

Super-mini Signal Conditioners Mini-M Series

(/UL available)

DC ALARM

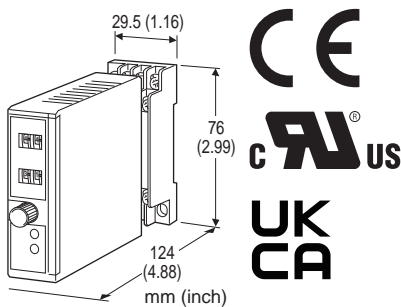
(thumbwheel switch adjustment)

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][2]-[3][4]

ORDERING INFORMATION

- Code number: M2SED-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4]. (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 MΩ min.)

5: 0 - 5 V DC (Input resistance 1 MΩ min.)

6: 1 - 5 V DC (Input resistance 1 MΩ min.)

[2] SETPOINT 1 OUTPUT / SETPOINT 2 OUTPUT

13: Hi (coil energized at alarm)

Lo (coil energized at alarm)

(/UL NOT available)

AB: Hi (coil energized at alarm)

Lo (coil energized at alarm)

[3] POWER INPUT

AC Power

M2: 100 - 240 V AC, 50 - 60 Hz

(Operational voltage range 85 - 264 V, 47 - 66 Hz)

DC Power

R: 24 V DC

(Operational voltage range 24 V ±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.)

[4] OPTIONS (multiple selections)

Standards & Approvals (must be specified)

/N: Without CE, UKCA or UL

/CE: CE marking

/UK: CE, UKCA marking

/UL: UL approval, CE marking

(For /UL, "13" of setpoint output is NOT selectable)

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)

/C04: Polyolefin coating

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 ± 0.3 %

Front LEDs: Red LED 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

Rated load:

- 100 V AC @5 A (cos $\phi = 1$)
- 120 V AC @5 A (cos $\phi = 1$)
- 240 V AC @2.5 A (cos $\phi = 1$) (UL not available)
- 30 V DC @5 A (resistive load)

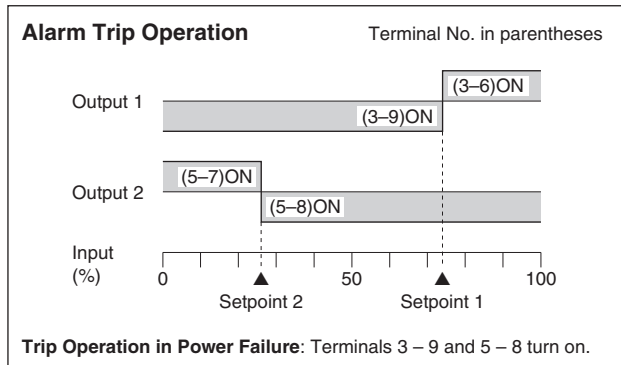
Maximum switching voltage (Note): 250 V AC or 125 V DC

Maximum switching power (Note): 600 VA or 150 W

Minimum load: 5 V DC @10 mA

Mechanical life: 5×10^7 cycles

(Note) The value indicate capacity of output relay in equipment. For EU, UK and UL, use within rated load.



STANDARDS & APPROVALS

EU conformity:

EMC Directive

EMI EN 61000-6-4

EMS EN 61000-6-2

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

UK conformity (UKCA):

The UK legislations and designated standards are equivalent to the applicable EU directives.

(Refer to M-System's website for more information about the legislations and designated standards.)

Approval:

UL/C-UL general safety requirements

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

INSTALLATION

•AC:

- ≤ 3 VA at 100 V
- ≤ 4 VA at 200 V
- ≤ 5 VA at 264 V

•DC: ≤ 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)

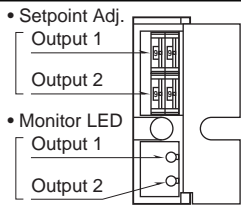
Response time: 0.5 ± 0.2 sec. (0 - 100 % at 90 % setpoint)

