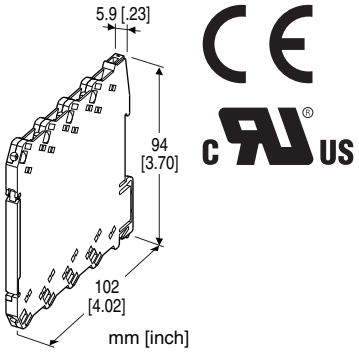
Euro Terminal Ultra-Slim Signal Conditioners M6D Series

SIGNAL TRANSMITTER

Functions & Features

- 5.9-mm wide ultra-slim design
- Low profile allows the M6D module mounted in a 120-mm deep panel
- Galvanically isolates process instrumentation signals
- High-density mounting
- Power indicator LED



MODEL: M6DVS-[1][2]-[3][4]

ORDERING INFORMATION

- Code number: M6DVS-[1][2]-[3][4]

Specify a code from below for each [1] through [4].
(e.g. M6DVS-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.)
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

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: Euro terminal (torque 0.3 N·m)
Power input: Via the Installation Base (model: M6DBS)
(not available for AC power input)
or Euro terminal (torque 0.3 N·m)

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 0 mA for the code D.)
Span adjustment: 98 to 102 % (front)
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, 50Ω, 100Ω, 200Ω, 249Ω, 1000Ω
(0.125 W ≥ [Input current]^2 × R)
■ **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**: 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: M6DBS) or DIN rail
Weight: 60 g (2.1 oz)

PERFORMANCE in percentage of span

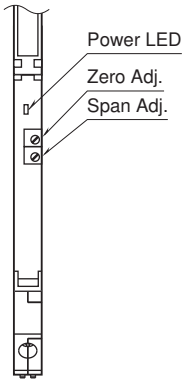
Accuracy: ±0.1 %
Temp. coefficient: ±0.01 %/°C (±0.006 %/°F)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @1 minute (input to output to power to ground)

STANDARDS & APPROVALS

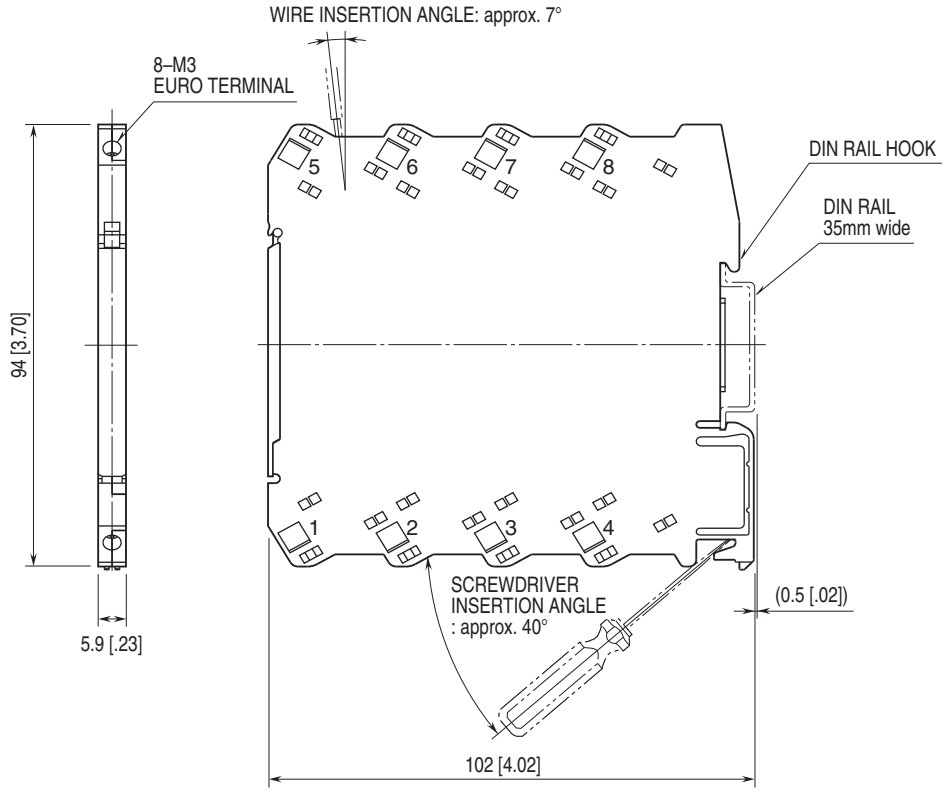
EU conformity:
EMC Directive
EMI EN 61000-6-4
EMS EN 61000-6-2
Low Voltage Directive
EN 61010-1
Installation Category II
Pollution Degree 2
Input or output to power: Reinforced insulation (300 V)
Input to output: Basic insulation (300 V)
RoHS Directive
Approval:
UL/C-UL nonincendive Class I, Division 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)

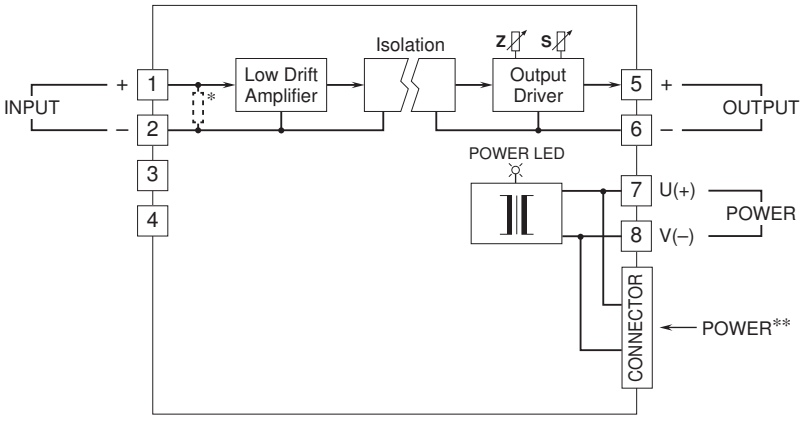


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm [inch]



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

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.