

## Super-mini Signal Conditioners Mini-M Series

### HIGH/LOW SELECTOR

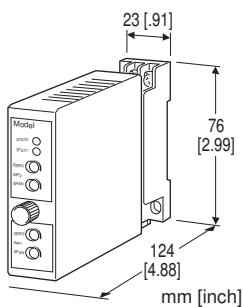
(with simple loop test output)

#### Functions & Features

- Monitors two DC input signals and transmitting an output signal proportional to the higher or lower input
- Simple loop test output (0, 50, 100 %)
- High-density mounting

#### Typical Applications

- Selecting greater flow, pressure, etc. for control
- Heating control by multiple T/C's on a furnace



### MODEL: M2SES2-[1][2]-[3][4]

#### ORDERING INFORMATION

- Code number: M2SES2-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4]. (e.g. M2SES2-AA-M2/CE/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q (e.g. /C01/S01)

#### [1] INPUT

##### Current

- A: 4 - 20 mA DC (Input resistance 250 Ω)
- B: 2 - 10 mA DC (Input resistance 500 Ω)
- C: 1 - 5 mA DC (Input resistance 1000 Ω)
- H: 10 - 50 mA DC (Input resistance 100 Ω)

##### Voltage

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

#### [2] OUTPUT

##### Current

- A: 4 - 20 mA DC (Load resistance 750 Ω max.)
- B: 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C: 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D: 0 - 20 mA DC (Load resistance 750 Ω max.)
- E: 0 - 16 mA DC (Load resistance 900 Ω max.)

F: 0 - 10 mA DC (Load resistance 1500 Ω max.)

G: 0 - 1 mA DC (Load resistance 15 kΩ max.)

Z: Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2: 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3: 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4: 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5: 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6: 1 - 5 V DC (Load resistance 5000 Ω min.)
- 4W: -10 - +10 V DC (Load resistance 10 kΩ min.)
- 5W: -5 - +5 V DC (Load resistance 5000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

#### [3] POWER INPUT

##### AC Power

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

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

M2: 100 - 240 V AC (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 or UL

/CE: 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

/C04: Polyolefin coating

##### TERMINAL SCREW MATERIAL

/S01: Stainless steel

## 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  
**Overrange output:** Approx. -10 to +120 % at 1 - 5 V  
**Input zero adjustments:** -2 to +2 % (front)  
**Input span adjustments:** 98 to 102 % (front)  
**DIP switch setting:** Selecting output options  
**Status indicator LED 1:** Green LED; indicates the transmitter's function mode (Refer to the instruction manual.)  
**Status indicator LED 2:** Orange LED; indicates the transmitter's function mode (Refer to the instruction manual.)

to power to ground)

## STANDARDS & APPROVALS

**EU conformity:**  
 EMC Directive  
 EMI EN 61000-6-4  
 EMS EN 61000-6-2  
 Low Voltage Directive  
 EN 61010-1  
 Installation Category II  
 Pollution Degree 2  
 Input or output to power: Reinforced insulation (300 V)  
 Input to output: Basic insulation (300 V)  
 RoHS Directive

## INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

## OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC  
**Minimum span:** 1 mA  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 15 V max.  
 ■ **DC Voltage:** -10 - +12 V DC  
**Minimum span:** 5 mV  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 1 mA max.; at  $\geq 0.5$  V

## INSTALLATION

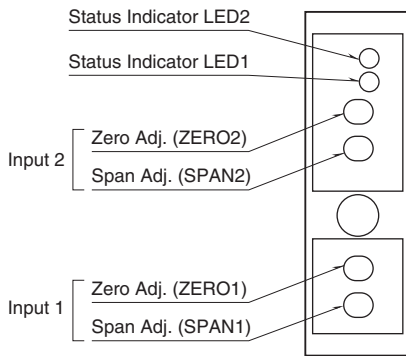
**Power Consumption**  
 •AC:  
 Approx. 3 VA at 100 V  
 Approx. 4 VA at 200 V  
 Approx. 5 VA at 264 V  
 •DC: Approx. 3 W  
**Operating temperature:** -5 to +55°C (23 to 131°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Mounting:** Surface or DIN rail  
**Weight:** 150 g (0.33 lb)

