

## Super-mini Signal Conditioners Mini-M Series

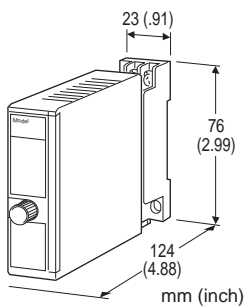
### PARAMETER GENERATOR

#### Functions & Features

- Provides a constant DC signal
- Setpoint adjustable from -10.0 % to +105 %
- Easy setting with the front digital display
- CE marking

#### Typical Applications

- Various parameter settings for computers and DCS's



### MODEL: M2MST-[1]-[2][3]

#### ORDERING INFORMATION

- Code number: M2MST-[1]-[2][3]
- Specify a code from below for each [1] through [3].  
(e.g. M2MST-A-M2/CE/Q)
- Special output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] 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)

#### [2] POWER INPUT

##### AC Power

**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.)

#### [3] 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:** Output to power

**Overrange output:** Approx. -10 to +105 % at 1 - 5 V  
Output is factory set to 0%.

**Zero adjustment:** -5 to +5 % (front)

**Span adjustment:** 95 to 105 % (front)

**Setpoint adjustment:** -10.0 - +105 %;  
0.1 % increments (1 % increments over 100 %)

**Display selector:** Double-throw SW (front)

**UP/DOWN control:** Double-throw, momentary SW (front)

##### INDICATORS

**Setpoint display:** Red LED; 6.4 mm (.25") 7 segment, 3 digits

**Polarity indicator:** Dual color (red/green) LED; Red with a

positive set value; Green with a negative set value.

**Power saving mode:** Indicators turn off when the switches are left untouched for 1 minute, or when the display selector is set to the bottom position.

## 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 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:** -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 lbs)

## PERFORMANCE in percentage of span

**Setting accuracy:**  $\pm 0.1$  %

**Temp. coefficient:**  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)

**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 (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

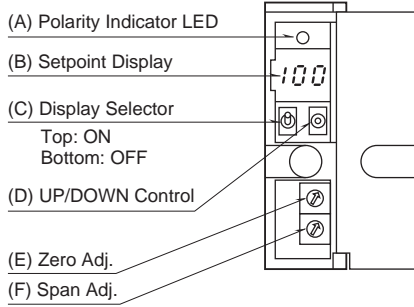
Installation Category II

Pollution Degree 2

Max. operating voltage 300 V

Output to power: Reinforced insulation

## EXTERNAL VIEW

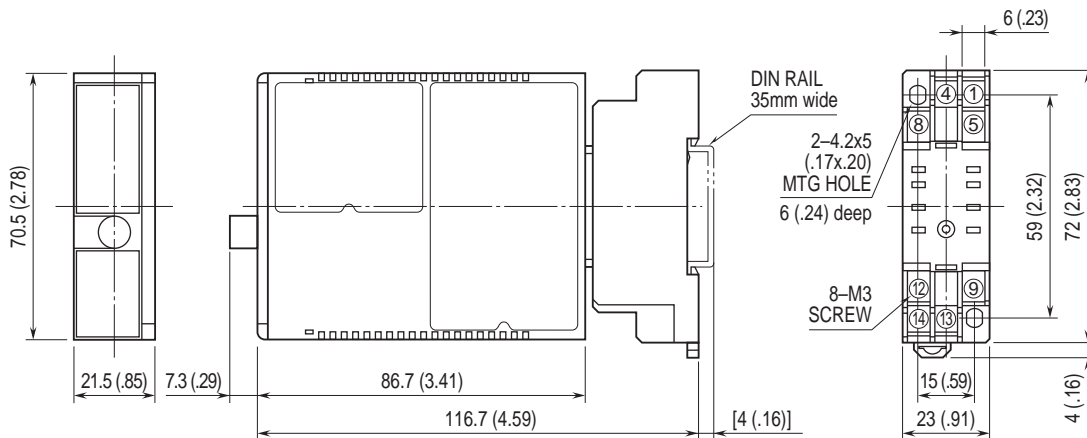


The front cover cannot be turned open by 180 deg. when there is no extra space between units.

### • How to Set an Output

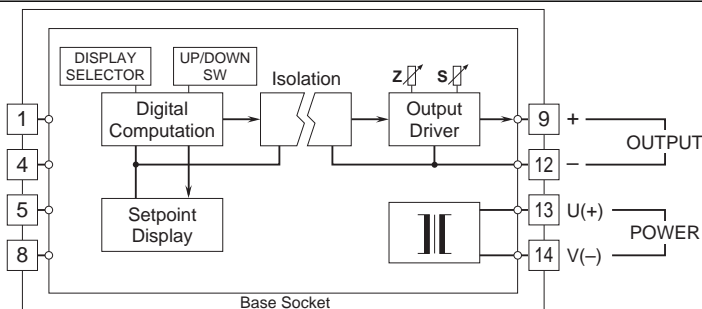
Turn the Display Selector (C) to the top position.  
 The Setpoint Display (B) shows the current setpoint (-10.0 - +105 %). Press UP/DOWN Control (D) until the display shows a desired set value.  
 The Polarity Indicator LED (A) is red when the set value is in positive range, green when in negative range.  
 The output is factory set to 0 %.

## DIMENSIONS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.