MODEL: M6NXF3

**Screw Terminal Ultra-Slim Signal Conditioners M6N Series**

HOLD FUNCTION MODULE
(PC programmable)

Functions & Features
• Track/Hold or Peak hold function's selection available
• 7.5-mm wide ultra-slim design with DC current signal input
• Low profile allows the M6N module to be mounted in a 120-mm deep panel
• PC programmable
• High-density mounting available
• Power and status indicator LEDs
• CE approval

Typical Applications
• Monitoring peak power consumption
• Monitoring the highest or lowest temperature
• Capturing signals from a composite analyzer performing on each sample in turn

7.5 (.30)
102 (4.02)
102 (4.02)
mm (inch)
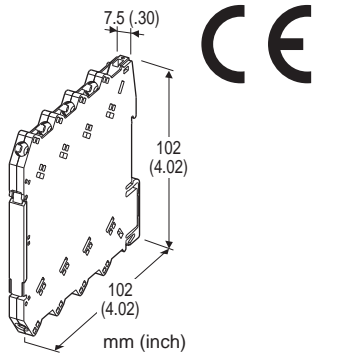
MODEL: M6NXF3-[1][2]–R

ORDERING INFORMATION
• Code number: M6NXF3-[1][2]-R
  Specify a code from below for each [1] and [2].
   (e.g. M6NXF3-Z1Z1-R)
• Input range (e.g. 4 – 20 mA DC)
• Output range (e.g. 4 – 20 mA DC)

[1] INPUT
Current
Z1: Range 0 – 50 mA DC (Input resistance 24.9 Ω)
Voltage
S1: Range -1000 – +1000 mV DC (Input resistance 1 MΩ min.)
S2: Range -10 – +10 V DC (Input resistance 1 MΩ min.)
(Configurator software is used to change input over the described range of the selected suffix code.

For changing between suffix codes, set the Input Range Selector on the side of unit before software adjustment.)

[2] OUTPUT
Current
Z1: Range 0 – 20 mA DC
Voltage
V2: Range -10 – +10 V DC
V3: Range -5 – +5 V DC
(Configurator software is used to change output over the described range of the selected suffix code.
For changing between suffix codes, set the Output Range Selector on the side of unit before software adjustment.)

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

FUNCTIONS
PC Configurator Software is used to change function type.
 • Track/Hold
 • Peak hold
Peak hold
Valley hold
Peak-to-peak hold (Peak hold-Valley hold)
Factory default setting
Control/Hold: Track/Hold
Control/Control Logic: Hold at open

RELATED PRODUCTS
• PC configurator software (model: M6CFG)
Downloadable at M-System's web site.
A dedicated cable is required to connect the module to the PC. Please refer to the internet software download site or the users manual for the PC configurator for applicable cable types.

GENERAL SPECIFICATIONS
Connection
Input and output: M3 screw terminal (torque 0.5 N·m)
Power input: Via the Installation Base (model: M6NBS)
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 mm^2
Housing material: Flame-resistant resin (black)
**Isolation**: Input to output to power
Overrange output: -2 – +102 %
(Negative current output is not available.)

Zero adjustment: -2 to +2% (PC programming)
Span adjustment: 98 to 102% (PC programming)
Power LED: Green light turns on when the power is supplied.
Status indicator LED: Orange LED; Flashing patterns indicate different operating status of the transmitter.
Programming: Downloaded from PC; input type and range, output type and range, zero and span, function type, control input logic, user's linearization table (max. 101 points, specified within -2 to +102% for both input and output), etc. For detailed information, refer to the users manual for the PC configurator.
Configurator connection: 2.5 dia. miniature jack; RS-232C level

■Recommended solderless terminal
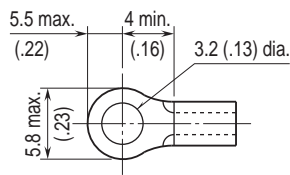
INPUT SPECIFICATIONS

• **DC Current**: Input resistor incoporated
(If not specified, the input range is 4 – 20 mA DC.)
Input range: 0 – 50 mA DC
Minimum span: 2 mA
Offset: Lower range can be any specific value within the input range provided that the minimum span is maintained.
• **DC Voltage**
Code S1 (narrow spans)
Input range: -1000 – +1000 mV DC
Minimum span: 100 mV
Code S2 (wide spans)
Input range: -10 – +10 V DC
Minimum span: 1 V
Offset: Lower range can be any specific value within the input range provided that the minimum span is maintained. If not specified, the input range is shown below.
S1: 0 – 100 mV DC
S2: 1 – 5 V DC
• **CONTROL**
Contact rating: 3 V @1 mA
Detection levels:
≤ 0.6 kΩ / 0.5 V at close
≥ 15 kΩ / 2.5 V at open

