

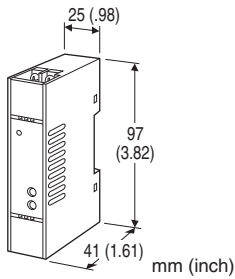
Super-mini Terminal Block Signal Conditioners M5-UNIT

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 of [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.)
 5W: -5 – +5 V DC (Load resistance 4000 Ω min.)
 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 or UKCA 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 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
 ($0.125 \text{ W} \geq [\text{Input current}]^2 \times R$)
 ■ **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)

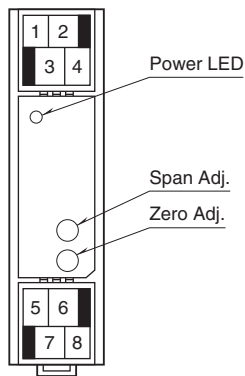
PERFORMANCE in percentage of span

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

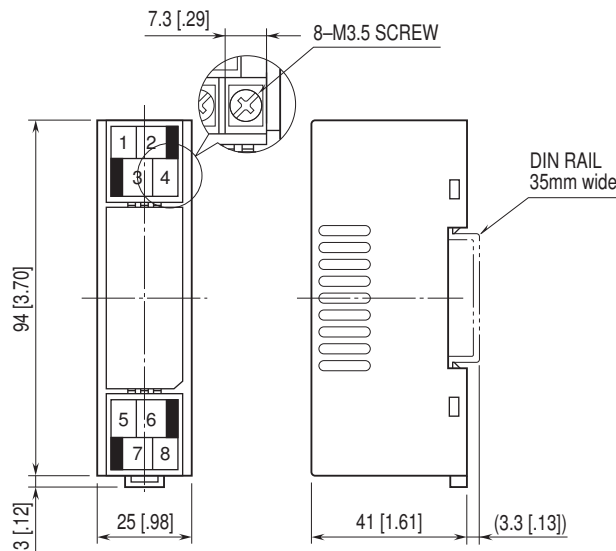
STANDARDS & APPROVALS

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

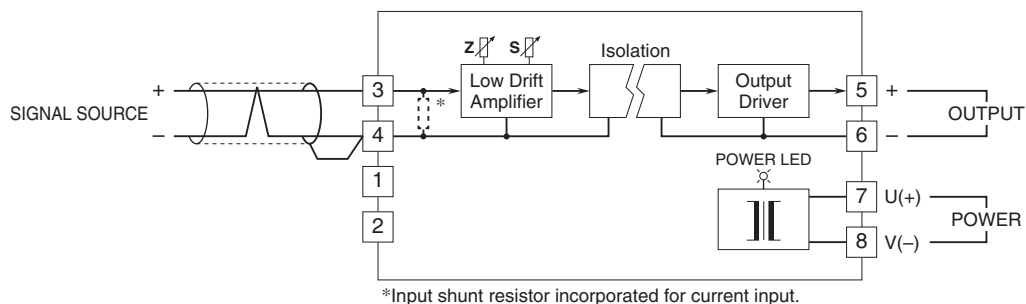


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



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.