Euro Terminal Ultra-Slim Signal Conditioners *M6D Series*

SIGNAL TRANSMITTER
(PC programmable)

MODEL **M6DXV**

MODEL & SUFFIX CODE SELECTION

M6DXV–❑❑–R

MODEL

INPUT
Current
Z1: Range 0 – 50mA DC
Voltage
S1: Range -1000 – +1000mV DC
S2: Range -10 – +10V DC

OUTPUT
Current
Z1: Range 0 – 20mA DC
Voltage
V2: Range -10 – +10V DC
V3: Range -5 – +5V DC

POWER INPUT
R : 24V DC

PC Configurator Software is used to change I/O types and precise ranges.

ORDERING INFORMATION

Specify code number and variables. Default setting (table below) will be used if not otherwise specified.
- Code number (e.g. M6DXV-Z1Z1-R)
- Input range (e.g. 4 – 20mA DC)
- Output range (e.g. 4 – 20mA DC)

Factory default setting

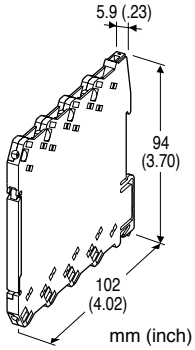
INPUT CODE	DEFAULT
Z1	4 – 20mA DC
S1	0 – 100mV DC
S2	1 – 5V DC
OUTPUT CODE	**DEFAULT**
Z1	4 – 20mA DC
V2	0 – 10V DC
V3	1 – 5V DC

RELATED PRODUCTS

- PC configurator software (model: M6CFG)
  Downloadable at M-System's web site:
  http://www.m-system.co.jp

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.

CE



Functions & Features
- 5.9-mm wide ultra-slim design
- Low profile allows the M6D module mounted in a 120-mm deep panel
- Converts a DC input into a standard process signal
- PC programmable
- High-density mounting
- Power indicator LED

GENERAL SPECIFICATIONS

Connection: Euro terminal (torque 0.3 N·m)
Applicable wire size: 0.2 to 2.5 mm²
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Overrange output: -2 – +102%
(Negative current output is not available.)
Zero & span adjustments: ±2% (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, user's linearization table (max. 101 points, specified within -2 to +102% for both input and output), etc.
Configurator connection: 2.5 dia. miniature jack; RS-232C level

INPUT

■ **DC CURRENT**: 24.9Ω resistor incorporated (0.25W)
Input range: 0 – 50mA DC
Minimum span: 2mA
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 – +1000mV DC
Minimum span: 100mV
Code S2 (wide spans)
Input range: -10 – +10V DC
Minimum span: 1V
Offset: Lower range can be any specific value within the input range provided that the minimum span is maintained.
Input resistance: 1MΩ minimum

OUTPUT

■ **DC CURRENT**
Output range: 0 – 20mA DC
Conformance range: 0 – 20.4mA DC
Minimum span: 1mA
Offset: Lower range can be any specific value within the output range provided that the minimum span is maintained.
Load resistance: Output drive 11V maximum
(e.g. 4 – 20mA: 550Ω [11V/20mA])

■ **DC VOLTAGE**
Code V2 (wide spans)
Output range: -10 – +10V DC
Conformance range: -10.4 – +10.4V DC
Minimum span: 1V
Code V3 (narrow spans)
Output range: -5 – +5V DC
Conformance range: -5.2 – +5.2V DC
Minimum span: 0.5V
Offset: Lower range can be any specific value within the output range provided that the minimum span is maintained.
Load resistance: Output drive 1mA maximum
(e.g. 1 – 5V: 5000Ω [5V/1mA])

INSTALLATION

Power input: Operational voltage range 24V DC ±10%, approx. 0.5W; ripple 10% p-p max.
Operating temperature: -20 to +55°C (-4 to +131°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: DIN rail
Dimensions: W5.9×H94×D102 mm (0.23”×3.70”×4.02”)
See General Spec. Sheet Figure A-1.
Weight: 65 g (2.3 oz)
Terminal assignment: See General Spec. Sheet Figure A-1.