OUTPUT SPECIFICATIONS

• **DC CURRENT**
Output range: 0 – 20 mA DC
Conformance range: 0 – 20.4 mA DC
Minimum span: 1 mA
Offset: Lower range can be any specific value within the

output range provided that the minimum span is maintained.
Load resistance: Output drive 11 V max.
(e.g. 4 – 20 mA: 550 Ω [11 V/20 mA])
If not specified, the output range is 4 – 20 mA DC.
• **DC VOLTAGE**
Code V2 (wide spans)
  Output range: -10 – +10 V DC
  Conformance range: -10.4 – +10.4 V DC
  Minimum span: 1 V
Code V3 (narrow spans)
  Output range: -5 – +5 V DC
  Conformance range: -5.2 – +5.2 V DC
  Minimum span: 0.5 V
Offset: Lower range can be any specific value within the output range provided that the minimum span is maintained.
Load resistance: Output drive 1 mA max.
 (e.g. 1 – 5 V: 5000 Ω [5 V/1 mA])
If not specified, the output range is shown below.
V2: 0 – 10 V DC
V3: 1 – 5 V DC

INSTALLATION

Power consumption: 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: 65 g (2.3 oz)

PERFORMANCE in percentage of span

Overall accuracy: Input accuracy + output accuracy
Inversely proportional to the span.
See CALCULATION EXAMPLES OF OVERALL ACURACY.
• **Input accuracy**: (% of max. input range)
-1000 – +1000 mV : ±0.01 %
-10 – +10 V : ±0.01 %
0 – 50 mA : ±0.02 %
• **Output accuracy**: ±0.04 % of max. output range
Temp. coefficient: ±0.01 %/°C (±0.006 %/°F) of max. span
Response time: ≤ 0.5 sec. (0 – 90 %)
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)

CALCULATION EXAMPLES OF OVERALL ACCURACY

[Example] Input Type -10 – +10 V, Input Range 1 – 5 V, Output Type -5 – +5 V, Output Range 1 – 5 V
• Input accuracy = Max. Input Range (20 V) / Span (4 V) × 0.01 % = 0.05 %

• Output accuracy = Max. Output Range (10 V) / Span (4 V)
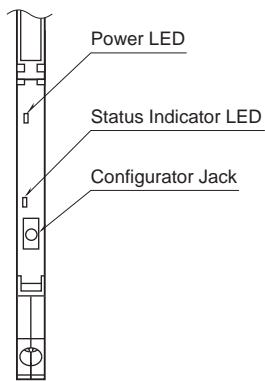× 0.04 % = 0.1 %
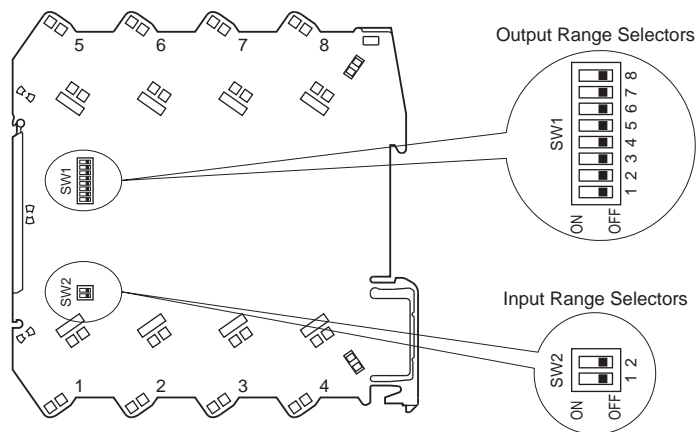Accuracy= ±0.15 %

STANDARDS & APPROVALS

CE conformity:
  EMC Directive (2004/108/EC)
  EN 61000-6-4 (EMI)
  EN 61000-6-2 (EMS)

