

High-density Signal Conditioners 10-RACK

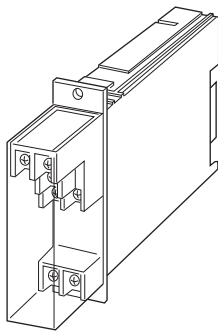
DC ALARM

Functions & Features

- Providing relay contact closures at preset DC input levels
- Single or dual (Hi/Lo) trip
- Multi-turn screwdriver setpoint adjustments

Typical Applications

- Annunciator
- Various alarm applications



MODEL: 10AS-[1][2]-R[3]

ORDERING INFORMATION

- Code number: 10AS-[1][2]-R[3]
- Specify a code from below for each [1] through [3].
(e.g. 10AS-62-R/Q)
- Use Ordering Information Sheet (No. ESU-1033) to specify output code 0 specifications.
- Special input range (For code 0)
- Specify the specification for option code /Q
(e.g. /C01)

[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 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.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)

[2] ALARM OUTPUT

- 1: Single (SPDT); Hi in power failure
- 2: Single (SPDT); Lo in power failure
- 3: Dual (2 points SPDT); Hi in power failure
- 4: Dual (2 points SPDT); Lo in power failure
- 5: Hi/Lo (2 points SPDT); ON at alarm; OFF in power failure
- 7: Hi/Lo (2 points SPDT); ON at alarm and in power failure
- 8: Hi/Lo (2 points SPDT); OFF at alarm and in power failure
- 0: Specify

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)

[3] OPTIONS

blank: none

/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)

Output: M3.5 screw terminals (torque 0.8 N·m)

Power input: Supplied from card-edge connector

Screw terminal: Nickel-plated 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 light 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:** Input resistor incorporated

■ **DC Voltage:** 0 – 300 V DC

Minimum span: 1 V

Offset: Max. 1.5 times span

Input resistance: $\geq$ 1 M Ω

OUTPUT SPECIFICATIONS

■ **Relay Contact:** 100 V AC @ 1 A ($\cos \phi = 1$)

120 V AC @ 1 A ($\cos \phi = 1$)

240 V AC @ 0.5 A ($\cos \phi = 1$)

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: 5×10^7 cycles

For maximum relay life with inductive loads, external protection is recommended.

INSTALLATION

Current consumption: Approx. 80 mA with dual alarm

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Standard Rack 10BXx

Weight: 200 g (0.44 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 M Ω with 500 V DC

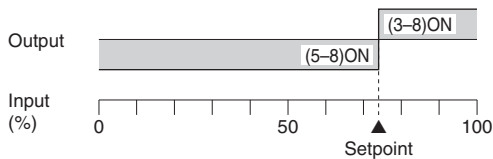
Dielectric strength: 500 V AC @ 1 minute

(input to output to power)

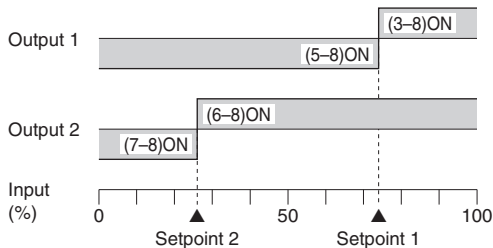
1500 V AC @ 1 minute (input or output or power to ground)

