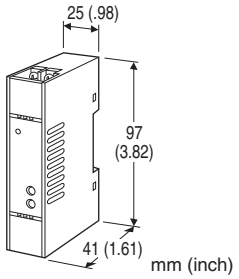
Super-mini Terminal Block Signal Conditioners M5-UNIT

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

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

ORDERING INFORMATION

- Code number: M5MS-[1]-[2][3]
  Specify a code from below for each [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 M-System's 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 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 kΩ
Min. 1 MΩ 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)

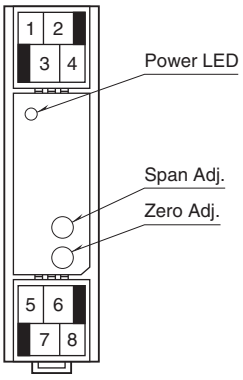
PERFORMANCE in percentage of span

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 MΩ 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

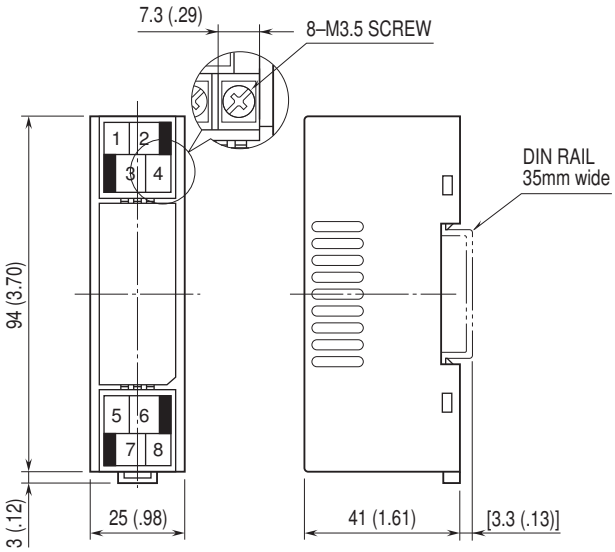
STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive
EN 50581

FRONT VIEW

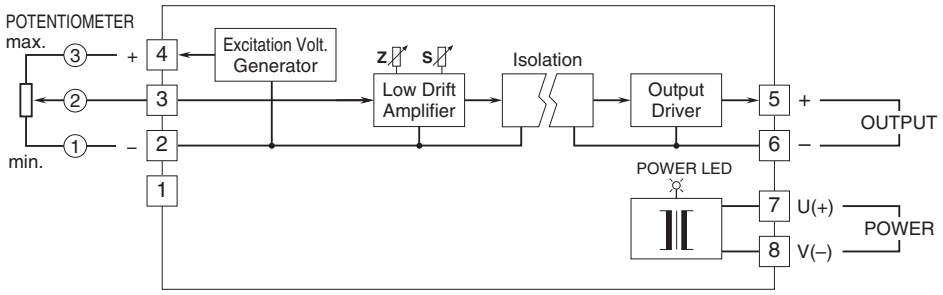


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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http://www.m-system.co.jp/