MODEL: M6NVS

Screw Terminal Ultra-Slim Signal Conditioners M6N Series

SIGNAL TRANSMITTER

Functions & Features
• 7.5-mm wide ultra-slim design
• Low profile allows the M6N module mounted in a 120-mm deep panel
• Galvanically isolates process instrumentation signals
• High-density mounting
• Power indicator LED

MODEL: M6NVS-[1][2]-[3][4]

ORDERING INFORMATION
• Code number: M6NVS-[1][2]-[3][4]
Specify a code from below for each [1] through [4].
(e.g. M6NVS-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.)

[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: M3 screw terminal (torque 0.5 N·m)

Power input: Via the Installation Base (model: M6NBS) (not available for AC power input)
or M3 screw terminal (torque 0.5 N·m)

Recommended solderless terminal: Max. 5.8 mm (0.23")
wide; Ones with insulation sleeve do not fit.
Applicable wire size: 0.2 – 2.5 mm²

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.

Recommended solderless terminal (unit: mm (inch))

<table>
<thead>
<tr>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2 (0.13) dia.</td>
<td>5.5 max. (0.22)</td>
</tr>
<tr>
<td>4 min. (0.16)</td>
<td>5.8 max. (0.23)</td>
</tr>
</tbody>
</table>

INPUT SPECIFICATIONS

- DC Current: Input resistor incorporated
  Specify input resistance value among followings for code Z.
  20Ω, 50Ω, 100Ω, 200Ω, 249Ω, 1000Ω
  \((0.125 \text{ W} ≥ (\text{Input current})^2 \times R)\)

- 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: M6NBS) 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

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)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

* Screwdriver stem diameter: 6 mm (.24") or less
* When mounting, no extra space is needed between units.
Specifications are subject to change without notice.