

Plug-in Signal Conditioners M-UNIT

DC ALARM

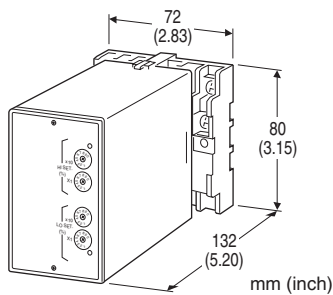
(CE, rotary switch adjustment)

Functions & Features

- Providing relay contact closures at preset DC input levels
- Dual (Hi/Lo) trip
- Rotary switch setpoint adjustments
- Enclosed relays
- Relays can be powered 110 V DC
- High-density mounting

Typical Applications

- Annunciator
- Various alarm applications



MODEL: ASWL2-[1]-[2][3]

ORDERING INFORMATION

- Code number: ASWL2-[1]-[2][3]
- Specify a code from below for each of [1] through [3].
(e.g. ASWL2-6-B/Q)
- Special input range (For codes Z & 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

Current

- A: 4 – 20 mA DC (Input resistance 250 Ω)
- A1: 4 – 20 mA DC (Input resistance 50 Ω)
- B: 2 – 10 mA DC (Input resistance 500 Ω)
- C: 1 – 5 mA DC (Input resistance 1000 Ω)
- D: 0 – 20 mA DC (Input resistance 50 Ω)
- E: 0 – 16 mA DC (Input resistance 62.5 Ω)
- F: 0 – 10 mA DC (Input resistance 100 Ω)
- G: 0 – 1 mA DC (Input resistance 1000 Ω)
- H: 10 – 50 mA DC (Input resistance 100 Ω)
- J: 0 – 10 μ A DC (Input resistance 1000 Ω)
- K: 0 – 100 μ A DC (Input resistance 1000 Ω)
- GW: -1 – +1 mA DC (Input resistance 1000 Ω)

FW: -10 – +10 mA DC (Input resistance 100 Ω)

Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 1: 0 – 10 mV DC (Input resistance 10 k Ω min.)
- 15: 0 – 50 mV DC (Input resistance 10 k Ω min.)
- 16: 0 – 60 mV DC (Input resistance 10 k Ω min.)
- 2: 0 – 100 mV DC (Input resistance 100 k Ω min.)
- 3: 0 – 1 V DC (Input resistance 1 M Ω min.)
- 4: 0 – 10 V DC (Input resistance 1 M Ω min.)
- 5: 0 – 5 V DC (Input resistance 1 M Ω min.)
- 6: 1 – 5 V DC (Input resistance 1 M Ω min.)
- 4W: -10 – +10 V DC (Input resistance 1 M Ω min.)
- 5W: -5 – +5 V DC (Input resistance 1 M Ω min.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)

OUTPUT

Relay; SPDT or transfer contact

[2] 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

[3] 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: 10-position rotary switches (front); 0 – 99 % independently; 1 % increments
Hysteresis (deadband): 1 – 2.5 %
Front LEDs: Red LED turns on when the coil is energized.
Power ON timer: Relays de-energized for approx. 2 seconds after power is turned on.

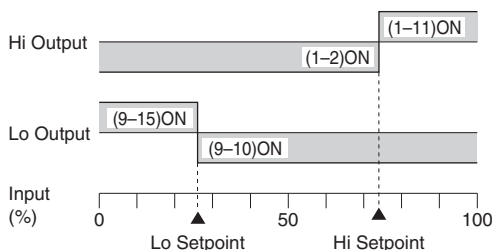
INPUT SPECIFICATIONS

■ **DC Current:**
 Shunt resistor attached to the input terminals (0.5 W)
 Specify input resistance value for code Z.
 ■ **DC Voltage:** -30 – +30 V DC
Span: Min. 10 mV, max. 30 V
Offset: Max. 1.5 times span
 • **Input resistance**
 Span 10 – 100 mV : $\geq 10 \text{ k}\Omega$
 Span 0.1 – 1 V : $\geq 100 \text{ k}\Omega$
 Span $\geq 1 \text{ V}$: $\geq 1 \text{ M}\Omega$

OUTPUT SPECIFICATIONS

■ **Relay Contact:**
 120 V AC @ 0.5 A ($\cos \theta = 1$)
 240 V AC @ 0.5 A ($\cos \theta = 1$)
 30 V DC @ 0.5 A (resistive load)
Maximum switching voltage: 380 V AC or 125 V DC
Maximum switching power: 120 VA or 30 W ($\leq 0.5 \text{ A}$)
Minimum load: 5 V DC @ 10 mA
Mechanical life: 5×10^7 cycles
 For maximum relay life with inductive loads, external protection is recommended.

