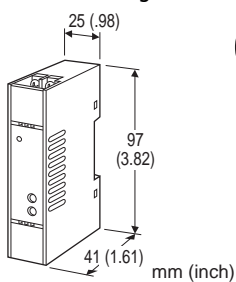


## Super-mini Terminal Block Signal Conditioners M5-UNIT

### POTENTIOMETER TRANSMITTER

#### Functions & Features

- Provides a standard DC output proportional to a potentiometer or slidewire position input
- Constant voltage excitation
- Fast response type available
- High-density mounting
- Power LED
- CE marking for 24 V power



M5MS-□-□□

### ORDERING INFORMATION

Specify a code from below for each [1] through [3].

- Code number: M5MS-[1]-[2][3]  
(e.g. M5MS-A-R/K/Q)

Specify variables.

- Special output range (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01 /V01)

### INPUT

Total resistance 100 Ω - 10 kΩ

### [1] OUTPUT

#### Current

- A:** 4 - 20 mA DC (Load resistance 550 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 550 Ω max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)

#### Voltage

- 1:** 0 - 10 mV DC (Load resistance 100 kΩ min.)  
(CE not available)
- 2:** 0 - 100 mV DC (Load resistance 100 kΩ min.)  
(CE not available)
- 3:** 0 - 1 V DC (Load resistance 100 Ω min.)
- 4:** 0 - 10 V DC (Load resistance 1000 Ω min.)
- 5:** 0 - 5 V DC (Load resistance 500 Ω min.)
- 6:** 1 - 5 V DC (Load resistance 500 Ω min.)
- 1W:** -10 - +10 mV DC (Load resistance 100 kΩ min.)

(CE not available)

**2W:** -100 - +100 mV DC (Load resistance 100 kΩ min.)

(CE not available)

**3W:** -1 - +1 V DC (Load resistance 800 Ω min.)

**4W:** -10 - +10 V DC (Load resistance 8000 Ω min.)

**5W:** -5 - +5 V DC (Load resistance 4000 Ω min.)

**0:** Specify voltage (See OUTPUT SPECIFICATIONS)

**01:** Specify voltage (See OUTPUT SPECIFICATIONS)

(CE not available)

### [2] POWER INPUT

#### AC Power

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

(CE not available)

#### DC Power

**R:** 24 V DC

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

### [3] OPTIONS

#### RESPONSE TIME (0 - 90 %)

**blank:** Standard (≤ 0.5 sec.)

**/K:** Fast Response (Approx. 25 msec.)

#### OTHER OPTIONS

**blank:** none

**/Q:** Option other than the above (specify the specification)

#### OPTION SPECIFICATIONS OF /Q (multiple selections)

##### COATING (For the detail, refer to M-system's web site.)

**/C01:** Silicone coating

**/C02:** Polyurethane coating

**/C03:** Rubber coating

##### ADJUSTMENT

**/V01:** Multi-turn fine adjuster

### GENERAL SPECIFICATIONS

**Construction:** Terminal block

**Connection:** M3.5 screw terminals (torque 0.8 N·m)

**Screw terminal:** Nickel-plated steel

**Housing material:** Flame-resistant resin (black)

**Isolation:** Input to output to power

**Zero adjustment:** 0 - 30 % of total resistance (front)

**Span adjustment:** 70 - 100 % of total resistance (front)

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

### INPUT SPECIFICATIONS

**Minimum span:** 70 % of total resistance

**Excitation:** 0.5 V DC

## OUTPUT SPECIFICATIONS

- **DC Current:** 0 – 20 mA DC
  - Minimum span:** 1 mA
  - Offset:** Max. 1.5 times span
  - Load resistance:** Output drive 11 V max.
- **DC Voltage**
  - Output code 0 (CE)**
    - Voltage range:** -10 – +10 V DC
    - Minimum span:** 1 V
    - Offset:** Max. 1.5 times span
    - Load resistance:** Output drive 10 mA max.; at  $\geq 1$  V  
Max. 1.25 mA output drive for negative voltage
  - Output code 01 (Not CE)**
    - Voltage range:** -1 – +1 V DC
    - Minimum span:** 10 mV
    - Offset:** Max. 1.5 times span
    - Load resistance:** Min. 100 k $\Omega$   
Min. 1 M $\Omega$  for negative voltage

