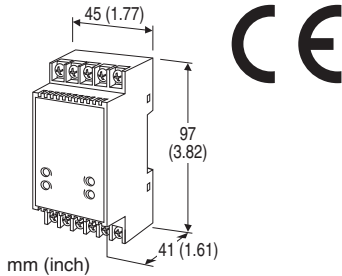


Terminal Block Dual Output Signal Conditioners W5-UNIT

SIGNAL TRANSMITTER

Functions & Features

- Converts a DC input into two isolated outputs
- Two independent output ranges
- Four-way isolation (input to output 1 to output 2 to power)
- Fast response type available
- High-density mounting



MODEL: W5VS-[1][2][3]-[4][5]

ORDERING INFORMATION

Specify a code from below for each [1] through [5].

- Code number: W5VS-[1][2][3]-[4][5]
(e.g. W5VS-6A6-R/K/Q)
- Special input and output ranges (For codes Z, 0, 01 & 02)
- Specify the specification for option code /Q
(e.g. /C01/V01/S01)

[1] INPUT

Current

- A: 4 – 20 mA DC (Input resistance 249 Ω)
- B: 2 – 10 mA DC (Input resistance 499 Ω)
- C: 1 – 5 mA DC (Input resistance 1000 Ω)
- D: 0 – 20 mA DC (Input resistance 49.9 Ω)
- E: 0 – 16 mA DC (Input resistance 61.9 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

- 16: 0 – 60 mV DC (Input resistance 1 M Ω min.)
- 3: 0 – 1 V DC (Input resistance 1 M Ω min.)
- 4: 0 – 10 V DC (Input resistance 1 M Ω min.)
- 5: 0 – 5 V DC (Input resistance 1 M Ω min.)
- 6: 1 – 5 V DC (Input resistance 1 M Ω min.)
- 4W: -10 – +10 V DC (Input resistance 1 M Ω min.)
- 5W: -5 – +5 V DC (Input resistance 1 M Ω min.)
- 0: Specify voltage (See INPUT SPECIFICATIONS)
(CE not available. Power suffix code M, R2, P only.)
- 01: Specify voltage (See INPUT SPECIFICATIONS)

(Choose 01 for CE. Power suffix code R only.)

02: Specify voltage (See INPUT SPECIFICATIONS)

(CE not available. Power suffix code M, R2, P only.)

[2] OUTPUT 1

Current

- A: 4 – 20 mA DC (Load resistance 550 Ω max.)
- B: 2 – 10 mA DC (Load resistance 1100 Ω max.)
- C: 1 – 5 mA DC (Load resistance 2200 Ω max.)
- D: 0 – 20 mA DC (Load resistance 550 Ω max.)
- E: 0 – 16 mA DC (Load resistance 685 Ω max.)
- F: 0 – 10 mA DC (Load resistance 1100 Ω max.)
- G: 0 – 1 mA DC (Load resistance 11 k Ω max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

Voltage

- 1: 0 – 10 mV DC (Load resistance 10 k Ω min.)
- 2: 0 – 100 mV DC (Load resistance 100 k Ω min.)
- 3: 0 – 1 V DC (Load resistance 100 Ω min.)
- 4: 0 – 10 V DC (Load resistance 1000 Ω min.)
- 5: 0 – 5 V DC (Load resistance 500 Ω min.)
- 6: 1 – 5 V DC (Load resistance 500 Ω min.)
- 4W: -10 – +10 V DC (Load resistance 2000 Ω min.)
- 5W: -5 – +5 V DC (Load resistance 1000 Ω min.)
- 0: Specify voltage (See OUTPUT SPECIFICATIONS)

[3] OUTPUT 2

Same range availability as Output 1

Y: None

[4] POWER INPUT

AC Power

M: 85 – 264 V AC (Operational voltage range 85 – 264 V, 47 – 66 Hz)
(CE not available)

DC Power

R: 24 V DC
(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)
R2: 11 – 27 V DC
(Operational voltage range 11 – 27 V, ripple 10 %p-p max.)
(CE not available)
P: 110 V DC
(Operational voltage range 85 – 150 V, ripple 10 %p-p max.)
(CE not available)

[5] OPTIONS (multiple selections)

Response Time (0 – 90 %)

blank: Standard ($\leq$ 0.5 sec.)

/K: Fast Response (Approx. 25 msec.)

Other Options

blank: none

/Q: Option other than the above (specify the specification)

SPECIFICATIONS OF OPTION: Q (multiple selections)

COATING (For the detail, refer to M-System's web site.)

/C01: Silicone coating

/C02: Polyurethane coating

/C03: Rubber coating

ADJUSTMENT

/V01: Multi-turn fine adjustment

/VN: Sealed adjustment holes

TERMINAL SCREW MATERIAL

/S01: Stainless steel

GENERAL SPECIFICATIONS

Construction: Terminal block

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)

Output & power: M3 screw terminals (torque 0.8 N·m)

Screw terminal: Nickel-plated steel (standard) or stainless steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 - 5 V

Zero adjustment: -2 to +2 % (front)

(±1 % with the input suffix codes 4W and 5W selected)

Span adjustment: 98 to 102 % (front)

(99 to 101 % with the input suffix codes 4W and 5W selected.)

