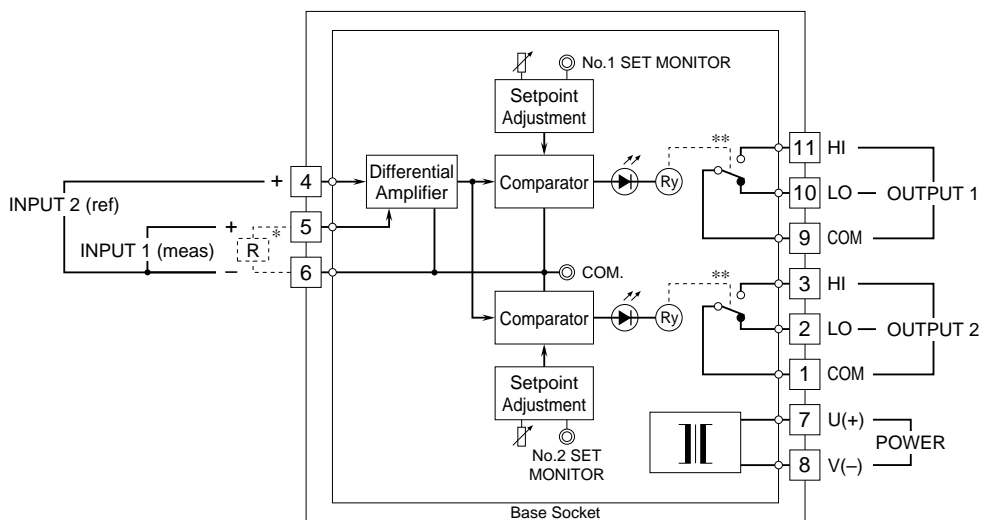
- AC:** rating $\pm 10\%$, 50/60 ± 2 Hz, approx. 2VA
- DC:** rating $\pm 10\%$, or 85 – 150V for 110V rating
(ripple 10% p-p max.)
approx. 2W (80mA at 24V)

- Operating temperature:** -5 to $+60^{\circ}\text{C}$ (23 to 140°F)
- Operating humidity:** 30 to 90% RH (non-condensing)
- Mounting:** surface or DIN rail
- Dimensions:** W50×H80×D132 mm (1.97"×3.15"×5.20")
See General Spec. Sheet Figure C-2.
- Weight:** 400 g (0.88 lbs)
- Terminal assignment:** See General Spec. Sheet Figure D-2.

FRONT PANEL CONFIGURATION

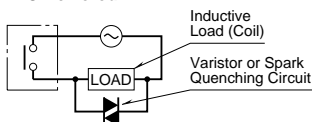


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



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

Relay Protection
AC Powered



DC Powered