Alarm Trip Operation Terminal No. in parentheses

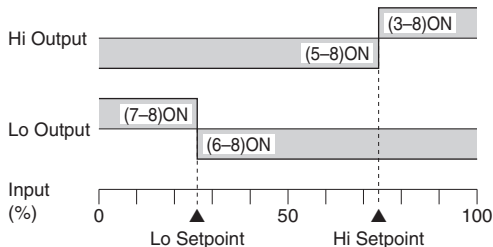
•Output Code : 1, 2



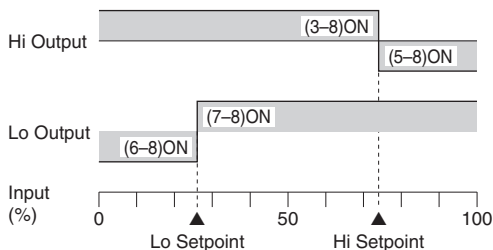
•Output Code : 3, 4



•Output Code : 5, 7



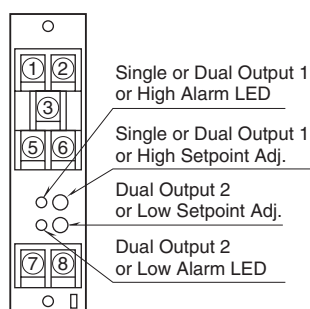
•Output Code : 8



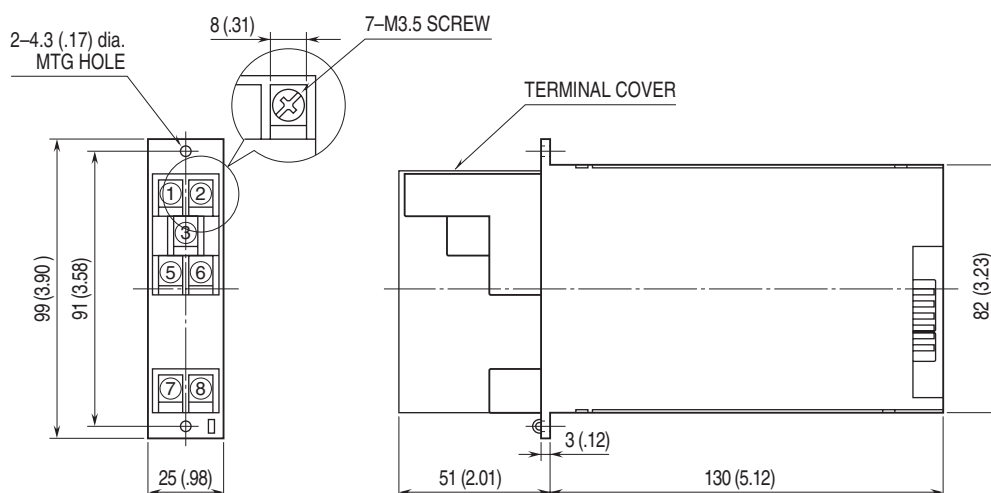
Trip Operation in Power Failure

- **Output code 1:** Terminals 3 - 8 turn ON
- **Output code 2:** Terminals 5 - 8 turn ON
- **Output code 3:** Terminals 3 - 8, 6 - 8 turn ON
- **Output code 4:** Terminals 5 - 8, 7 - 8 turn ON
- **Output code 5, 8:** Terminals 3 - 8, 7 - 8 turn OFF
- **Output code 7:** Terminals 3 - 8, 7 - 8 turn ON

EXTERNAL VIEW

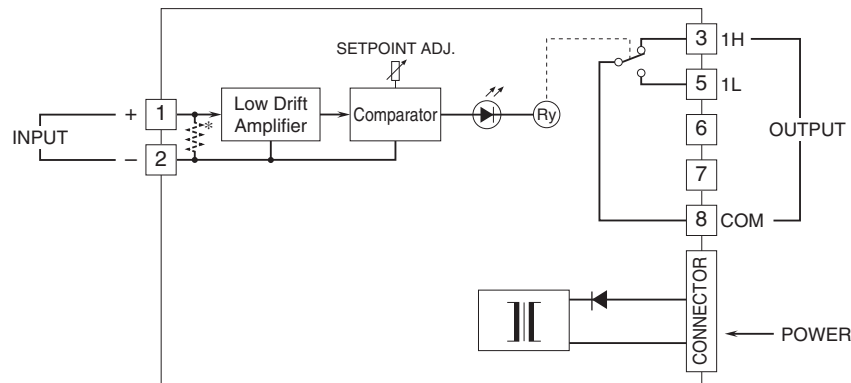


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



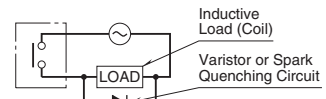
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ SINGLE ALARM

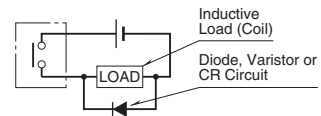


■ Relay Protection

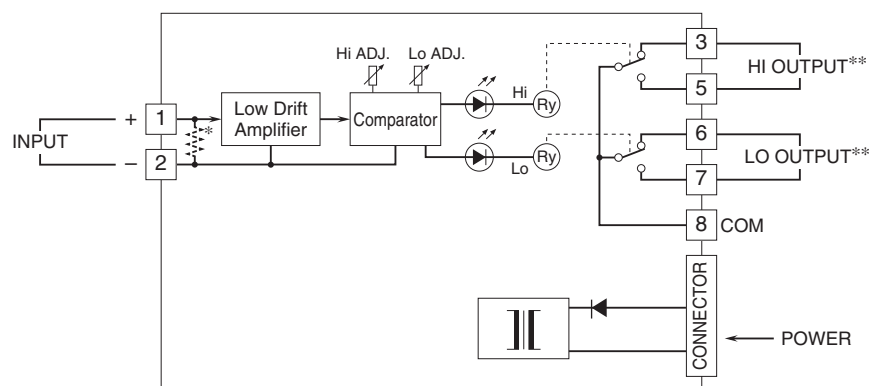
•AC Powered



•DC Powered



■ DUAL ALARM



Relay actions are determined by output codes.

* Input shunt resistor incorporated for current input.

**With code 3, 4 (dual alarm), Output 1 is assigned to Hi, while Output 2 is assigned to Lo terminals.

The diagram illustrates relay actions for the output code 5 or 8.



Specifications are subject to change without notice.