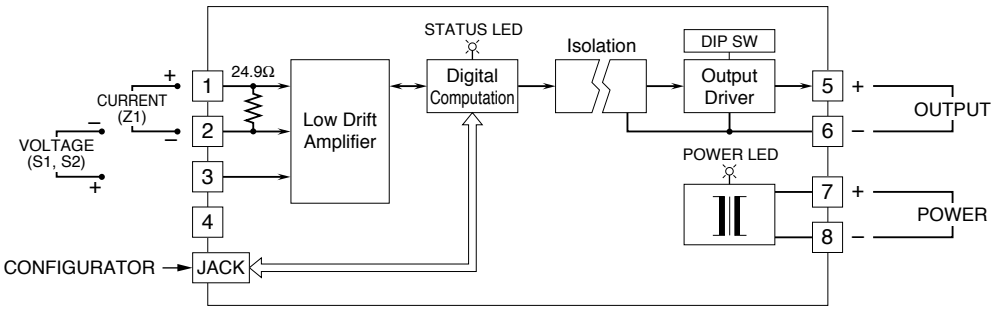
PERFORMANCE in percentage of span

Accuracy: Input accuracy + output accuracy
Input accuracy*: (% of max. input range)
-1000 – +1000mV : ≤ ±0.01 (%)
-10 – +10V : ≤ ±0.01
0 – 50mA : ≤ ±0.02**
(e.g. 1 – 5V: 0.05% [20/4*0.01])
Output accuracy*: ≤ ±0.04% of max. output range
*Inversely proportional to the span.
**Except the accuracy of input resistor.
[Example] Input Range 1 – 5V, Output Type -5 – +5V, Output Range 1 – 5V
Max. Input Range (20V) / Span (4V) × 0.01% +
Max. Output Range (10V) / Span (4V) × 0.04% = 0.15%
Temp. coefficient: ±0.01%/°C (±0.006%/°F) of max. span
Response time: ≤0.5 second (0 – 90%)
Line voltage effect: ±0.1% over voltage range
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 2000V AC @1 minute
(input to output to power to ground)

STANDARDS & APPROVALS

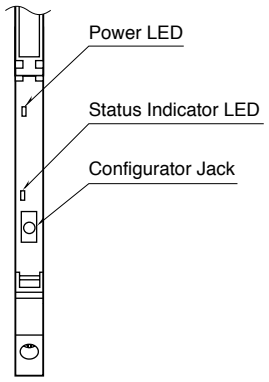
CE conformity: EMC Directive (2004/108/EC)
EN 61000-6-4 (EMI)
EN 61000-6-2 (EMS)

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

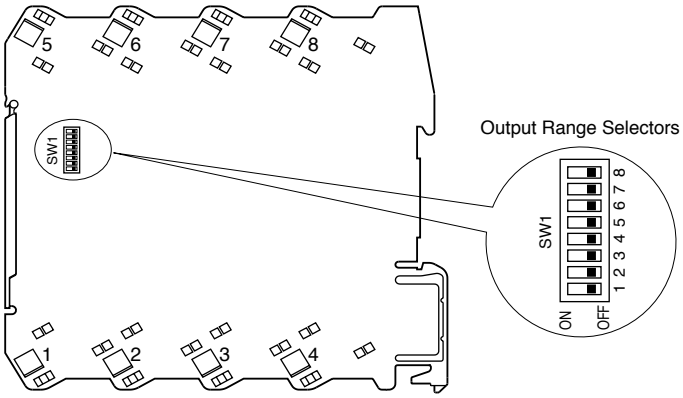


EXTERNAL VIEWS

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



■ **SIDE VIEW**



OUTPUT RANGING

The internal DIP switch setting is required to select output types before setting a precise output range using PC Configurator Software (model: M6CFG).
For detailed information on the PC configuration, refer to the M6CFG users manual.

Table 1. DIP switch setting: Output type

Output Type	SW1							
	1	2	3	4	5	6	7	8
0 – 20mA*1	ON	ON	OFF	OFF	OFF	OFF	ON	OFF
-5 – +5V	OFF	OFF	ON	OFF	ON	OFF	OFF	ON
-10 – +10V	OFF	OFF	ON	OFF	OFF	ON	OFF	ON

*1. For 0 – 1mA range, set switches as in the table below.

Output Range	SW1							
	1	2	3	4	5	6	7	8
0 – 1mA	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF