## Plug-in Signal Conditioners M-UNIT

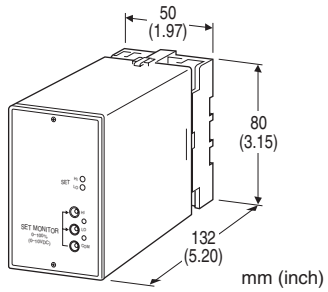
## DC ALARM

Functions & Features

- Providing relay contact closures at preset DC input levels
- Dual (Hi/Lo) trip
- 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




## MODEL: ASW-[1]-[2][3]

## ORDERING INFORMATION

- Code number: ASW-[1]-[2][3]

Specify a code from below for each of [1] through [3].
(e.g. ASW-6-H/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 µA DC (Input resistance 1000 Ω)
**K**: 0 – 100 µA 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 kΩ min.)
**15**: 0 – 50 mV DC (Input resistance 10 kΩ min.)
**16**: 0 – 60 mV DC (Input resistance 10 kΩ min.)
**2**: 0 – 100 mV DC (Input resistance 100 kΩ min.)
**3**: 0 – 1 V DC (Input resistance 1 MΩ min.)
**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.)
**4W**: -10 – +10 V DC (Input resistance 1 MΩ min.)
**5W**: -5 – +5 V DC (Input resistance 1 MΩ 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
**P**: 110 V DC

## [3] OPTIONS

**blank**: none
**/Q**: With options (specify the specification)

### SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to our 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



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**Housing material**: Flame-resistant resin (black)
**Isolation**: Input to output to power
**Setpoint adjustments**: Multi-turn screwdriver adjustments (front); 0 – 100% independently
**Monitor jacks**: Output 0 – 10 V for 0 – 100 % setpoints
**Monitor jack diameter:** 2 mm (.08")
**Hysteresis (deadband):** 0.5 – 1.0 %
**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.

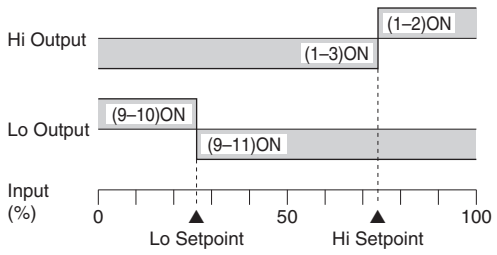
## INPUT SPECIFICATIONS

■ **DC Current**:
Shunt resistor attached to the input terminals (0.5 W)
Specify input resistance value for code Z.
■ **DC Voltage**: -300 – +300 V DC
**Minimum span**: 10 mV
**Offset**: Max. 1.5 times span
**Input resistance**
Span 10 – 100 mV : ≥ 10 kΩ
Span 0.1 – 1 V : ≥ 100 kΩ
Span ≥ 1 V : ≥ 1 MΩ

## 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:** $5 \times 10^7$ cycles
For maximum relay life with inductive loads, external protection is recommended.

**Alarm Trip Operation** Terminal No. in parentheses




**Trip Operation in Power Failure**
: Terminals 1 – 3, 9 – 11 turn ON.

## 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. 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 monitor accuracy:** ± 0.5 %
**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)



