

**Plug-in Signal Conditioners M-UNIT**

**SIGNAL TRANSMITTER**

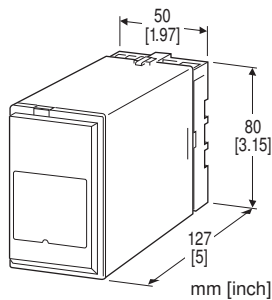
(CE, high speed response; isolated)

**Functions & Features**

- Converting a DC input into a standard process signal
- Isolation between input and output
- 500 μsec. response
- High-density mounting

**Typical Applications**

- Isolation for a vibration analyzing system



**MODEL: SVF-[1][2]-[3][4]**

**ORDERING INFORMATION**

- Code number: SVF-[1][2]-[3][4]
- Specify a code from below for each of [1] through [4].  
(e.g. SVF-6A-B/CE/Q)
- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

**[1] INPUT**

Current

- A:** 4 - 20 mA DC (Input resistance 250 Ω)
- B:** 2 - 10 mA DC (Input resistance 500 Ω)
- C:** 1 - 5 mA DC (Input resistance 1000 Ω)
- D:** 0 - 20 mA DC (Input resistance 50 Ω)
- E:** 0 - 16 mA DC (Input resistance 62.5 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 100 Ω)
- GW:** -1 - +1 mA DC (Input resistance 1000 Ω)
- FW:** -10 - +10 mA DC (Input resistance 100 Ω)
- Z:** Specify current (See INPUT SPECIFICATIONS)

Voltage

- 3:** 0 - 1 V DC (Input resistance 1 MΩ min.)
- 4:** 0 - 10 V DC (Input resistance 1 MΩ min.)
- 5:** 0 - 5 V DC (Input resistance 1 MΩ min.)

- 6:** 1 - 5 V 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.)
- 0:** Specify voltage (See INPUT SPECIFICATIONS)

**[2] OUTPUT**

Current

- A:** 4 - 20 mA DC (Load resistance 750 Ω max.)
- B:** 2 - 10 mA DC (Load resistance 1500 Ω max.)
- C:** 1 - 5 mA DC (Load resistance 3000 Ω max.)
- D:** 0 - 20 mA DC (Load resistance 750 Ω max.)
- E:** 0 - 16 mA DC (Load resistance 900 Ω max.)
- F:** 0 - 10 mA DC (Load resistance 1500 Ω max.)
- G:** 0 - 1 mA DC (Load resistance 15 kΩ max.)
- Z:** Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1:** 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2:** 0 - 100 mV DC (Load resistance 100 kΩ min.)
- 3:** 0 - 1 V DC (Load resistance 1000 Ω min.)
- 4:** 0 - 10 V DC (Load resistance 10 kΩ min.)
- 5:** 0 - 5 V DC (Load resistance 5000 Ω min.)
- 6:** 1 - 5 V DC (Load resistance 5000 Ω min.)
- 4W:** -10 - +10 V DC (Load resistance 10 kΩ min.)
- 5W:** -5 - +5 V DC (Load resistance 5000 Ω min.)
- 0:** Specify voltage (See OUTPUT SPECIFICATIONS)

**[3] POWER INPUT**

AC Power

- B:** 100 V AC
- C:** 110 V AC
- D:** 115 V AC
- F:** 120 V AC
- G:** 200 V AC
- H:** 220 V AC
- J:** 240 V AC

DC Power

- S:** 12 V DC
- R:** 24 V DC

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

Standards & Approvals (must be specified)

/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 our web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating  
TERMINAL SCREW MATERIAL  
/S01: Stainless steel

**Insulation resistance:**  $\geq 100 \text{ M}\Omega$  with 500 V DC  
**Dielectric strength:**  
1000 V AC @ 1 minute (input to output to power)  
2300 V AC @ 1 minute (input or output or power to ground)

## GENERAL SPECIFICATIONS

**Construction:** Plug-in  
**Connection:** M3.5 screw terminals  
**Screw terminal:** Chromated steel (standard) or stainless steel  
**Housing material:** Flame-resistant resin (black)  
**Isolation:** Input to output to power  
**Overrange output:** Approx. -10 to +120 % at 1 - 5 V  
**Zero adjustment:** -5 to +5 % (front)  
**Span adjustment:** 95 to 105 % (front)

## INPUT SPECIFICATIONS

■ **DC Current:**  
Shunt resistor attached to the input terminals (0.5 W)  
Specify input resistance value for code Z.  
■ **DC Voltage:** -30 - +30 V DC  
**Span:** min. 1 V, max. 30 V  
**Offset:** Max. 1.5 times span  
**Input resistance:** 1 M $\Omega$  min.

