

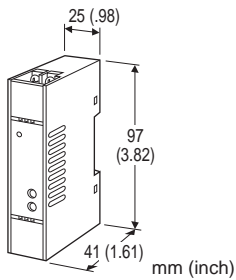
Super-mini Terminal Block Signal Conditioners M5-UNIT

SIGNAL TRANSMITTER

(high speed response)

Functions & Features

- Converts a DC input into an isolated DC signal
- Ultra-high speed response 150 μ sec.
- High-density mounting
- Power LED



MODEL: M5VF-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: M5VF-[1][2]-[3][4]
- Specify a code from below for each [1] through [4].
(e.g. M5VF-4W4W-R/Q)
- Special input and output ranges (For codes Z & 0)
 - Specify the specification for option code /Q
(e.g. /C01/V01)

[1] INPUT

Current

- A: 4 - 20 mA DC (Input resistance 249 Ω)
- B: 2 - 10 mA DC (Input resistance 499 Ω)
- C: 1 - 5 mA DC (Input resistance 1000 Ω)
- D: 0 - 20 mA DC (Input resistance 49.9 Ω)
- E: 0 - 16 mA DC (Input resistance 61.9 Ω)
- F: 0 - 10 mA DC (Input resistance 100 Ω)
- G: 0 - 1 mA DC (Input resistance 1000 Ω)
- H: 10 - 50 mA DC (Input resistance 20 Ω)
- Z: Specify current (See INPUT SPECIFICATIONS)

Voltage

- 3: 0 - 1 V DC (Input resistance 1 M Ω min.)
- 4: 0 - 10 V DC (Input resistance 1 M Ω min.)
- 5: 0 - 5 V DC (Input resistance 1 M Ω min.)
- 6: 1 - 5 V DC (Input resistance 1 M Ω min.)
- 4W: -10 - +10 V DC (Input resistance 1 M Ω min.)
- 5W: -5 - +5 V DC (Input resistance 1 M 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)
(Not selectable with the power input code M)

Voltage

- 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.)
(For the input suffix codes 4W and 5W only)
- 5W: -5 - +5 V DC (Load resistance 4000 Ω min.)
(For the input suffix codes 4W and 5W only)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)
(Not selectable with the power input code M)

[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

- blank: none
- /Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

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

GENERAL SPECIFICATIONS

- Construction:** Terminal block
- Connection:** M3.5 screw terminals (torque 0.8 N·m)
- Screw terminal:** Nickel-plated steel
- Housing material:** Flame-resistant resin (black)
- Isolation:** Input to output to power
- Zero adjustment:** -2 to +2 % (front)
(\pm 1 % with the input suffix codes 4W and 5W selected)
- Span adjustment:** 98 to 102 % (front)
(99 to 101 % with the input suffix codes 4W and 5W selected.)
- Power LED:** Green light turns on when the power is supplied.



INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated
Specify input resistance value for code Z.
($R \leq 0.125 \text{ W} \div [\text{F.S. Current}]^2$)
- **DC Voltage:** -30 - +30 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Input resistance: 1 M Ω min.
(10 k Ω min. at power loss)

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.; 9 V max. for the full-scale output < 3 mA
- **DC Voltage:** 0 - 10 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Load resistance: Output drive 10 mA max.; at $\geq 1 \text{ V}$

INSTALLATION

Power Consumption

- **AC:**
Approx. 2 VA at 100 V
Approx. 2 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

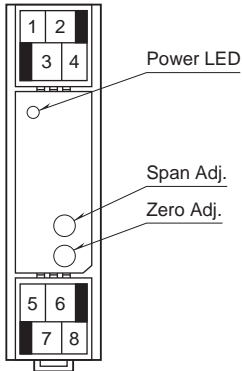
- Accuracy:** $\pm 0.1 \%$
- Temp. coefficient:** $\pm 0.015 \%/^{\circ}\text{C}$ ($\pm 0.008 \%/^{\circ}\text{F}$)
 $\pm 0.02 \%/^{\circ}\text{C}$ ($\pm 0.01 \%/^{\circ}\text{F}$) with AC power
- Response time:** $\leq 150 \mu\text{sec.}$ (0 - 90 %)
- Line voltage effect:** $\pm 0.1 \%$ over voltage 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

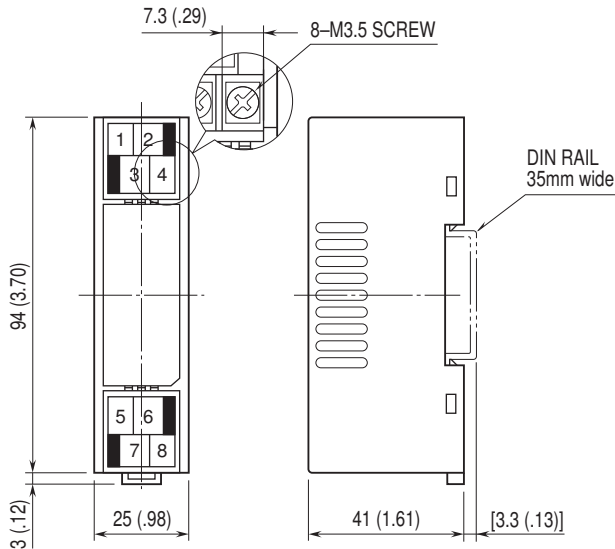
- CE conformity:**
EMC Directive (2004/108/EC)
EMI EN 61000-6-4: 2007/A1: 2011
EMS EN 61000-6-2: 2005



FRONT VIEW

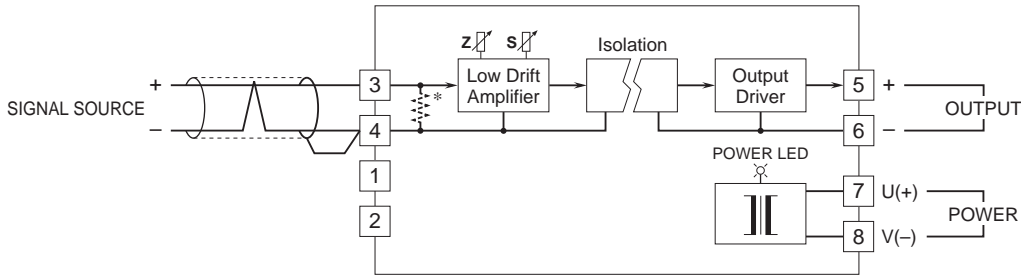


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor incorporated for current input.

The M5VF, by its fast-response feature, is not designed to eliminate noise present in the input signal. Use a shielded twisted-pair cable for preventing noise entering through the input wiring.



Specifications are subject to change without notice.

