

Super-mini Signal Conditioners Mini-M Series

DC ALARM

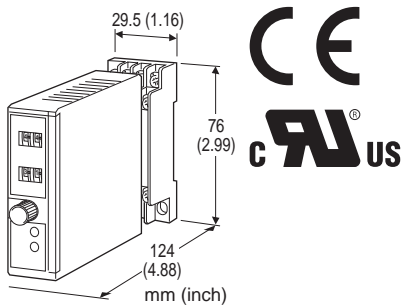
(thumbwheel switch adjustment)

Functions & Features

- Provides SPDT relay outputs at preset DC input levels
- Dual (Hi / Lo) trip
- Thumbwheel switch setpoint adjustments
- Enclosed relays
- Relays can be powered 110 V DC

Typical Applications

- Annunciator
- Various alarm applications



MODEL: M2SED-[1]13-[2][3]

ORDERING INFORMATION

- Code number: M2SED-[1]13-[2][3]
 - Specify a code from below for each of [1] through [3]. (e.g. M2SED-613-P/CE/Q)
 - Specify the specification for option code /Q (e.g. /C01/S01)
- Note: Must be used with its socket. NOT installable to a multi-unit installation base. (e.g. model: M2BS-16)

[1] INPUT

Current

A: 4 - 20 mA DC (Input resistance 250 Ω)

Voltage

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.)

SETPOINT 1 OUTPUT

1: Hi (coil energized at alarm)

SETPOINT 2 OUTPUT

3: Lo (coil energized at alarm)

[2] POWER INPUT

AC Power

M2: 100 - 240 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

(90 - 264 V for UL)

DC Power

R: 24 V DC

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

R2: 11 - 27 V DC

(Operational voltage range 11 - 27 V, ripple 10 %p-p max.)

(Select 'N' for 'Standards & Approvals' code.)

P: 110 V DC

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

(110 V \pm 10 % for UL)

[3] OPTIONS (multiple selections)

Standards & Approvals (must be specified)

/N: Without CE or UL

/CE: CE marking

/UL: UL approval, CE marking

Other Options

blank: none

/Q: Option other than the above (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 (UL not available)

TERMINAL SCREW MATERIAL

/S01: Stainless steel (UL not available)

GENERAL SPECIFICATIONS

Construction: Plug-in

Connection: M3 screw terminals (torque 0.8 N·m)

Screw terminal: Chromated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output to power

Setpoint adjustments: Thumbwheel switches (front);

0 - 99 % independently; 1 % increments

Hysteresis (deadband): 1 \pm 0.3 %

Front LEDs: Red light turns on when the coil is energized.

INPUT SPECIFICATIONS

DC Current:

Shunt resistor attached to the input terminals (0.5 W)

OUTPUT SPECIFICATIONS

■ Relay Contact:

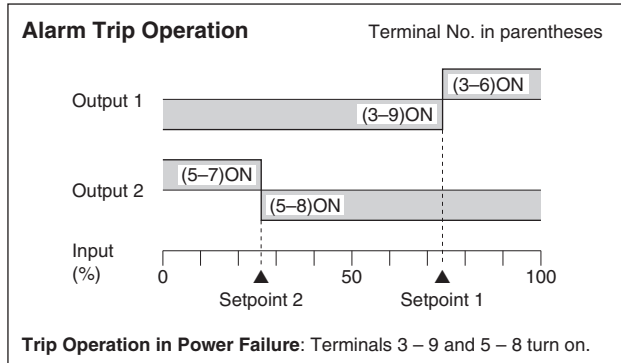
- 100 V AC @5 A ($\cos \phi = 1$)
- 120 V AC @5 A ($\cos \phi = 1$)
- 240 V AC @2.5 A ($\cos \phi = 1$)
- 30 V DC @5 A (resistive load)

Maximum switching voltage: 250 V AC or 125 V DC

Maximum switching power: 600 VA or 150 W

Minimum load: 5 V DC @10 mA

Mechanical life: 5×10^7 cycles



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)

RoHS Directive

EN 50581

Approval:

UL/C-UL general safety requirements

(UL 61010B-1, CAN/CSA-C22.2 No.1010-1)

INSTALLATION

Power Consumption

•AC:

Approx. 3 VA at 100 V

Approx. 4 VA at 200 V

Approx. 5 VA at 264 V

•DC: Approx. 3 W

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

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

Mounting: Surface or DIN rail

Installation Base (model: M2BS) is not adaptable.