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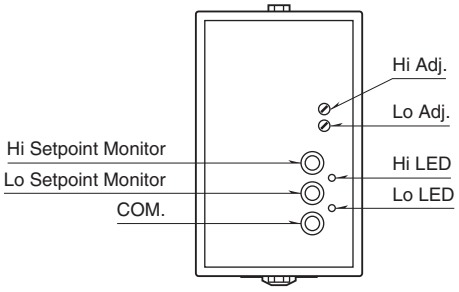
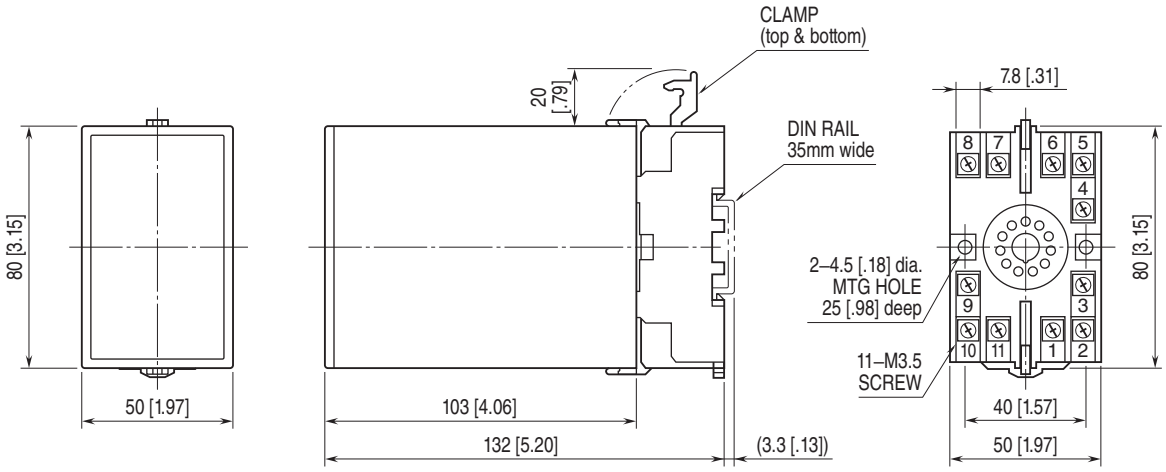
## EXTERNAL VIEW

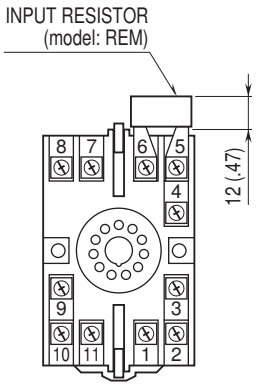



## EXTERNAL DIMENSIONS unit: mm [inch]




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

## TERMINAL ASSIGNMENTS unit: mm [inch]




Input shunt resistor attached
for current input.



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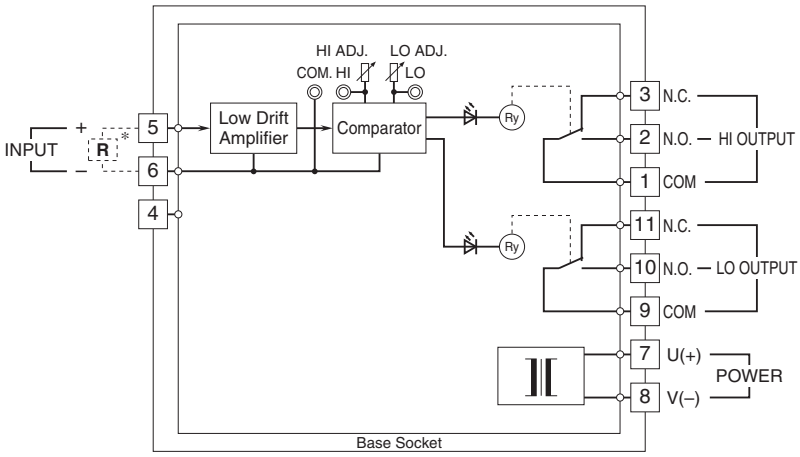
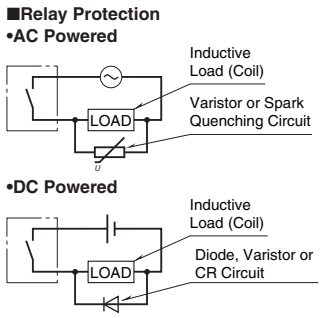
## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM




*Input shunt resistor attached for current input.




⚠ Specifications are subject to change without notice.



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