

## Super-mini Signal Conditioners Mini-M Series

### SIGNAL TRANSMITTER

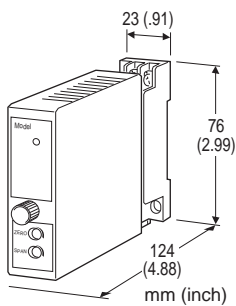
(field-configurable)

#### Functions & Features

- Converts DC input from a sensor into a standard process signal
- DIP switch configurable input & output range and response time
- High-density mounting
- Power indicator LED
- CE marking

#### Typical Applications

- Isolation between control room and field instrumentation



### MODEL: M2FV-[1][2]

#### ORDERING INFORMATION

- Specify a code from below for each [1] and [2].  
 Orders will be shipped at default factory settings for Input (4 - 20mA ) and Output (4 - 20mA ) and Response time (Standard response ).
- Code number: M2FV-[1][2]  
 (e.g. M2FV-M2/CE/Q)
  - Specify the specification for option code /Q  
 (e.g. /C01/S01)

#### INPUT - Field-selectable

##### Current

- 4 - 20 mA DC (Input resistance 50 Ω)
- 0 - 20 mA DC (Input resistance 50 Ω)

##### Voltage

- 0 - 10 V DC (Input resistance 100 kΩ min.)
- 2 - 10 V DC (Input resistance 100 kΩ min.)
- 0 - 5 V DC (Input resistance 100 kΩ min.)
- 1 - 5 V DC (Input resistance 100 kΩ min.)

#### OUTPUT - Field-selectable

##### Current

- 4 - 20 mA DC (Load resistance 750 Ω max.)
- 0 - 20 mA DC (Load resistance 750 Ω max.)

##### Voltage

- 0 - 10 V DC (Load resistance 10 kΩ min.)
- 2 - 10 V DC (Load resistance 10 kΩ min.)
- 0 - 5 V DC (Load resistance 5000 Ω min.)
- 1 - 5 V DC (Load resistance 5000 Ω min.)

#### [1] 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.)

#### [2] OPTIONS (multiple selections)

##### STANDARDS & APPROVALS (must be specified)

- /N: Without CE
  - /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

##### TERMINAL SCREW MATERIAL

- /S01: Stainless steel

#### GENERAL SPECIFICATIONS

- Construction:** Plug-in
- Connection:** M3 screw terminals (torque 0.8 N·m)
- Housing material:** Flame-resistant resin (black)
- Isolation:** Input to output to power
- Overrange output:** Approx. -10 to +120 %
- Zero adjustment:** -2 to +2 % (front)
- Span adjustment:** 98 to 102 % (front)

**Power LED:** Green light turns on when the power is supplied.

## INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated

## INSTALLATION

### Power Consumption

• **AC Power input:**

Approx. 3 VA at 100 V

Approx. 4 VA at 200 V

Approx. 5 VA at 264 V

• **DC Power input:** Approx. 3 W

**Operating temperature:** -30 to +60°C (-22 to +140°F)

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

**Mounting:** Surface or DIN rail

**Weight:** 150 g (0.33 lbs)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

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

**Response time:**

Standard response  $\leq 0.5$  sec. (0 - 90 %)

Fast response  $\leq 30$  msec. (0 - 90 %)

**Line voltage effect:**  $\pm 0.1\%$  over voltage range

**Insulation resistance:**  $\geq 100\ \text{M}\Omega$  with 500 V DC

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

## STANDARDS & APPROVALS

**CE conformity:**

EMC Directive (2004/108/EC)

EN 61000-6-4 (EMI)

EN 61000-6-2 (EMS)

Low Voltage Directive (2006/95/EC)