Weight: 150 g (0.33 lb)

PERFORMANCE in percentage of span

Setpoint accuracy: ± 0.5 %

Trip point repeatability: ± 0.05 %

Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F)

Response time: 0.5 ± 0.2 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: 2000 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

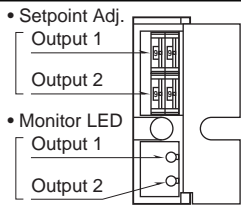
EU conformity:

EMC Directive

EMI EN 61000-6-4

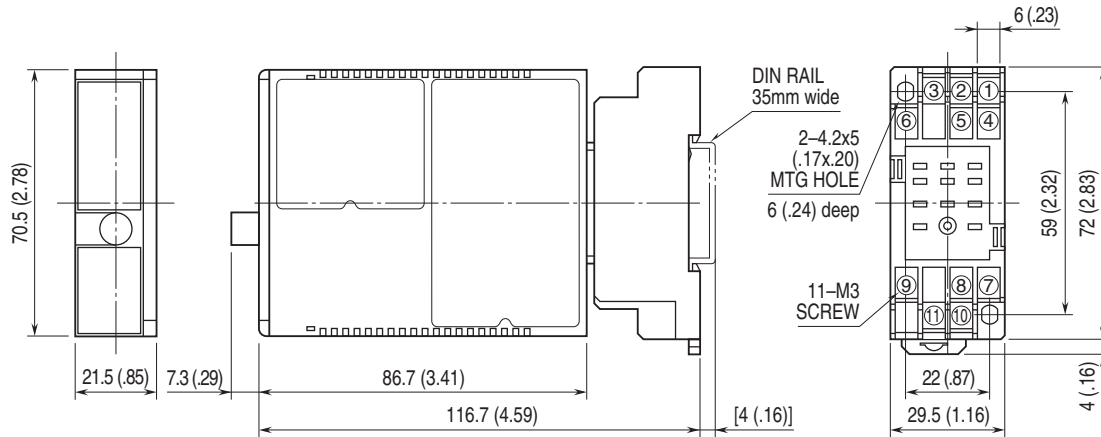
EMS EN 61000-6-2

FRONT VIEW



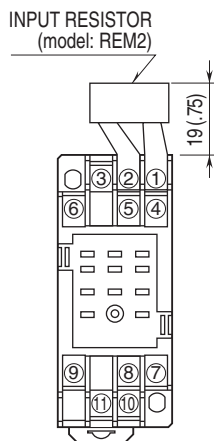
The front cover cannot be turned open by 180 deg. when there is no extra space between units.

EXTERNAL DIMENSIONS unit: mm (inch)



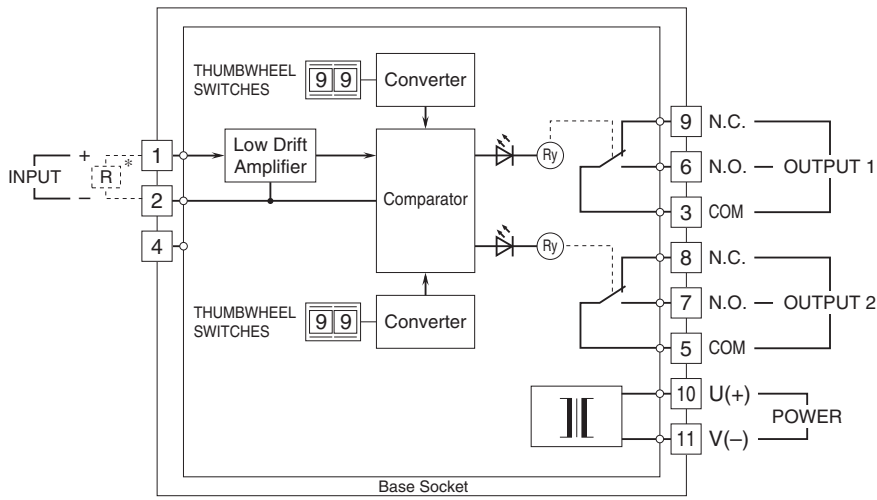
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm (inch)



Input shunt resistor attached for current input.

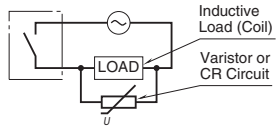
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



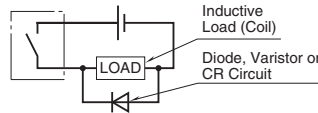
* Input shunt resistor attached for current input.

■ Relay Protection

• AC Powered



• DC Powered



Specifications are subject to change without notice.