

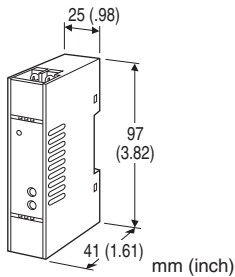
## Super-mini Terminal Block Signal Conditioners M5-UNIT

### SIGNAL TRANSMITTER

(narrow span input)

#### Functions & Features

- Converts a narrow span ( $\leq 100$  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 [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  $\mu$ A DC (Input resistance 1000  $\Omega$ )  
**Z:** Specify current (See INPUT SPECIFICATIONS)

##### Voltage

- 1:** 0 - 10 mV DC (Input resistance 10 k $\Omega$  min.)  
**15:** 0 - 50 mV DC (Input resistance 10 k $\Omega$  min.)  
**0:** Specify voltage (See INPUT SPECIFICATIONS)

#### [2] OUTPUT

##### Current

- A:** 4 - 20 mA DC (Load resistance 550  $\Omega$  max.)  
**Z:** Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

- 18:** 0 - 80 mV DC (Load resistance 100 k $\Omega$  min.)  
 (CE not available)  
**4:** 0 - 10 V DC (Load resistance 1000  $\Omega$  min.)  
**5:** 0 - 5 V DC (Load resistance 500  $\Omega$  min.)  
**6:** 1 - 5 V DC (Load resistance 500  $\Omega$  min.)  
**4W:** -10 - +10 V DC (Load resistance 8000  $\Omega$  min.)

- 5W:** -5 - +5 V DC (Load resistance 4000  $\Omega$  min.)  
**0:** Specify voltage (See OUTPUT SPECIFICATIONS)  
**01:** Specify voltage (See OUTPUT SPECIFICATIONS)  
 (CE not available)

#### [3] 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  $\pm$ 10 %, ripple 10 %p-p max.)

#### [4] OPTIONS (multiple selections)

##### Response Time (0 - 90 %)

- blank:** Standard ( $\leq 0.5$  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 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  
( $0.125 \text{ W} \geq [\text{Input current}]^2 \times R$ )
- **DC Voltage:** -100 – +100 mV DC
- Minimum span:** 5 mV
- Offset:** Max. 1.5 times span
- Input resistance:**  $\geq 10 \text{ k}\Omega$

**STANDARDS & APPROVALS**

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

**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 kΩ  
100 mV  $\leq$  Span < 1 V: Min. 100 kΩ

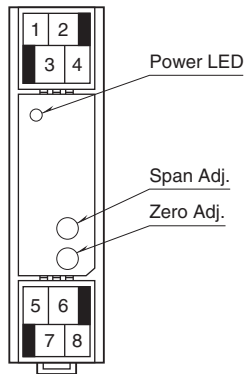
**INSTALLATION****Power Consumption**

- **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)

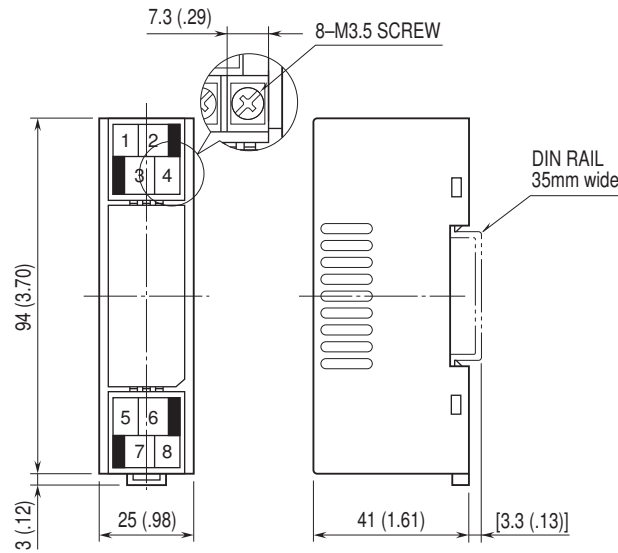
**PERFORMANCE in percentage of span**

- Accuracy:**  $\pm 0.1 \%$
- Temp. coefficient:**  $\pm 0.015 \%$ /°C ( $\pm 0.008 \%$ /°F)
- Line voltage effect:**  $\pm 0.1 \%$  over voltage range
- Insulation resistance:**  $\geq 100 \text{ M}\Omega$  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

## FRONT VIEW

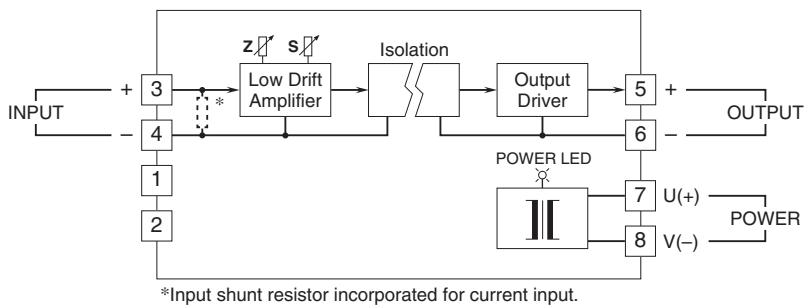


## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.