Super-mini Signal Conditioners Mini-M Series

SIGNAL TRANSMITTER
(high-accuracy, ultra-high speed response 30 μsec.)

Functions & Features
• Converts DC input from a sensor into a standard process signal
• Frequency characteristics 12 kHz (-3 dB)
• 30-microsecond response

Typical Applications
• Isolation for a vibration analyzing system
• Isolation for Discharge/Charge tester


ORDERING INFORMATION
• Code number: M2VF3-[1]4W-R[2]
Specify a code from below for each [1] and [2].
(e.g. M2VF3-04W-R/CE/Q)
• Special input range (For code 0: e.g. -164 – +164 mV DC)
• Specify the specification for option code /Q
(e.g. /C01/S01)

[1] INPUT
Voltage
2W: -100 – +100 mV DC (Input resistance 1 MΩ min.)
4W: -10 – +10 V DC (Input resistance 1 MΩ min.)
5W: -5 – +5 V DC (Input resistance 1 MΩ min.)
8W: -20 – +20 V DC (Input resistance 1 MΩ min.)
0: Specify voltage (Select input range as indicated below)
-20 – +20 mV DC
-24 – +24 mV DC
-40 – +40 mV DC
-85 – +85 mV DC
-164 – +164 mV DC
-200 – +200 mV DC
-15 – +15 V DC
-25 – +25 V DC

-55 – +55 V DC
-60 – +60 V DC
-300 – +300 V DC *
-350 – +350 V DC *
-400 – +400 V DC *
-600 – +600 V DC *
-800 – +800 V DC *
* Select '/N' for 'Standards & Approvals’ code.
Multiple installation bases are unable.

OUTPUT
Voltage
4W: -10 – +10 V DC (Load resistance 2000 Ω min.)

POWER INPUT
DC Power
R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[2] OPTIONS (multiple selections)
Standards & Approvals (must be specified)
/N: Without CE
/CE: CE marking
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: Plug-in
Connection: M3 screw terminals (torque 0.8 N·m)
Screw terminal: Chromated steel (standard) or stainless steel
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Overrange input: -5 to +105 %
Zero adjustment: -1 to +1 %; multi-turn screwdriver adjustments (front)
Span adjustment: 99 to 101 %; multi-turn screwdriver adjustments (front)
Power LED: Green light turns on when the power is supplied.
**INPUT SPECIFICATIONS**
Input resistance: ≥ 1 MΩ (3 kΩ min. in power failure)

**OUTPUT SPECIFICATIONS**
Parallel load capacitance: ≤ 2000 pF

**INSTALLATION**
Power consumption
- DC: ≤ 0.6 W

Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Surface or DIN rail
Weight: 150 g (0.33 lb)

**PERFORMANCE in percentage of span**
Accuracy: ±0.01 %
Temp. coefficient: ±0.005 %/°C (±0.003 %/°F)
Frequency characteristics: 12 kHz, -3 dB
Response time: ≤ 30 μsec. (0 - 90 %)
Line voltage effect: ±0.01 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

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

**EXTERNAL VIEW**

![Power LED](image)

Zero Adj.
Span Adj.
**DIMENSIONS unit: mm (inch)**

![DIMENSIONS Diagram]

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

**SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM**

![Schematic Diagram]

The M2VF3, by its fast-response feature, is not designed to eliminate noise present in the input signal. Use a shielded twisted-pair cable to prevent noise from entering through the input wiring.

* At input signal code “0”, signal source is allocated between terminals 8 and 4 when input exceeds 300V.

⚠ Specifications are subject to change without notice.