## PERFORMANCE in percentage of span

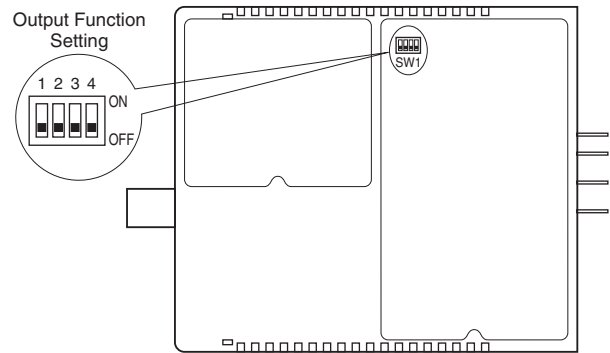
**Accuracy:**  $\pm 0.2$  %  
**Temp. coefficient:**  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)  
**Response time:**  $\leq 0.5$  sec. (0 - 90 %)  
**Line voltage effect:**  $\pm 0.1$  % over voltage range  
**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC  
**Dielectric strength:** 2000 V AC @1 minute (input to output)

## EXTERNAL VIEW

### FRONT VIEW

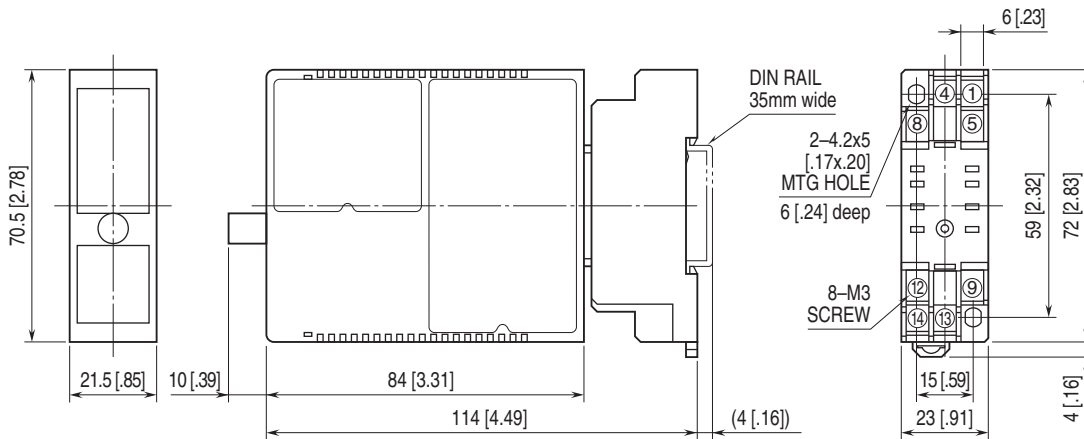


### SIDE VIEW



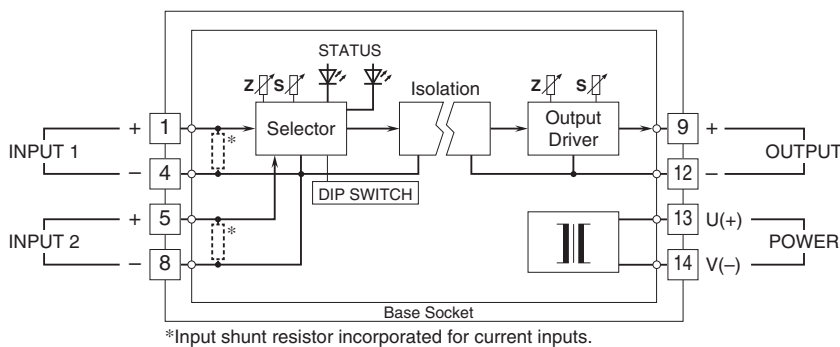
Refer to the instruction manual for detailed procedures.

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.