

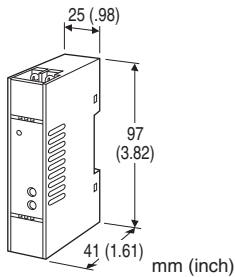
Super-mini Terminal Block Signal Conditioners M5-UNIT

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 μ A DC (Input resistance 1000 Ω)
Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 1:** 0 - 10 mV DC (Input resistance 10 k Ω min.)
15: 0 - 50 mV DC (Input resistance 10 k Ω 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 k Ω 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 \pm 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.
 20 Ω , 49.9 Ω , 61.9 Ω , 100 Ω , 249 Ω , 499 Ω , 1000 Ω
 (0.125 W \geq [Input current]² \times R)
- **DC Voltage:** -100 - +100 mV DC
Minimum span: 5 mV

Offset: Max. 1.5 times span

Input resistance: $\geq 10\text{ k}\Omega$

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.)

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 $\geq 1\text{ V}$

• **Output code 01 (Not CE)**

Voltage range: 0 – 999 mV DC

Minimum span: 10 mV

Offset: 0 V

Load resistance:

10 mV \leq Span < 100 mV: Min. 10 k Ω

100 mV \leq Span < 1 V: Min. 100 k Ω

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: $\pm 0.1\%$

Temp. coefficient: $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$)

Line voltage effect: $\pm 0.1\%$ over voltage range

Insulation resistance: $\geq 100\text{ M}\Omega$ 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

EU conformity:

EMC Directive

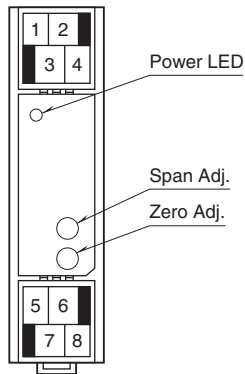
EMI EN 61000-6-4

EMS EN 61000-6-2

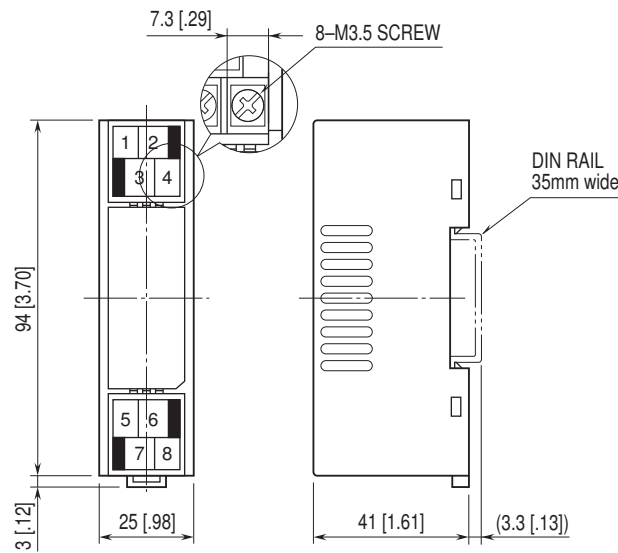
RoHS Directive

UK conformity (UKCA):

FRONT VIEW

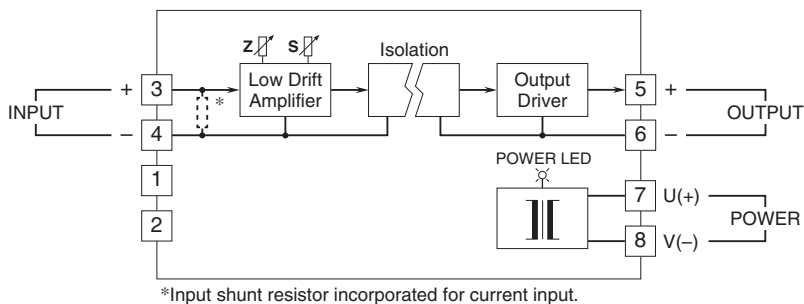


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.