EXTERNAL VIEW

■ **FRONT VIEW (with the cover open)**   ■ **SIDE VIEW**

Power LED

Status Indicator LED

Configurator Jack

Output Range Selectors

Input Range Selectors
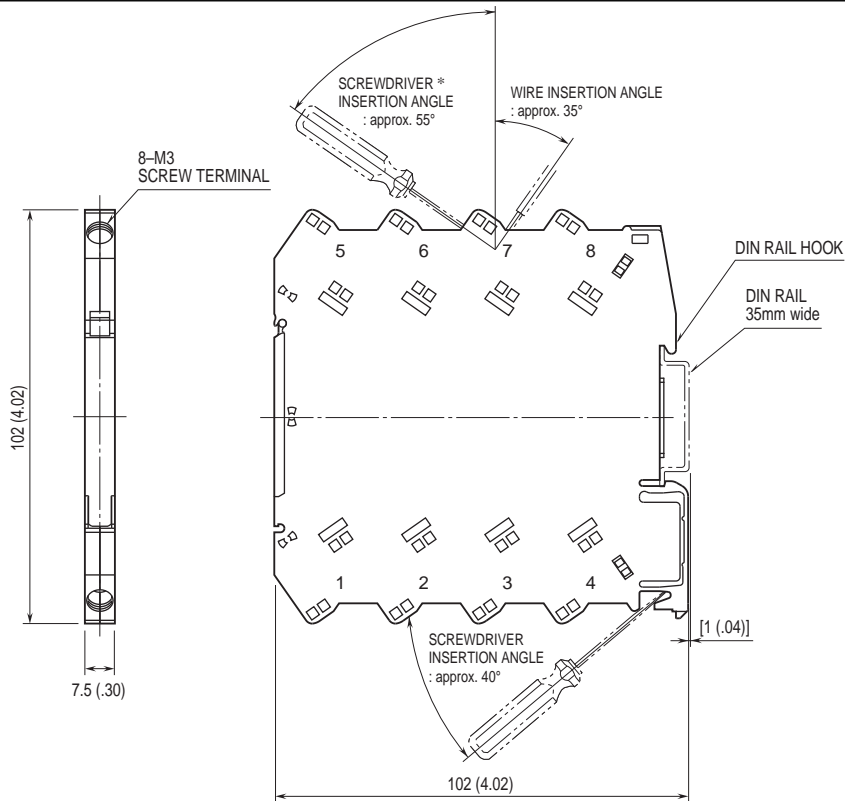
The DIP switch setting is required to select input and output
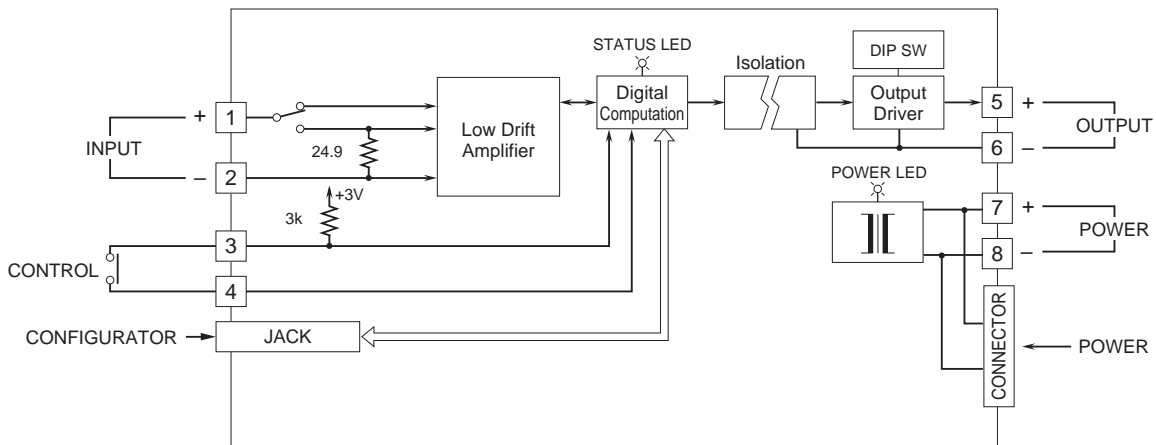types before setting a precise range using PC Configurator
Software (model: M6CFG).
Refer to the instruction manual for detailed procedures.

DIMENSIONS unit: mm (inch)

SCREWDRIVER *
INSERTION ANGLE
: approx. 55°

WIRE INSERTION ANGLE
: approx. 35°

8–M3
SCREW TERMINAL

5　6　7　8

DIN RAIL HOOK

DIN RAIL
35mm wide

102 (4.02)

1　2　3　4

SCREWDRIVER
INSERTION ANGLE
: approx. 40°

[1 (.04)]

7.5 (.30)

102 (4.02)

*Screwdriver stem diameter: 6 mm (.24") or less   • When mounting, no extra space is needed between units.

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

STATUS LED

Isolation

DIP SW

INPUT

+ 1

– 2

24.9

+3V

3k

Low Drift
Amplifier

Digital
Computation

Output
Driver

5 +

6 –

OUTPUT

POWER LED

CONTROL

3

4

7 +

8 –

POWER

CONFIGURATOR → JACK

CONNECTOR

POWER

⚠ Specifications are subject to change without notice.