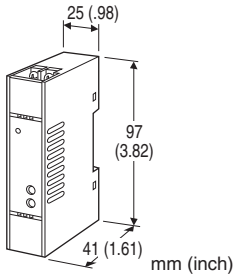
Super-mini Terminal Block Signal Conditioners M5-UNIT

SIGNAL TRANSMITTER

(narrow span input)

Functions & Features

• Converts a narrow span (≤ 100 mV DC) input into an isolated DC signal
• High-density mounting
• Power LED



MODEL: M5MV-[1][2]-[3][4]

ORDERING INFORMATION

• Code number: M5MV-[1][2]-[3][4]
Specify a code from below for each of [1] through [4].
(e.g. M5MV-14W-R/K/Q)
• Special input and output ranges (For codes Z, 0 & 01)
• Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT

Current

K: 0 – 100 µA DC (Input resistance 1000 Ω)
Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

1: 0 – 10 mV DC (Input resistance 10 kΩ min.)
15: 0 – 50 mV DC (Input resistance 10 kΩ min.)
0: Specify voltage (See INPUT SPECIFICATIONS)

[2] OUTPUT

Current

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

Voltage

18: 0 – 80 mV DC (Load resistance 100 kΩ min.)
(CE or UKCA not available)
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.)
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 or UKCA not available)

[3] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)
(CE or UKCA not available)

DC Power

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

[4] OPTIONS (multiple selections)

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)

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: 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: -2 to +2 % (front)
Span adjustment: 98 to 102 % (front)
Power indicator LED: Green LED turns on when the power is supplied.

INPUT SPECIFICATIONS

■ DC Current: Input resistor incorporated
Specify input resistance value among followings for code Z.
20Ω, 49.9Ω, 61.9Ω, 100Ω, 249Ω, 499Ω, 1000Ω
(0.125 W ≥ [Input current]^2 × R)
■ DC Voltage: -100 – +100 mV DC
Minimum span: 5 mV

Offset: Max. 1.5 times span
Input resistance: ≥ 10 kΩ

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: 0 – 10 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Load resistance: Output drive 10 mA max.; at ≥1 V
•**Output code 01 (Not CE)**
Voltage range: 0 – 999 mV DC
Minimum span: 10 mV
Offset: 0 V
Load resistance:
10 mV ≤ Span < 100 mV: Min. 10 kΩ
100 mV ≤ Span < 1 V: Min. 100 kΩ

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)

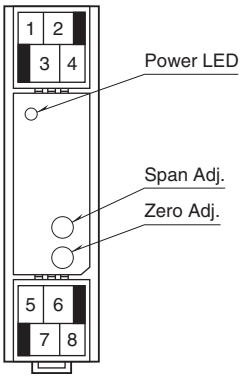
PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°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

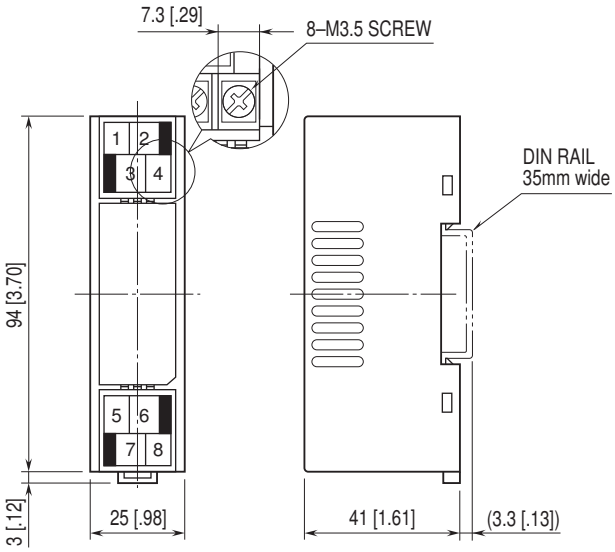
STANDARDS & APPROVALS

EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
RoHS Directive
UK conformity (UKCA):
The UK legislations and designated standards are equivalent to the applicable EU directives.
(Refer to M-System's website for more information about the legislations and designated standards.)

FRONT VIEW

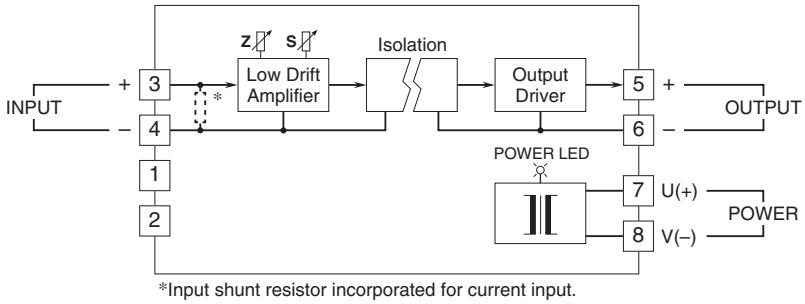


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



• 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.

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