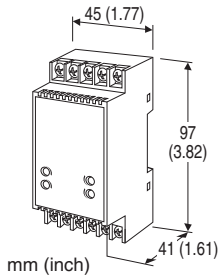


Terminal Block Dual Output Signal Conditioners W5-UNIT

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 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)

[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 \pm 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 (\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

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

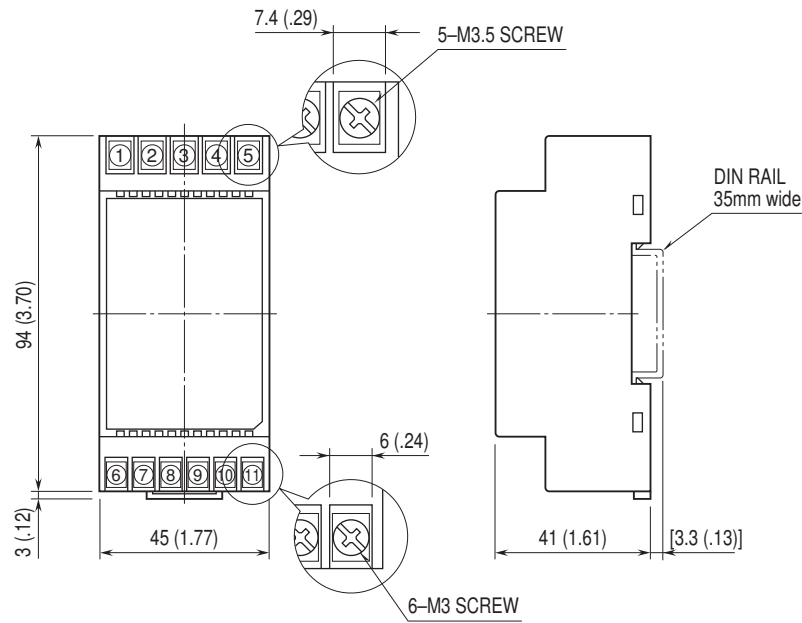
• DC: Approx. 3 W

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

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

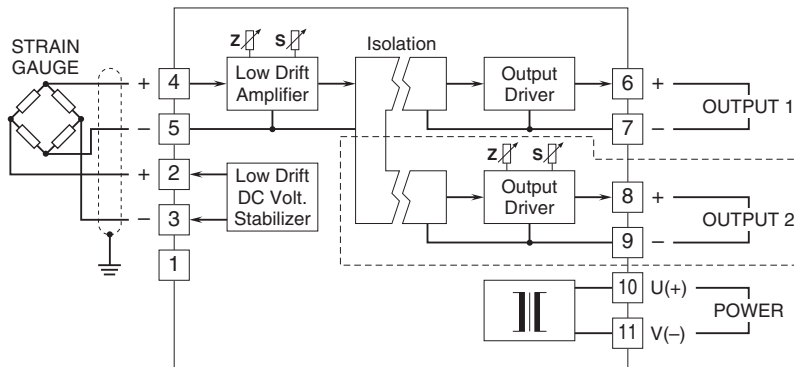
Mounting: DIN rail

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.