Plug-in Signal Conditioners M-UNIT

DEVIAITION ALARM

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 110 V DC
- Isolation up to 2000 V AC
- High-density mounting

Typical Applications
- Annunciator
- Various alarm applications

[2] 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

[3] 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

[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

[5] 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 output to power
Setpoint adjustments: Multi-turn screwdriver adjustments (front); -50 - +50 % independently; deviation = input 1 (meas.) - input 2 (ref.)
Monitor jacks: Output -5 - +5 V for -50 - +50 % setpoints

MODEL: AYDV-6[1][2][3]-[4][5]

ORDERING INFORMATION
• Code number: AYDV-6[1][2][3]-[4][5]
  Specify a code from below for each [1] through [5].
  (e.g. AYDV-6622-B/Q)
• Specify the specification for option code /Q
  (e.g. /C01/S01)

INPUT 2 (reference)
Voltage
6: 1 - 5 V DC (Input resistance 1 MΩ min.)

[1] INPUT 1 (measured signal)
Current
A: 4 - 20 mA DC (Input resistance 250 Ω)
H: 10 - 50 mA DC (Input resistance 100 Ω)
Voltage
6: 1 - 5 V DC (Input resistance 1 MΩ min.)
Monitor jack diameter: 2 mm (.08")
Hysteresis (deadband): 0.2 ± 0.1 %
Front LEDs: Red lights turn on when the coils are energized.

**INPUT SPECIFICATIONS**

- **Input 1** (measured signal)
  - DC Current: shunt resistor attached to input terminals (0.5 W)

**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**

<table>
<thead>
<tr>
<th>Terminal No. in parentheses</th>
<th>Output 1</th>
<th>Output 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9–11)ON</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(9–10)ON</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(1–2)ON</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>(1–3)ON</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**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. 1.3 W (50 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:** 400 g (0.88 lb)

**PERFORMANCE in percentage of span**

- **Setpoint monitor accuracy:** ± 0.5 %
- **Trip point repeatability:** ±0.05 %

- **Temp. coefficient:** ±0.015 %/°C (±0.008 %/°F)
- **Response time:** ≤ 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 to power to ground)
EXTERNAL VIEW

Setpoint 1 Monitor
Setpoint 2 Monitor
COM.
Setpoint 1 Adj. & LED
Setpoint 2 Adj. & LED

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

** Specifications are subject to change without notice.**