

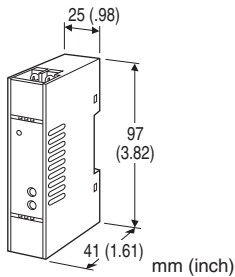
Super-mini Terminal Block Signal Conditioners M5-UNIT

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/S01)

[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 (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: -2 to +2 % (front)
 (±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 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:** -30 - +30 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Input resistance: 1 MΩ min.
 (10 kΩ 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 ≥ 1 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)

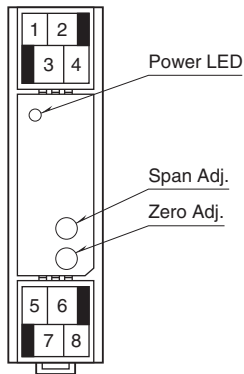
PERFORMANCE in percentage of span

Accuracy: ±0.1 %
Temp. coefficient: ±0.015 %/°C (±0.008 %/°F)
 ±0.02 %/°C (±0.01 %/°F) with AC power
Response time: ≤ 150 μsec. (0 - 90 %)
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

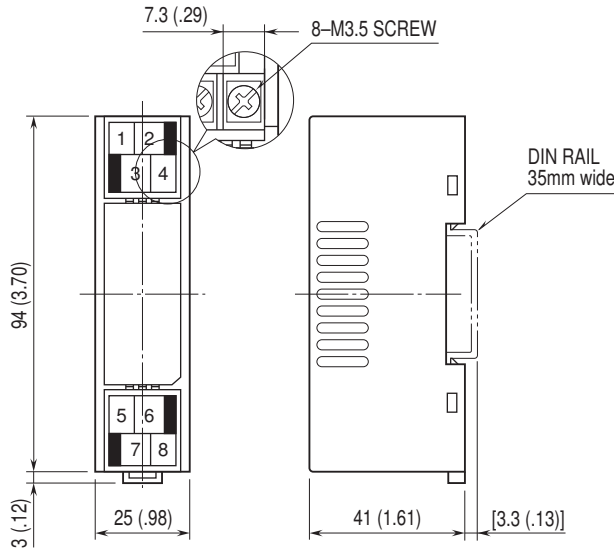
STANDARDS & APPROVALS

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

FRONT VIEW

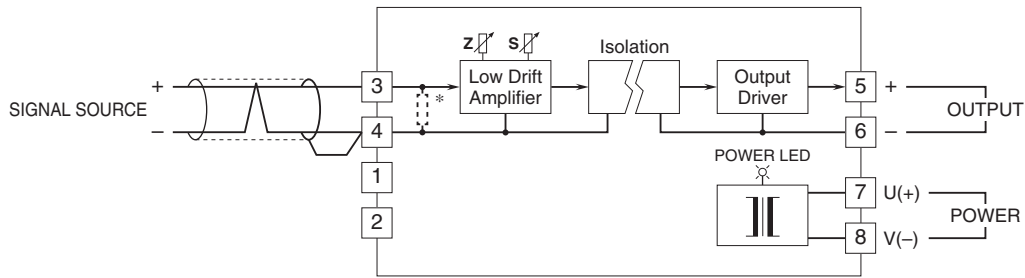


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)




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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*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.