EN 61010-1

Installation Category II

Pollution Degree 2

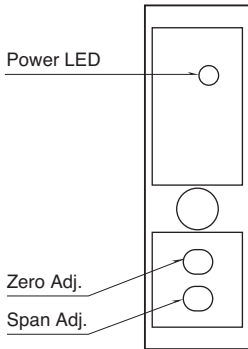
Max. operating voltage 300 V

Input or output to power: Reinforced insulation

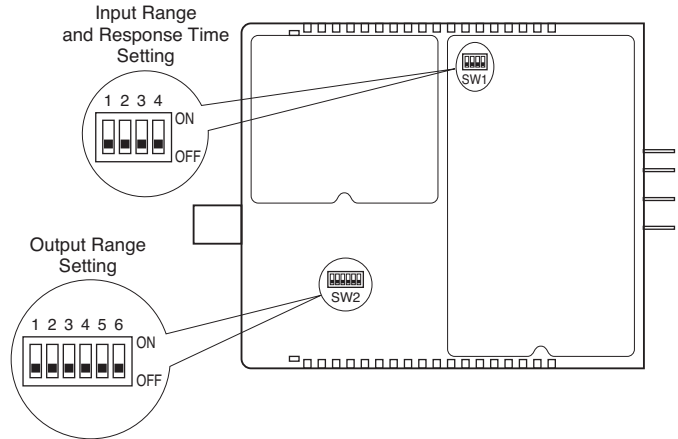
Input to output: Basic insulation

## EXTERNAL VIEW

■ FRONT VIEW

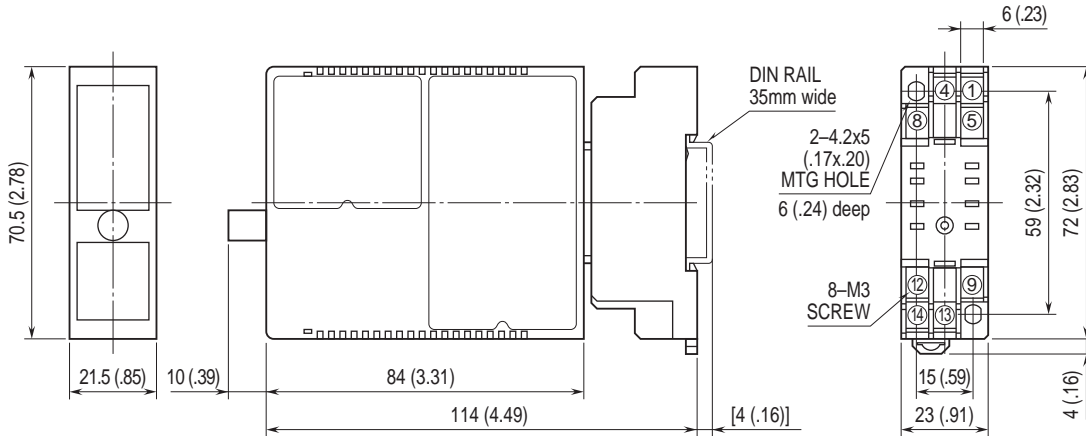


■ SIDE VIEW



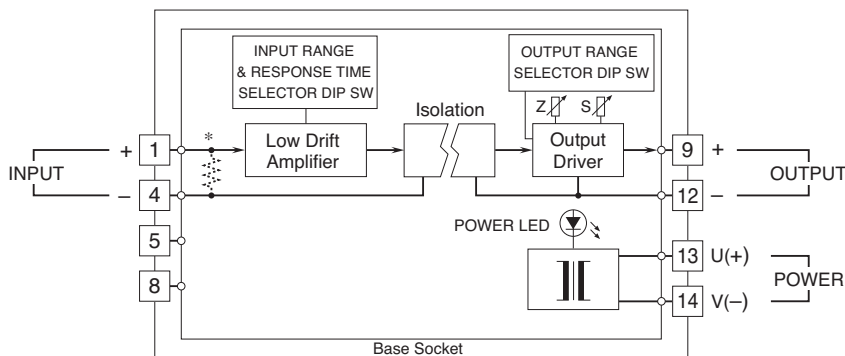
Refer to the instruction manual for detailed procedures.

## DIMENSIONS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\* Input shunt resistor incorporated for current input.



Specifications are subject to change without notice.