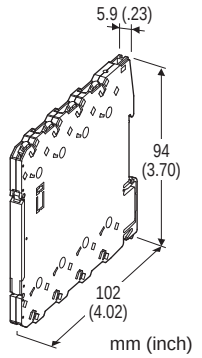
Tension-Clamp Ultra-Slim Signal Conditioners M6S Series

SIGNAL TRANSMITTER

Functions & Features

- Maintenance-free tension clamp connection
- 5.9-mm wide ultra-slim design
- Low profile allows the M6S module mounted in a 120-mm deep panel
- Galvanically isolates process instrumentation signals
- High-density mounting
- Power indicator LED
- UL approval



MODEL: M6SVS-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: M6SVS-[1][2]-[3][4]
  Specify a code from below for each [1] through [4].
  (e.g. M6SVS-4W4W-R/K/UL)
- Special input and output ranges (For codes Z & 0)

[1] INPUT

Current

A: 4 – 20 mA DC (Input resistance 50 Ω)
B: 2 – 10 mA DC (Input resistance 100 Ω)
C: 1 – 5 mA DC (Input resistance 200 Ω)
D: 0 – 20 mA DC (Input resistance 50 Ω)
E: 0 – 16 mA DC (Input resistance 50 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 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 550 Ω max.)
D: 0 – 20 mA DC (Load resistance 550 Ω max.)
G: 0 – 1 mA DC (Load resistance 11 kΩ max.)
Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

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 20 kΩ min.)
5W: -5 – +5 V DC (Load resistance 10 kΩ min.)
0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] POWER INPUT

AC Power

M2: 100 – 240 V AC (Operational voltage range 90 – 264 V, 47 – 66 Hz)
(UL not available)

DC Power

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

[4] OPTIONS (multiple selections)

RESPONSE TIME (0 – 90 %)

blank: Standard (≤ 0.5 sec.)
/K: Fast Response (Approx. 3.5 msec. voltage output; Approx. 25 msec. current output)

STANDARDS & APPROVALS

blank: CE marking
/UL: UL approval (CE marking)

GENERAL SPECIFICATIONS

Connection
Input and output: Tension clamp
Power input: Via the Installation Base (model: M6SBS) (not available for AC power input)
or Tension clamp
Applicable wire size: 0.2 to 2.5 mm^2, stripped length 8 mm
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Zero adjustment: -2 to +2% (front)
(Output code 4W, 5W: Adjustable at 0V. No output below 0mA for the code D.)
Span adjustment: 98 to 102 % (front)
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 ≤ 0.125 W ÷ [F.S. Current]^2)
• **DC Voltage**: -30 – +30 V DC
Minimum span: 100 mV
Offset: Max. 1.5 times span
Input resistance: 1 MΩ min. (10 kΩ min. with no power supplied)

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.
• **DC Voltage**: 0 – 10 V DC
Minimum span: 1 V
Offset: Max. 1.5 times span
Load resistance: Output drive 1 mA max.; at ≥ 1 V

INSTALLATION

Power Consumption
•**AC Power input**: Max. 2 VA
•**DC Power input**: Approx. 0.5 W
Operating temperature: -20 to +55°C (-4 to +131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Installation Base (model: M6SBS) or DIN rail
Weight: 60 g (2.1 oz)

PERFORMANCE in percentage of span

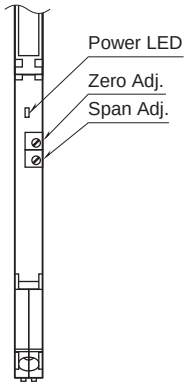
Accuracy: ±0.1 %
Temp. coefficient: ±0.01 %/°C (±0.006 %/°F)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

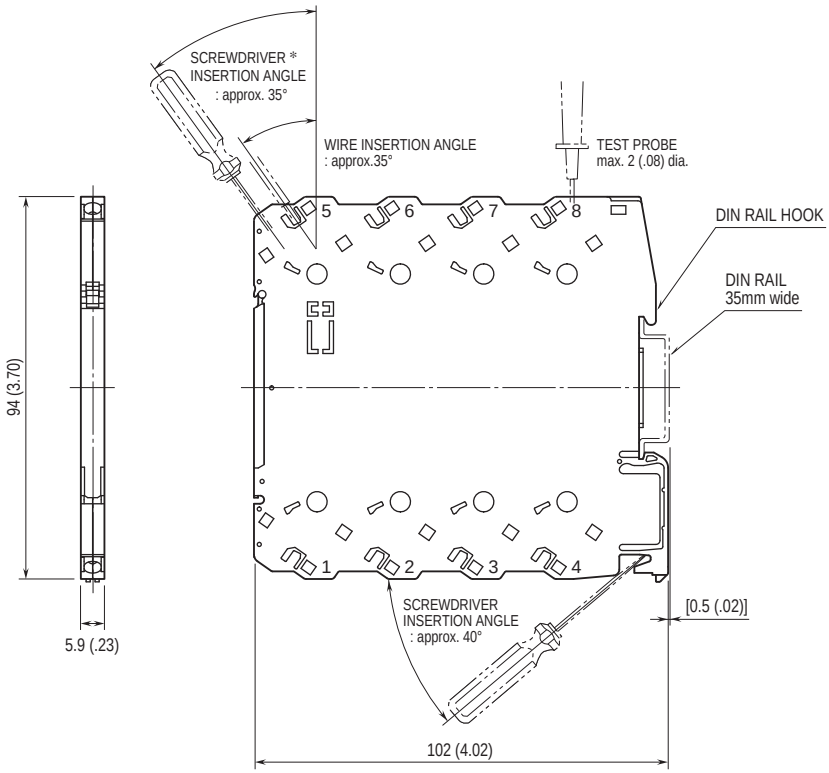
CE conformity:
EMC Directive (2004/108/EC)
EN 61000-6-4 (EMI)
EN 61000-6-2 (EMS)
Low Voltage Directive (2006/95/EC)
EN 61010-1
Installation Category II
Pollution Degree 2
Max. operating voltage 300 V
Input or output to power: Reinforced insulation
Input to output: Basic insulation
Approval:
UL/C-UL nonincendive Class I, Division 2,
Groups A, B, C, and D hazardous locations
(ANSI/ISA-12.12.01, CAN/CSA-C22.2 No.213)
UL/C-UL general safety requirements
(UL 61010-1, CAN/CSA-C22.2 No.61010-1)

EXTERNAL VIEW

(With the cover open)



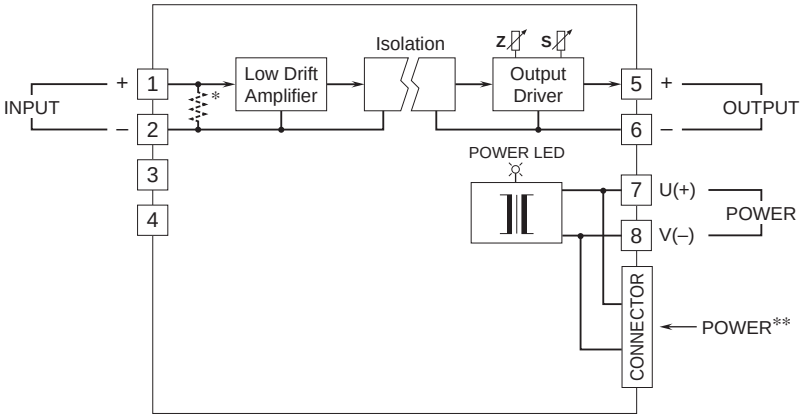
DIMENSIONS unit: mm (inch)



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

*Use a minus screwdriver: tip width 3.8 mm max., tip thickness 0.5 to 0.6 mm

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor incorporated for current input.
**Available only for DC power input type

⚠ Specifications are subject to change without notice.