Plug-in Signal Conditioners M-UNIT

DC ALARM
(thumbwheel switch adjustment)

Functions & Features
• Providing SPDT relay outputs at preset DC input levels
• Dual trip
• Latching or non-latching output
• Thumbwheel switch 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

MODEL: ASD1–[1][2][3][4][5][6][7]

ORDERING INFORMATION
• Code number: ASD1-[1][2][3][4][5][6][7]
  Specify a code from below for each [1] through [7].
  (e.g. ASD1-61302-K3/UL/Q)
• Specify the specification for option code /Q
  (e.g. /C01)

[1] INPUT
Current
A: 4 – 20 mA DC (Input resistance 250 Ω)
Voltage
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.)

[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
5: 5 seconds

[6] POWER INPUT
AC Power
K3: 100 – 120 V AC
(Operational voltage range 90 – 132 V, 47 – 66 Hz)
L3: 200 – 240 V AC (Operational voltage range 180 – 264 V, 47 – 66 Hz) (UL not available)

[7] OPTIONS (multiple selections)
Standards & Approvals
blank: CE marking
/UL: UL approval, CE marking
Other Options
blank: none
/Q: Option other than the above (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 (UL not available)
TERMINAL SCREW MATERIAL
/S01: Stainless steel (UL not available)

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: Thumbwheel switches (front); 0 – 99

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% independently; 1 % increments

**Deadband and latching control**: 16-position rotary switches (front)

• **Deadband**: 0.5, 1 – 14 % independently; 1 % increments (SW position 0 = 0.5, A thr. E = 10 thr. 14); [Lo SP + Deadband] ≤ 102

• **Latching**: enabled at the position "F." For resetting, turn the power supply off or set the switch position to other than "F."

**Front LEDs**
- **Output 1**: Red light turns on when the coil is energized.
- **Output 2**: Green light turns on when the coil is energized.

## INPUT SPECIFICATIONS

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

## OUTPUT SPECIFICATIONS

- **Relay Contact**: 100 V AC @ 5 A (cos ø = 1)  
  120 V AC @ 5 A (cos ø = 1)  
  240 V AC @ 2.5 A (cos ø = 1)  
  30 V DC @ 5 A (resistive load)

- **Maximum switching voltage**: 300 V AC or 125 V DC
- **Maximum switching power**: 600 VA or 150 W
- **Minimum load**: 5 V DC @ 10 mA
- **Mechanical life**: 5 × 10^7 cycles

### Output Code: 1, 4

```
Output 1
(1-3)[ON]
(1-2)[ON]

Output 2
(9-11)[ON]
(9-10)[ON]
```

### Output Code: 2, 3

```
Output 1
(1-2)[ON]
(1-3)[ON]

Output 2
(9-10)[ON]
(9-11)[ON]
```

## PERFORMANCE in percentage of span

- **Setpoint accuracy**: ±0.5 %
- **Deadband setpoint accuracy**: ±0.3 %
- **Power ON delay time accuracy**: rating ±35 %
- **Trip point repeatability**: ±0.05 %
- **Temp. coefficient**: ±0.015 %/°C (±0.008 %/°F)
- **ON delay time accuracy**: (0 – 100 % at 90 % setpoint)
- **Code 0**: 0.5 ±0.2 sec.
- **Code 1, 2, 3, 4**: rating ±20 %
- **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)

## STANDARDS & APPROVALS

- **EU conformity**:
  - EMV Directive
  - EMI EN 61000-6-4
  - EMS EN 61000-6-2
- **Low Voltage Directive**
  - EN 61010-1
  - Measurement Category II (output)
  - Installation Category II (power)
  - Pollution Degree 2
- **RoHS Directive**
  - EN 50581
- **Approval**:
  - UL/C-UL general safety requirements
    - (UL 3111-1, CAN/CSA-C22.2 No.1010-1)

## INSTALLATION

- **Power consumption**
  - **AC**: Approx. 3 VA
- **Operating temperature**: -5 to +60°C (23 to 140°F)
- **Operating humidity**: 30 to 90 %RH (non-condensing)

**Mounting**: Surface or DIN rail

**Weight**: 300 g (0.66 lb)
### External View

- **Output 1**: Monitor LED, Deadband & Latching Control, Setpoint Adj.
- **Output 2**: Monitor LED, Deadband & Latching Control, Setpoint Adj.

### Dimensions

**Dimensions unit: mm (inch)**

- **CLAMP (top & bottom)**: 3.15 (0.13)
- **DIN RAIL**: 35mm wide
- **MTG HOLE**: 25 (0.98) deep
- **SCREW**: M3.5

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

### Terminal Assignments

**Terminal Assignments unit: mm (inch)**

- **INPUT RESISTOR (model: REM)**: 4.7 (0.12)

Input shunt resistor attached for current input.
Specifications are subject to change without notice.