

Space-saving Plug-in Signal Conditioners F-UNIT

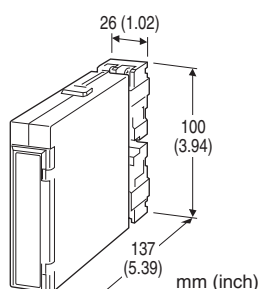
DC ALARM

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: FAS-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: FAS-[1][2]-[3][4]

Specify a code from below for each of [1] through [4].

(e.g. FAS-62-L/Q)

- Special input range (For code 0)

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

- Specify the specification for option code /Q (e.g. /C01/S01)

[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] 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

[3] POWER INPUT

AC Power

K: 85 – 132 V AC

(Operational voltage range 85 – 132 V, 47 – 66 Hz)

L: 170 – 264 V AC

(Operational voltage range 170 – 264 V, 47 – 66 Hz)

DC Power

R: 24 V DC

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

P: 110 V DC

(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)

[4] 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 (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: $\geq 1 \text{ M}\Omega$

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.

PERFORMANCE in percentage of span

Trip point repeatability: $\pm 0.1 \%$

Temp. coefficient: $\pm 0.015 \%/^{\circ}\text{C}$ ($\pm 0.008 \%/^{\circ}\text{F}$)

Response time: $\leq 0.5 \text{ sec.}$ (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

Power input code R:

1000 V AC @ 1 minute (input to output)

2000 V AC @ 1 minute (input or output or power to ground)

500 V AC @ 1 minute (I/O to power)

Power input code K, L, P:

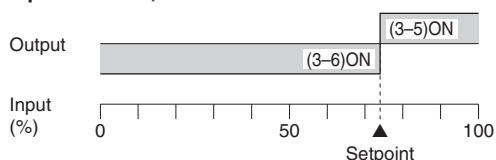
1000 V AC @ 1 minute (input to output)

2000 V AC @ 1 minute (input or output or power to ground)

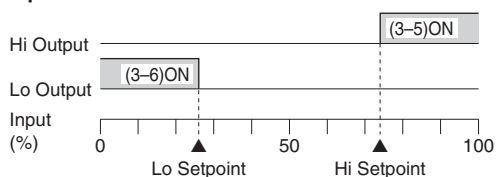
1500 V AC @ 1 minute (I/O to power)

Alarm Trip Operation Terminal No. in parentheses

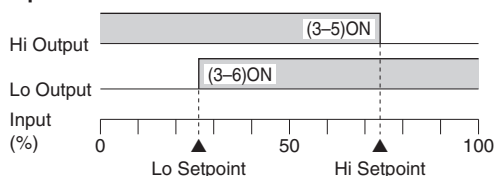
•Output Code : 1, 2



•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

Power input

• **AC:** Approx. 4.5 VA

• **DC:** 24 V approx. 70 mA

110 V approx. 20 mA

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

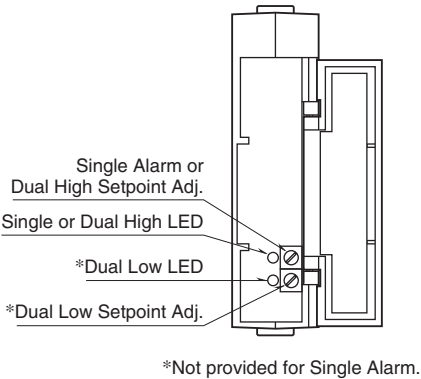
Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Surface or DIN rail; Standard Rack Mounting