## INSTALLATION

### Power Consumption

- **AC Power input:**
    - Approx. 2 VA at 100 V
    - Approx. 3 VA at 200 V
    - Approx. 3 VA at 264 V
  - **DC Power input:** Approx. 2 W
- Operating temperature:** -5 to +55°C (23 to 131°F)  
**Operating humidity:** 0 to 90 %RH (non-condensing)  
**Mounting:** DIN rail  
**Weight:** 80 g (2.8 oz)

## PERFORMANCE in percentage of span

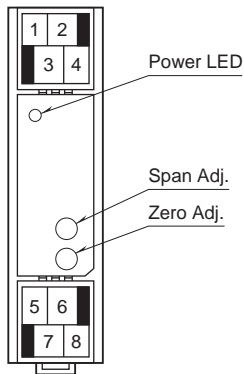
- Accuracy:**  $\pm 0.1$  %  
**Temp. coefficient:**  $\pm 0.015$  %/°C ( $\pm 0.008$  %/°F)  
**Line voltage effect:**  $\pm 0.1$  % over voltage range  
**Insulation resistance:**  $\geq 100$  M $\Omega$  with 500 V DC  
**Dielectric strength** (input to output to power to ground)
  - DC powered:** 2000 V AC @1 minute
  - AC powered:** 1500 V AC @1 minute

## STANDARDS & APPROVALS

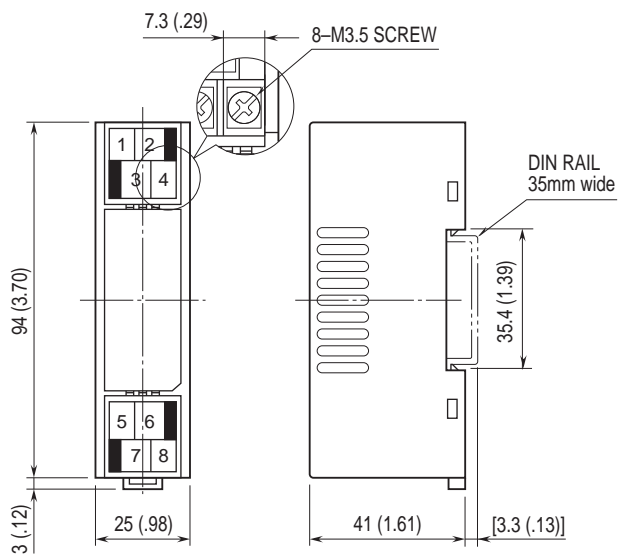
### CE conformity:

- EMC Directive (2004/108/EC)
- EN 61000-6-4 (EMI)
- EN 61000-6-2 (EMS)

## FRONT VIEW

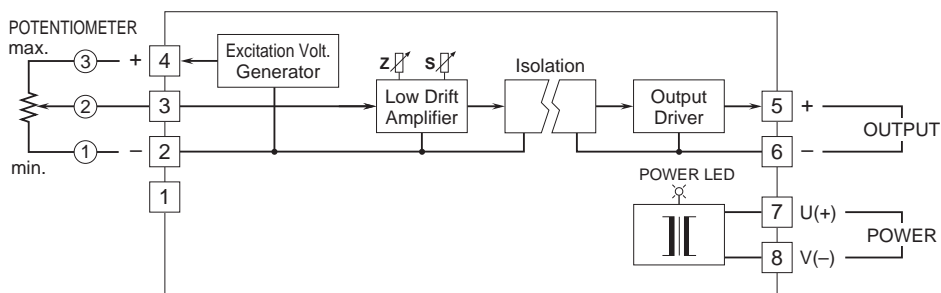


## DIMENSIONS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.