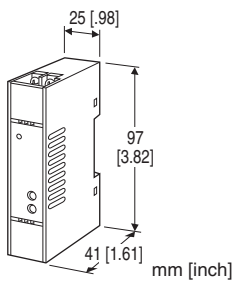


Super-mini Terminal Block Signal Conditioners M5-UNIT

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



MODEL: M5MS-[1]-[2][3]

ORDERING INFORMATION

- Code number: M5MS-[1]-[2][3]
Specify a code from below for each of [1] through [3].
(e.g. M5MS-A-R/K/Q)
- Special output range (For codes Z, 0 & 01)
- Specify the specification for option code /Q
(e.g. /C01/V01/S01)

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 (multiple selections)

Response Time (0 - 90 %)

blank: Standard (≤ 0.5 sec.)

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

Input Minimum Span

blank: ≥ 70 % of total resistance

/A1: ≥ 50 % of total resistance (CE not available)

(Selectable only current output A, D)

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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

ADJUSTMENT

/V01: Multi-turn fine adjustment

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Terminal block
Connection: M3.5 screw terminals (torque 0.8 N·m)
Screw terminal: Nickel-plated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Overrange output: Approx. -10 to +110 % at 1 - 5 V
Zero adjustment: 0 - 30 % of total resistance (front)
Span adjustment: 70 - 100 % of total resistance (front)
 (For '/A1', 50 - 100 % of total resistance (front))
Power indicator LED: Green LED turns on when the power is supplied.

INPUT SPECIFICATIONS

Minimum span: 70% of total resistance
 (For '/A1', 50% 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 ≥ 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 Ω
 Min. 1 M Ω for negative voltage

INSTALLATION

Power Consumption

- **AC:**
 Approx. 2 VA at 100 V
 Approx. 3 VA at 200 V
 Approx. 3 VA at 264 V
- **DC:** 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)

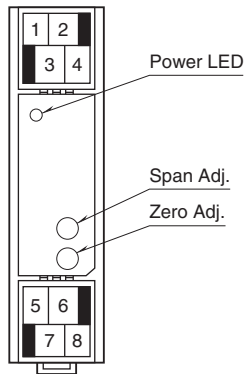
PERFORMANCE in percentage of span

Accuracy: ± 0.1 % (For '/A1' ± 0.2 %)
Temp. coefficient: ± 0.015 %/°C (± 0.008 %/°F) (for '/A1' ± 0.04 %/°C (± 0.02 %/°F))
Line voltage effect: ± 0.1 % over voltage range
Insulation resistance: ≥ 100 M Ω 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

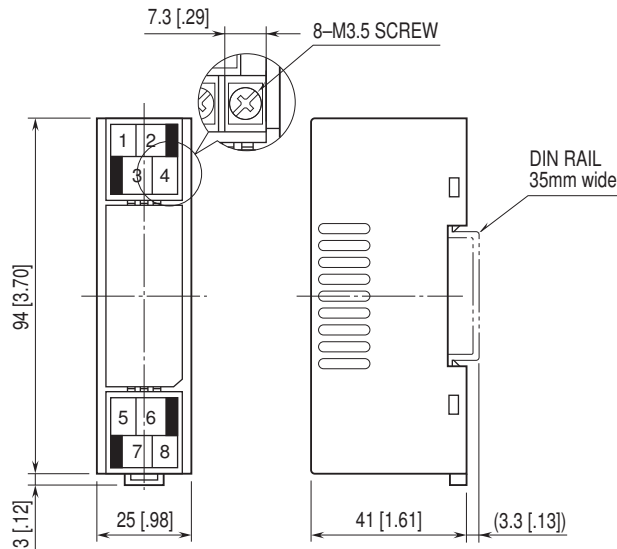
STANDARDS & APPROVALS

EU conformity:
 EMC Directive
 EMI EN 61000-6-4
 EMS EN 61000-6-2
 RoHS Directive

FRONT VIEW

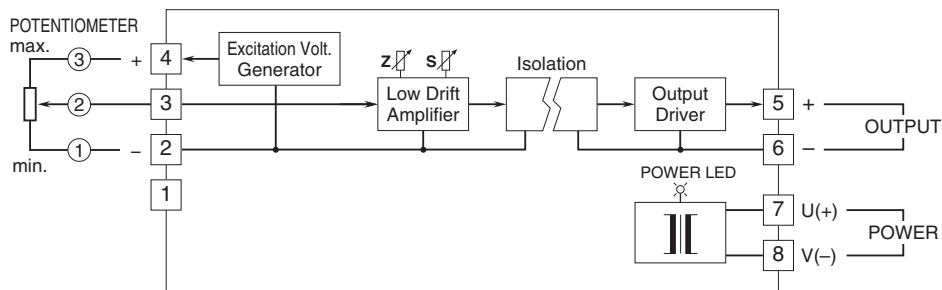


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.