Alarm Trip Operation Terminal No. in parentheses



Trip Operation in Power Failure

: Terminals 1 – 2, 9 – 10 turn ON.

INSTALLATION

Power input
 • **AC:** Operational voltage range: rating $\pm 10 \%$, 50/60 ± 2 Hz, approx. 2 VA
 • **DC:** Operational voltage range: rating $\pm 10 \%$, 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: 400 g (0.88 lb)

PERFORMANCE in percentage of span

Setpoint 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 ± 0.2 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: 2300 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

EU conformity:
 EMC 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
 Input or output to power: Reinforced insulation (300 V)
 Input to output: Basic insulation (300 V)
 (When 150 V AC max. load voltage or measurement category I, applicable as reinforced insulation)
 RoHS Directive

The diagram shows the rear panel of the Hi Lo Setpoint Controller with the following connections:

- Hi LED**: Connected to the top terminal.
- Hi Setpoint Rotary Switch (x10%)**: Connected to the terminal labeled $\text{Hi SET} \times 10\%$.
- Hi Setpoint Rotary Switch (x1%)**: Connected to the terminal labeled $\text{Hi SET} \times 1\%$.
- Lo Setpoint Rotary Switch (x10%)**: Connected to the terminal labeled $\text{Lo SET} \times 10\%$.
- Lo Setpoint Rotary Switch (x1%)**: Connected to the terminal labeled $\text{Lo SET} \times 1\%$.
- Lo LED**: Connected to the bottom terminal.

Technical drawing of the 1500 Series 120VAC 100A Breaker, showing three views: front, side, and top.

Front View Dimensions:

- Overall Height: 80 (3.15)
- Overall Width: 72 (2.83)
- Internal Width: 50 (1.97)

Side View Dimensions:

- Overall Length: 132 (5.20)
- Internal Length: 103 (4.06)
- Clamp Height: 20 (.79)

Top View Dimensions:

- Overall Width: 80 (3.15)
- Overall Length: 72 (2.83)
- Internal Length: 60 (2.36)
- Clamp Width: 7.8 (.31)

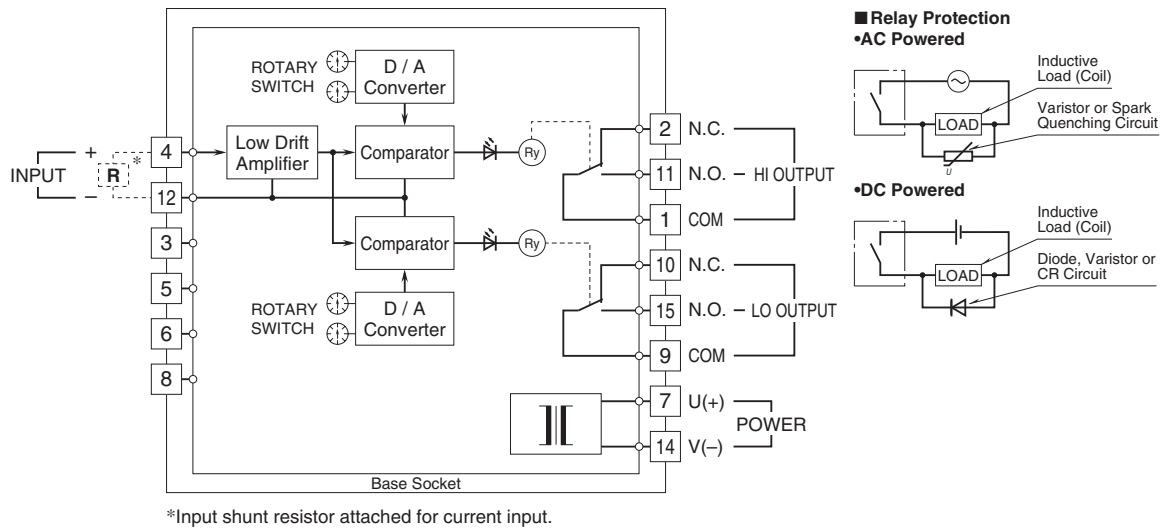
Labels and Features:

- CLAMP (top & bottom)
- DIN RAIL 35mm wide
- 2-4.5 (.18) dia. MTG HOLE 25 (.98) deep
- 14-M3.5 SCREW
- [3.3 (.13)]

TERMINAL ASSIGNMENTS unit: mm (inch)

Input shunt resistor attached for current input.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.