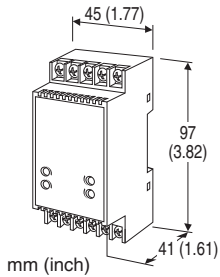


## Terminal Block Dual Output Signal Conditioners W5-UNIT

### STRAIN GAUGE TRANSMITTER

#### Functions & Features

- Provides a DC output signal compatible with a bridge type strain gauge utilized in load cells, pressure transducers
- Supplies required excitation voltage
- Excitation selectable among 2.5 V, 5 V and 10 V
- Wide-range adjustment: 0 - 60 % for zero, 100 - 40 % for span
- High density mounting



### MODEL: W5LCS-[1][2][3][4]-[5][6]

#### ORDERING INFORMATION

- Code number: W5LCS-[1][2][3][4]-[5][6]
- Specify a code from below for each [1] through [6].  
(e.g. W5LCS-1224W5W-R2/K/Q)
- Special input and output ranges (For codes Z & 0)
- Specify the specification for option code /Q  
(e.g. /C01/S01)

#### [1] INPUT STRAIN GAUGE

- 1: 1 mV/V
- 12: 1.25 mV/V
- 15: 1.5 mV/V
- 2: 2 mV/V
- 3: 3 mV/V
- 4: 4 mV/V
- 5: 5 mV/V
- 6: 10 mV/V
- 7: 20 mV/V
- 0: Specify

#### [2] EXCITATION

- 1: 2.5 V
- 2: 5 V
- 3: 10 V
- 0: Specify

#### [3] 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 kΩ max.)
- Z: Specify current (See OUTPUT SPECIFICATIONS)

##### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 kΩ min.)
- 2: 0 - 100 mV DC (Load resistance 100 kΩ 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)

#### [4] OUTPUT 2

- Same range availability as Output 1
- Y: None

#### [5] POWER INPUT

##### AC Power

- M: 85 - 264 V AC (Operational voltage range 85 - 264 V, 47 - 66 Hz)

##### DC Power

- R: 24 V DC  
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)
- R2: 11 - 27 V DC  
(Operational voltage range 11 - 27 V, ripple 10 %p-p max.)
- P: 110 V DC  
(Operational voltage range 85 - 150 V, ripple 10 %p-p max.)

#### [6] OPTIONS (multiple selections)

##### Response Time (0 - 90 %)

- blank: Standard (≤ 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

## TERMINAL SCREW MATERIAL

/S01: Stainless steel

Weight: 130 g (0.29 lb)

## 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:** 0 - 60 % (front)

**Span adjustment:** 100 - 40 % (front)

## PERFORMANCE in percentage of span

**Accuracy:**  $\pm 0.1\%$

**Temp. coefficient:**  $\pm 0.02\%/^{\circ}\text{C}$  ( $\pm 0.01\%/^{\circ}\text{F}$ )

**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)

## INPUT SPECIFICATIONS

**Input:** Bridge voltage from load cells

**Max. leadwire resistance:**

Strain gauge's combined resistance  $\times 0.25$

• **Strain Gauge**

**Rated output from strain gauge:**

1 - 20 mV/V; voltage range -100 - +100 mV (Input to the W5LCS must be 5 mV or more.)

(Input must be 10 mV or more for the input strain gauge and/or the excitation suffix code 0)

• **Excitation:** 2 - 10 V

**Maximum current:** 45 mA

## 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

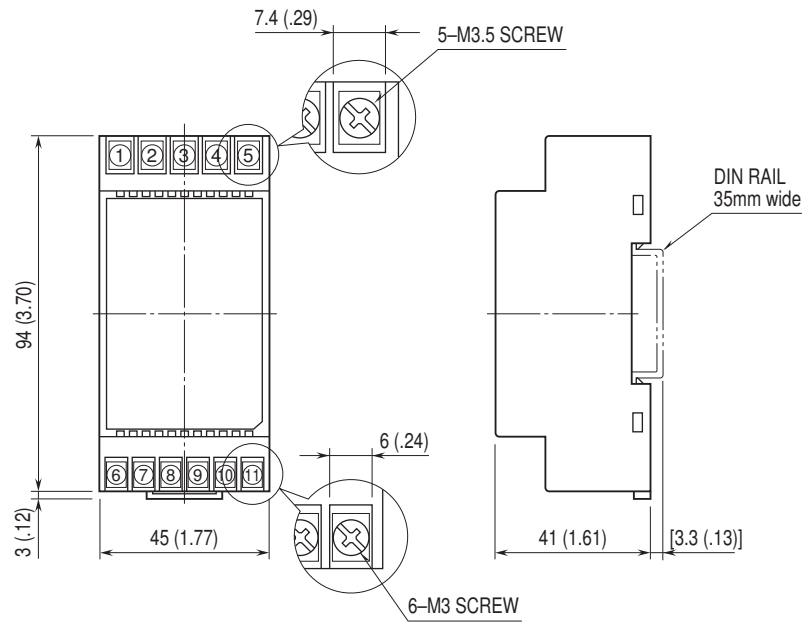
• **DC:** Approx. 3 W

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

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

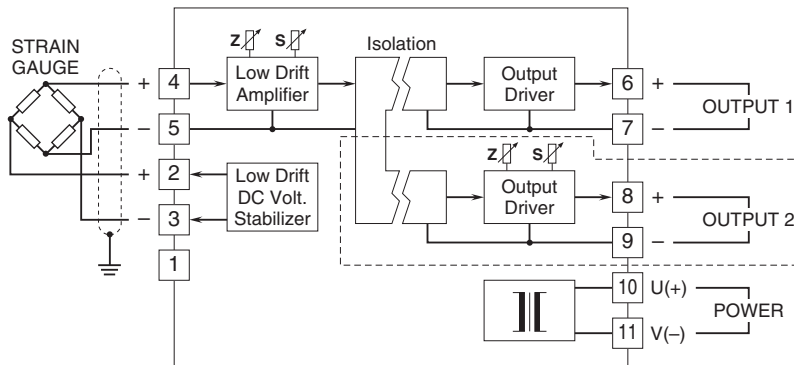
**Mounting:** DIN rail

## EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



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

## SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Note 1: The section enclosed by broken line is only with 2nd output option.  
 Note 2: DO NOT connect to the terminal 1.



Specifications are subject to change without notice.