Line voltage effect: ± 0.1 % over voltage range

Insulation resistance: ≥ 100 M Ω with 500 V DC

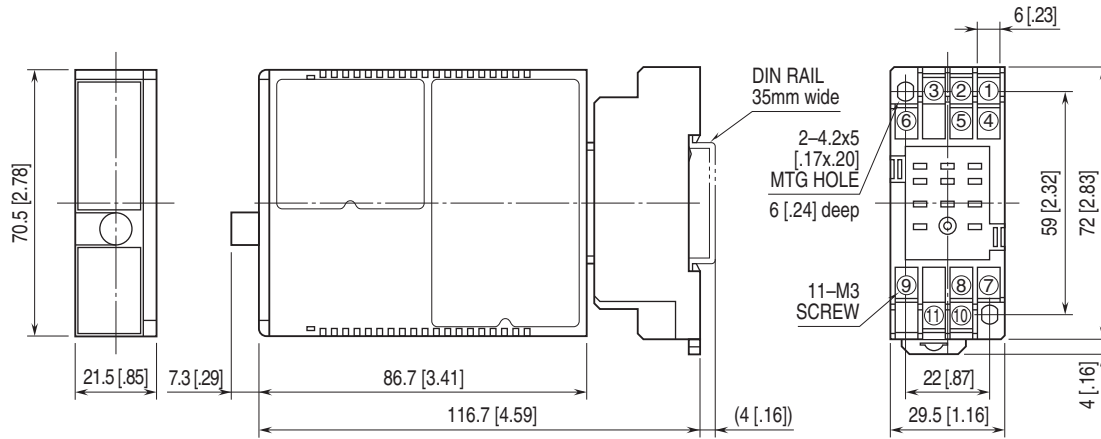
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

FRONT VIEW



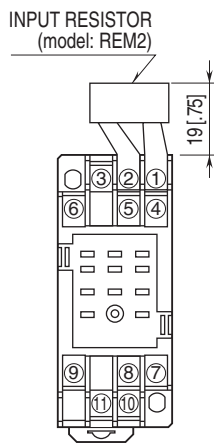
The front cover cannot be turned open by 180 deg. when there is no extra space between units.

EXTERNAL DIMENSIONS unit: mm [inch]



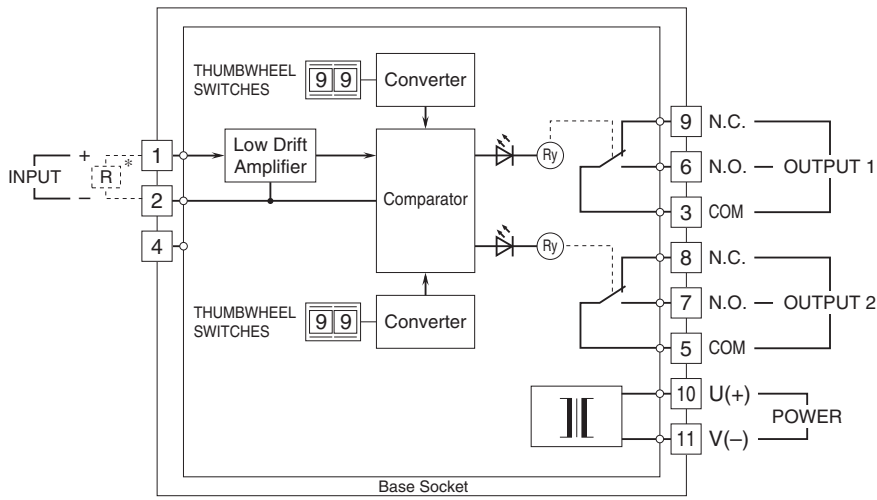
• When mounting, no extra space is needed between units.

TERMINAL ASSIGNMENTS unit: mm [inch]



Input shunt resistor attached for current input.

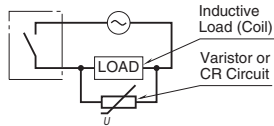
SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



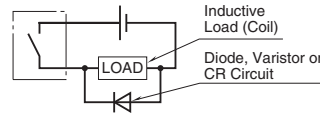
* Input shunt resistor attached for current input.

■ Relay Protection

• AC Powered



• DC Powered



Specifications are subject to change without notice.