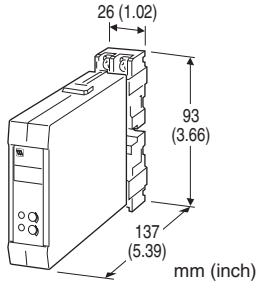
Space-saving Plug-in Signal Conditioners H-UNIT

DC ALARM

Functions & Features
- Providing relay contact closures at preset DC input levels
- Single or dual (Hi/Lo) trip
- Multi-turn screwdriver setpoint adjustments
- Enclosed relays
- Relays can be powered 110 V DC
- High-density mounting

Typical Applications
- Annunciator
- Various alarm applications



MODEL: HAS–[1][2]–R[3]

ORDERING INFORMATION

- Code number: HAS-[1][2]-R[3]

Specify a code from below for each of [1] through [3].
(e.g. HAS-62-R/Q)
- Special input range (For code 0)
- Specify the specification for option code /Q
(e.g. /C01/S01)

Use Ordering Information Sheet (No. ESU-1033) to specify output code 0 specifications.

[1] INPUT

Current
A: 4 – 20 mA DC (Input resistance 250 Ω)
D: 0 – 20 mA DC (Input resistance 50 Ω)
G: 0 – 1 mA DC (Input resistance 1000 Ω)
H: 10 – 50 mA DC (Input resistance 100 Ω)
Voltage
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.)
0: Specify voltage (See INPUT SPECIFICATIONS)

[2] OUTPUT

1: Single (SPDT); Hi in power failure
2: Single (SPDT); Lo in power failure
5: Hi/Lo (N.O.); OFF in power failure
6: Hi/Lo (N.C.); OFF in power failure
0: Specify

POWER INPUT

DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[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 (torque 0.8 N·m)
Screw terminal: Nickel-plated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Setpoint adjustments: Multi-turn screwdriver adjustments (front); -5 – +105 % independently
Hysteresis (deadband): Approx. 1 %
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)
■ **DC Voltage:** 0 – 300 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Input resistance: ≥ 1 MΩ

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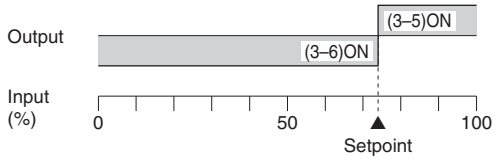
OUTPUT SPECIFICATIONS

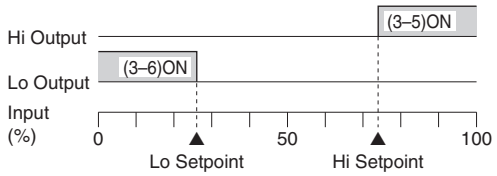
■ **Relay Contact**: 100 V AC @ 1 A (cos ø = 1)
120 V AC @ 1 A (cos ø = 1)
240 V AC @ 0.5 A (cos ø = 1)
30 V DC @ 1 A (resistive load)
Maximum switching voltage: 380 V AC or 125 V DC
Maximum switching power: 120 VA or 30 W
Minimum load: 5 V DC @ 10 mA
Mechanical life: 5 x 10^7 cycles
For maximum relay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

Alarm Trip Operation Terminal No. in parentheses

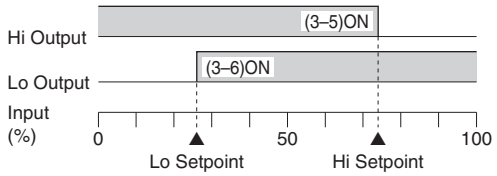
•Output Code : 1, 2



•Output Code : 5



•Output Code : 6



Trip Operation in Power Failure
- **Output Code 1**: Terminals 3 – 5 turn ON
- **Output Code 2**: Terminals 3 – 6 turn ON
- **Output Code 5, 6**: both relays turn OFF

INSTALLATION

Current consumption: Approx. 40 mA
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail; Standard Rack Mounting Frame BX-16H available
Weight: 180 g (0.40 lb)

PERFORMANCE in percentage of span

Trip point repeatability: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
Response time: Approx. 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: 500 V AC @ 1 minute
(input to output to power)
1500 V AC @ 1 minute (input or output or power to ground)