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated

Specify input resistance value among followings for code Z.

20Ω, 49.9Ω, 61.9Ω, 100Ω, 249Ω, 499Ω, 1000Ω

($0.125\text{ W} \geq [\text{Input current}]^2 \times R$)

■ **DC Voltage**

Input resistance: 1 MΩ min.; 10 kΩ min. for the input code 02

10 kΩ min. at power loss

• **Input code 0 (Not CE)**

Voltage range: -300 - +300 V DC

Minimum span: 100 mV

Offset: Max. 1.5 times span

• **Input code 01 (CE)**

Voltage range: -70 - +70 V DC

Minimum span: 100 mV

Offset: Max. 1.5 times span

• **Input code 02 (Not CE)**

Voltage range: -100 - +100 mV DC

Minimum span: 5 mV

Offset: Max. 1.5 times span

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:** -10 - +12 V DC

Spans: Min. 5 mV, max. 20 V

Offset: Max. 1.5 times span

Load resistance: Output drive 10 mA max.; 5 mA for negative voltage output; at $\geq 0.5\text{ V}$

INSTALLATION

Power Consumption

• **AC:**

Approx. 4 VA at 100 V

Approx. 5 VA at 200 V

Approx. 6 VA at 264 V

• **DC:** Approx. 3 W

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

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

Mounting: DIN rail

Weight: 130 g (0.29 lb)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$

Temp. coefficient: $\pm 0.015\%/\text{°C}$ ($\pm 0.008\%/\text{°F}$)

Line voltage effect: $\pm 0.1\%$ over voltage range

Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

Dielectric strength:

2000 V AC @1 minute (input to output 1 or output 2 to power to ground)

1000 V AC @1 minute (output 1 to output 2)

STANDARDS & APPROVALS

EU conformity:

EMC Directive

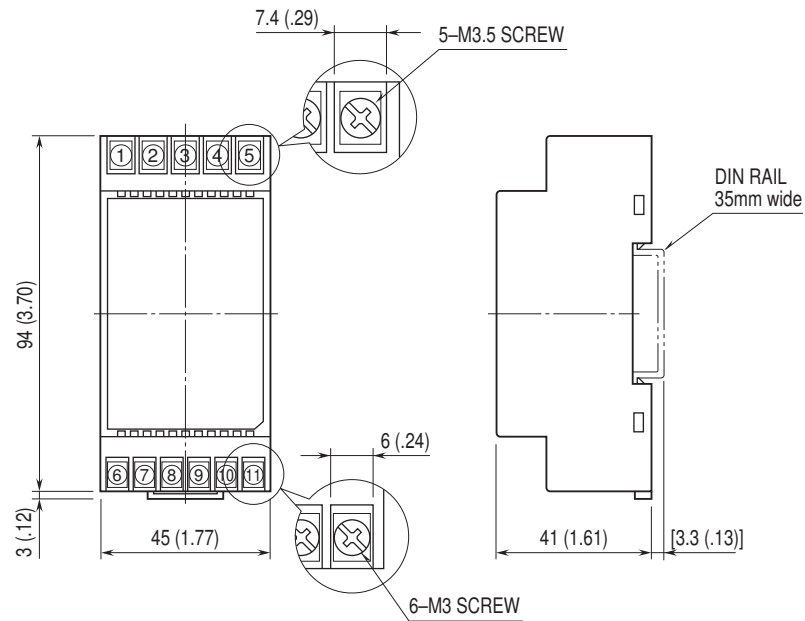
EMI EN 61000-6-4

EMS EN 61000-6-2

RoHS Directive

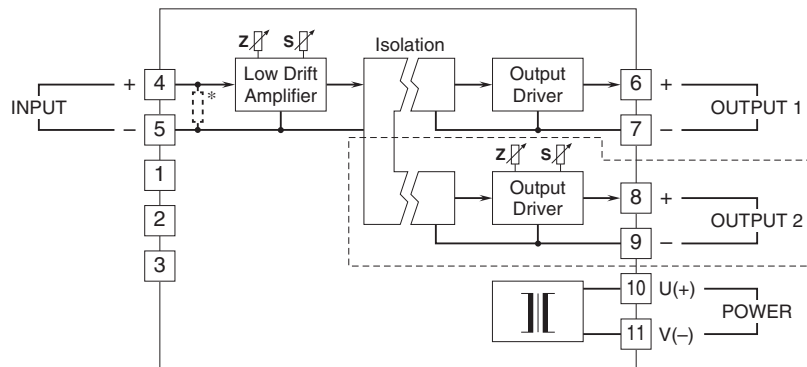
EN 50581

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor attached for current input.

Note 1: The section enclosed by broken line is only with 2nd output option.

Note 2: DO NOT connect to the terminals 1 – 2 – 3.



Specifications are subject to change without notice.