## OUTPUT SPECIFICATIONS

■ **DC Current:** 0 - 20 mA DC  
**Minimum span:** 1 mA  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 15 V max.  
■ **DC Voltage:** -10 - +12 V DC  
**Minimum span:** 5 mV  
**Offset:** Max. 1.5 times span  
**Load resistance:** Output drive 1 mA max.; at  $\geq 0.5 \text{ V}$

## INSTALLATION

**Power input**  
• **AC:** Operational voltage range: rating  $\pm 10 \%$ ,  
50/60  $\pm 2$  Hz, approx. 2 VA  
• **DC:** Operational voltage range: rating  $\pm 10 \%$ ,  
ripple 10 %p-p max., approx. 2 W (80 mA at 24 V)  
**Operating temperature:** -5 to +60°C (23 to 140°F)  
**Operating humidity:** 30 to 90 %RH (non-condensing)  
**Mounting:** Surface or DIN rail  
**Weight:** 400 g (0.88 lb)

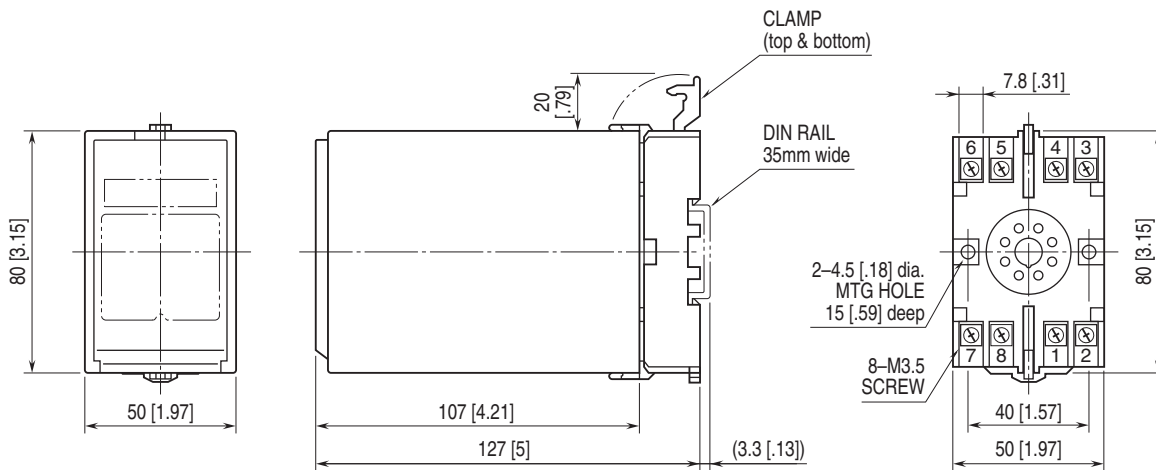
## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1 \%$   
**Temp. coefficient:**  $\pm 0.015 \%/^{\circ}\text{C}$  ( $\pm 0.008 \%/^{\circ}\text{F}$ )  
**Response time:**  $\leq 500 \mu\text{sec}$ . (0 - 90 %)  
**Line voltage effect:**  $\pm 0.1 \%$  over voltage range

## STANDARDS & APPROVALS

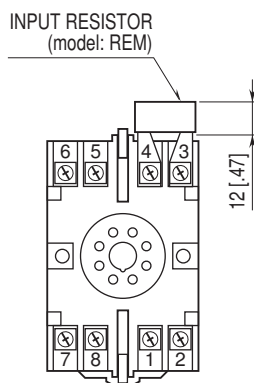
**EU conformity:**  
EMC Directive  
EMI EN 61000-6-4  
EMS EN 61000-6-2  
Low Voltage Directive  
EN 61010-1  
Installation Category II  
Pollution Degree 2  
Input or output to power: Reinforced insulation (300 V)  
Input to output: Basic insulation (300 V)  
RoHS Directive

## EXTERNAL DIMENSIONS unit: mm [inch]



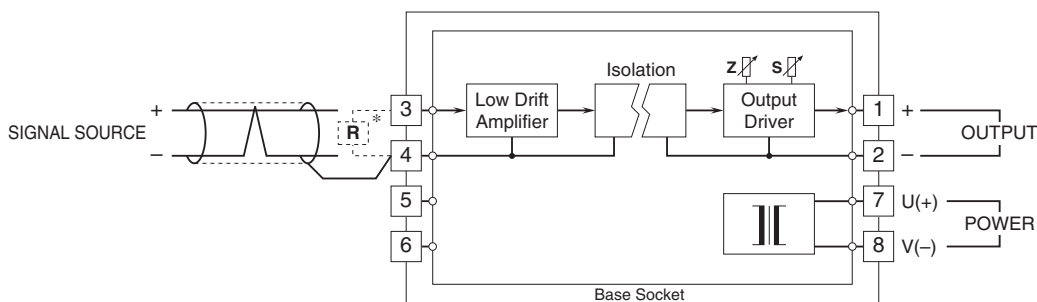
• When mounting, no extra space is needed between units.

## TERMINAL ASSIGNMENTS unit: mm [inch]



Input shunt resistor attached for current input.

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



\*Input shunt resistor attached for current input.

Note: The unit, due to its fast-response design, does not eliminate noises included in the input signal. Use shielded twisted-pair cable for preventing them.



Specifications are subject to change without notice.