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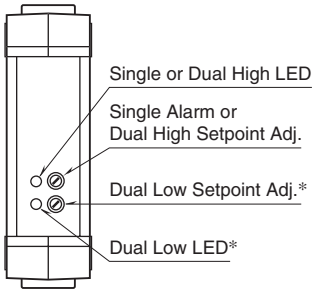
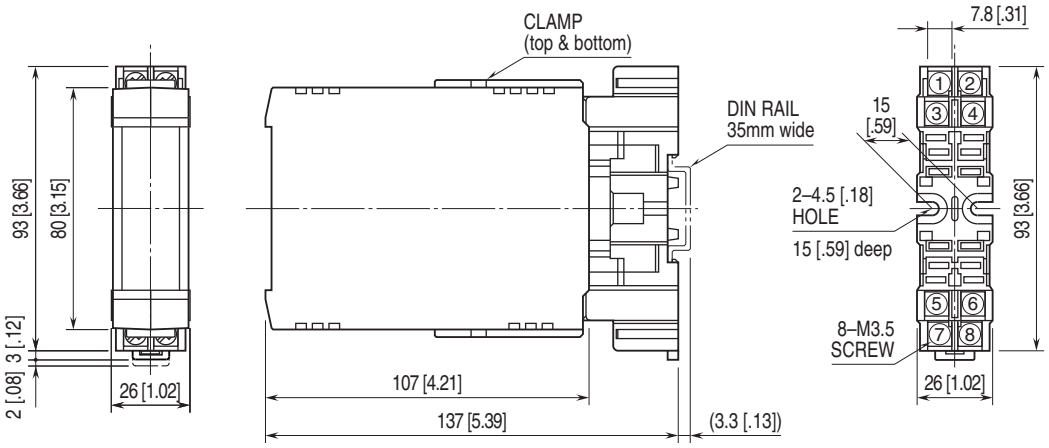
EXTERNAL VIEW



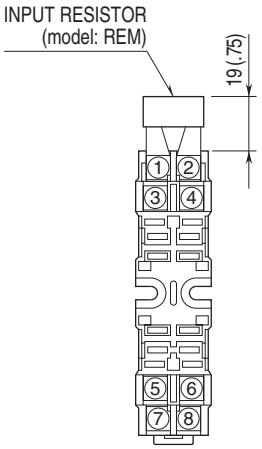
*Not provided for Single Alarm.

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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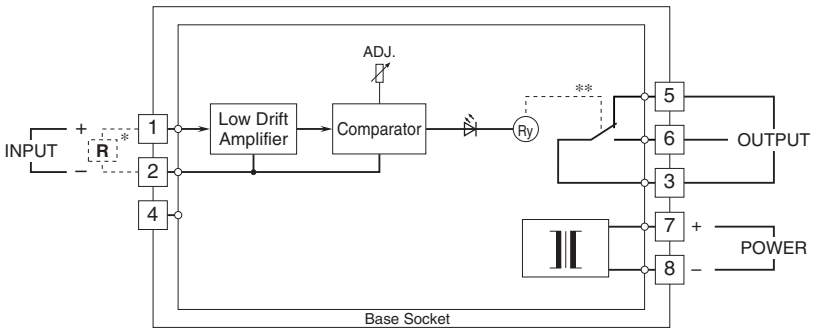
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

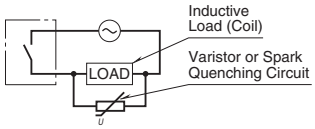
■ **SINGLE ALARM**



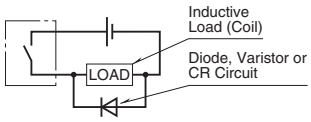
* Input shunt resistor attached for current input.
**Relay status is determined by output codes.

■ **Relay Protection**

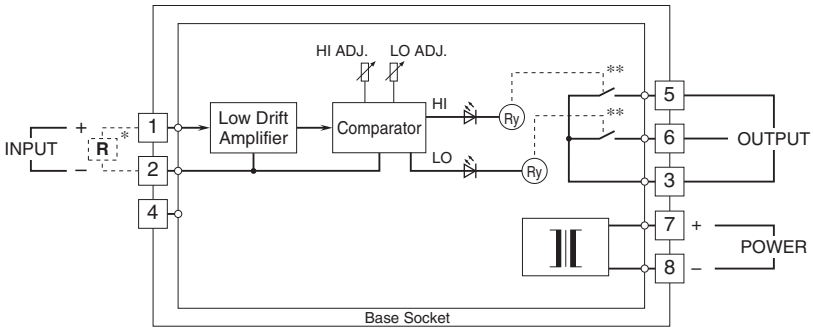
•AC Powered



•DC Powered



■ **DUAL ALARM**



* Input shunt resistor attached for current input.
**Relay status is determined by output codes.

⚠ Specifications are subject to change without notice.

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