

Super-mini Terminal Block Signal Conditioners *M5-UNIT*

SIGNAL TRANSMITTER

MODEL **M5VS**

MODEL & SUFFIX CODE SELECTION

M5VS-□□-□□

MODEL _____
 INPUT _____
Current **Voltage**
A : 4 – 20mA DC **3** : 0 – 1V DC
B : 2 – 10mA DC **4** : 0 – 10V DC
C : 1 – 5mA DC **5** : 0 – 5V DC
D : 0 – 20mA DC **6** : 1 – 5V DC
E : 0 – 16mA DC **4W** : -10 – +10V DC
F : 0 – 10mA DC **5W** : -5 – +5V DC
G : 0 – 1mA DC **0** : Specify voltage *1
H : 10 – 50mA DC **01** : Specify voltage *2
Z : Specify current
 *1: CE not available.
 *2: Choose 01 for CE. Power suffix code R only.

OUTPUT _____
Current **Voltage**
A : 4 – 20mA DC **4** : 0 – 10V DC
Z : Specify current **5** : 0 – 5V DC
 6 : 1 – 5V DC
 4W : -10 – +10V DC *3
 5W : -5 – +5V DC *3
 0 : Specify voltage
 *3: For the input suffix codes 4W and 5W only.

POWER INPUT _____
M : 85 – 264V AC *4
R : 24V DC
 *4: CE not available.
OPTIONS _____

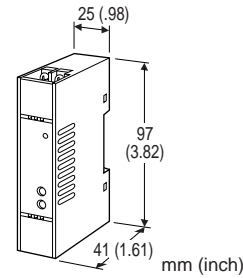
 : Response time ≤0.5 sec. (blank code)
/K : Response time approx. 25 msec.
/F : Response time ≤1 msec.

ORDERING INFORMATION

Specify code number and variables.
 • **Code number** (e.g. M5VS-4W4W-R/K)
 • **Special input and output ranges** (For codes Z & 0)

GENERAL SPECIFICATIONS

Construction: Terminal block
Connection: M3.5 screw terminals
 (nickel-plated steel; torque 0.8 N·m)
Housing material: Flame-resistant resin (black)
Isolation: Input to output to power
Front adjustments: ±2% for zero and span;
 ±1% with the input suffix codes 4W and
 5W selected.
Power LED: Green light turns on when the power is
 supplied.



Functions & Features

- Converting a DC input into an isolated DC signal
- High-density mounting
- Power LED
- CE marking for 24V power

INPUT & OUTPUT

INPUT

• **DC Current:** Input resistor incorporated (0.125W)
Input resistance: For resistance values other than

Input Span	Input Resistance
4 – 20mA	: 249 (Ω)
2 – 10mA	: 499
1 – 5mA	: 1000
0 – 20mA	: 49.9
0 – 16mA	: 61.9
0 – 10mA	: 100
0 – 1mA	: 1000
10 – 50mA	: 20

• **DC Voltage**

Input resistance: 1MΩ minimum
 (10kΩ minimum at power loss)

Input code 0 (Not CE)

Voltage range: -300 – +300V DC
Spans: Min. 100mV, max. 300V
Zero suppression/elevation: Max. 1.5 times span

Input code 01 (CE)

Voltage range: -70 – +70V DC
Spans: Min. 100mV, max. 70V
Zero suppression/elevation: Max. 1.5 times span

OUTPUT

•DC Current: 0 – 20mA DC

Minimum span: 1mA

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 11V maximum

Output	Load Resistance
4 – 20mA	: 550 (Ω maximum)

•DC Voltage: 0 – 10V DC

Minimum span: 1V

Zero suppression/elevation: Max. 1.5 times span

Load resistance: Output drive 10mA maximum; at ≥1V

Output	Load Resistance
0 – 10V	: 1000 (Ω minimum)
0 – 5V	: 500
1 – 5V	: 500
-10 – +10V	: 8000
-5 – +5V	: 4000

INSTALLATION

Power input

AC: Operational voltage range 85 – 264V;
47 – 66 Hz; approx. 2VA at 100V
approx. 3VA at 200V
approx. 3VA at 264V

DC: Operational voltage range 24V ±10%;
ripple 10% p-p max.; approx. 2W

Operating temperature: -5 to +55°C (23 to 131°F)

Operating humidity: 0 to 90% RH (non-condensing)

Mounting: DIN rail

Dimensions: W25×H97×D41 mm (0.98"×3.82"×1.61")

See General Spec. Sheet Figure E-1.

Weight: 80 g (2.8 oz.)

Terminal assignment: See General Spec. Sheet Figure F-1.

PERFORMANCE in percentage of span

Accuracy: ±0.1%

Temp. coefficient: ±0.015%/°C (±0.008%/°F)
±0.02%/°C (±0.01%/°F) at input <1V and
output <5mA

Response time: ≤0.5 seconds (0 – 90%)
approx. 25 milliseconds with option /K
≤1 milliseconds with option /F

Line voltage effect: ±0.1% over voltage range

Insulation resistance: ≥100MΩ with 500V DC

Dielectric strength

DC powered: 2000V AC @1 minute
(input to output to power to ground)

AC powered: 1500V AC @1 minute
(input to output to power to ground)

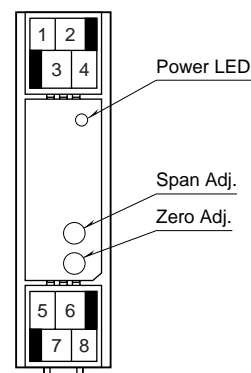
STANDARDS & APPROVALS

CE conformity: EMC Directive (89/336/EEC)

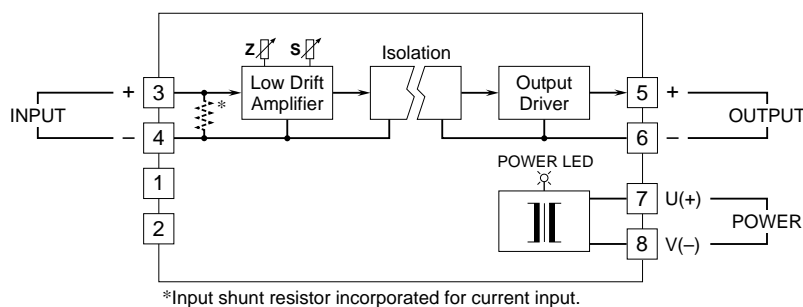
EMI EN61000-6-4

EMS EN61000-6-2

FRONT PANEL CONFIGURATION



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor incorporated for current input.