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

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/Q)
- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q
  (e.g. /C01)

[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.)

[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

Other Options
blank: none
/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q

COATING (For the detail, refer to M-System’s web site.)
/C01: Silicone coating
/C02: Polyurethane coating
**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 mm², 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 0 mA for the code D.)

**Span adjustment**: 98 to 102 % (front)

**Power LED**: Green light turns on when the power is supplied.

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**INPUT SPECIFICATIONS**

**■ DC Current**: Input resistor incorporated
Specify input resistance value among followings for code Z.
- 20Ω, 50Ω, 100Ω, 200Ω, 249Ω, 1000Ω
(0.125 W ≥ [Input current]² × R)

**■ DC Voltage**: -30 to +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)

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**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

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**INSTALLATION**

**Power Consumption**
- **AC**: Max. 2 VA
- **DC**: 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)

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**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

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**Dielectric strength**: 2000 V AC @1 minute (input to output to power to ground)

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**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
- EN 50581

**Approval**:
- UL/C-UL nonincendive Class I, Division 2, Groups A, B, C, and D
  (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)

Power LED
Zero Adj.
Span Adj.

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

DIN RAIL 35mm wide
DIN RAIL HOOK
*Use a minus screwdriver: tip width 3.8 mm max., tip thickness 0.5 to 0.6 mm

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

⚠ Specifications are subject to change without notice.