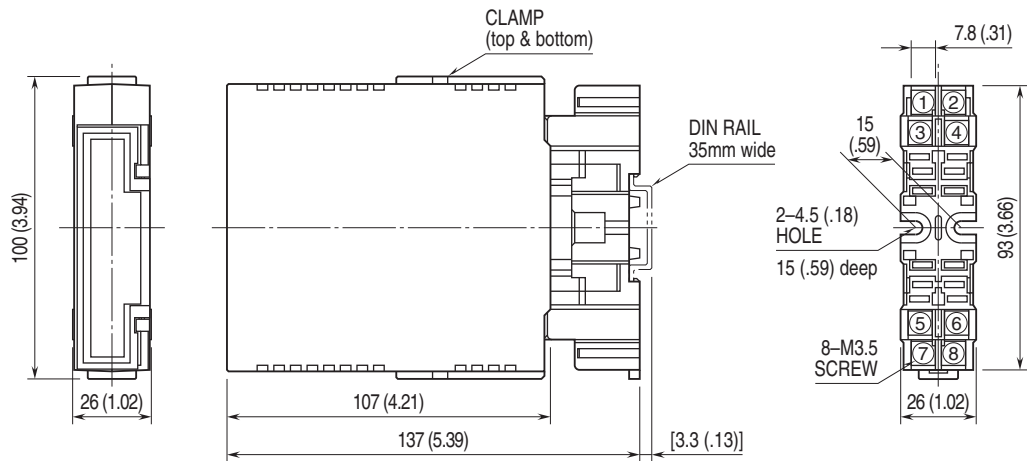
Frame BX-16H available

Weight: 180 g (0.40 lb)

EXTERNAL VIEW

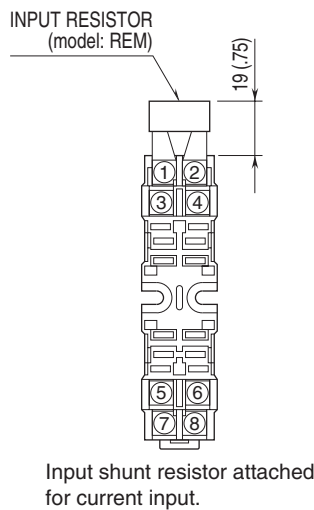


EXTERNAL DIMENSIONS unit: mm (inch)



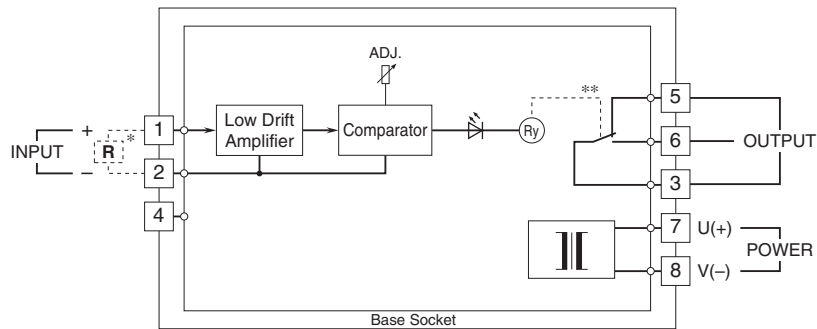
•When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ SINGLE ALARM

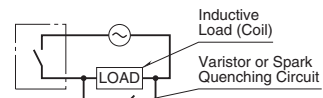


* Input shunt resistor attached for current input.

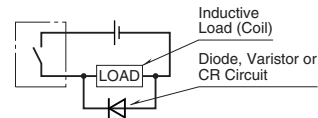
**Relay status is determined by output codes.

■ Relay Protection

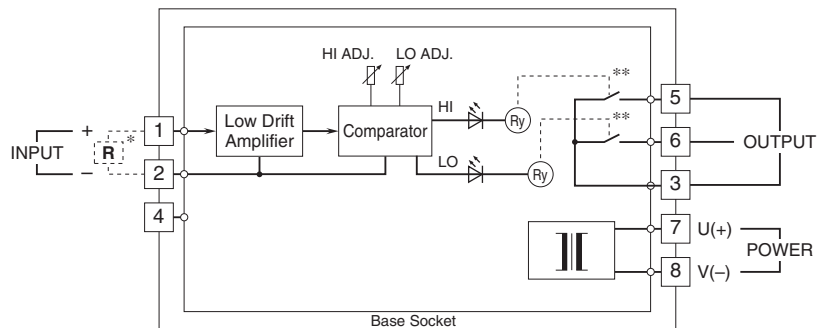
•AC Powered



•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.