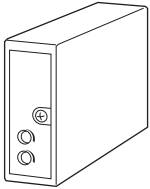


Dual Output Super-mini Signal Conditioners Pico-M Series

STRAIN GAUGE CONVERTER

Functions & Features

- Provides two DC output signals proportional to a bridge type strain gauge utilized in load cells, pressure transducers
- Supplies required excitation voltage
- Drives strain gauges of various bridge resistance and rated output voltage
- Excitation selectable among 2.5 V, 5 V or 10 V
- Wide-range adjustment: 0 – 60 % for zero, 40 – 100 % for span
- Space-saving, easy-to-maintain, multi-channel installation base



MODEL: M8LCS-[1][2][3]-R

ORDERING INFORMATION

- Code number: M8LCS-[1][2][3]-R
- Specify a code from below for each of [1] through [3].
(e.g. M8LCS-226A-R)
- Special input strain gauge range (For code 0)
 - Special excitation range (For code 0)

[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 (See INPUT SPECIFICATIONS)

[2] EXCITATION

- 1: 2.5 V
- 2: 5 V
- 3: 10 V
- 0: Specify (See INPUT SPECIFICATIONS)

[3] OUTPUT 1 / OUTPUT 2

- 6A: 1 – 5 V DC (Load resistance 2500 Ω min.)
/ 4 – 20 mA DC (Load resistance 300 Ω max.)
- 44: 0 – 10 V DC (Load Resistance 5000 Ω min.)
/ 0 – 10 V DC (Load Resistance 5000 Ω min.)
- 55: 0 – 5 V DC (Load resistance 2500 Ω min.)
/ 0 – 5 V DC (Load resistance 2500 Ω min.)
- 66: 1 – 5 V DC (Load resistance 2500 Ω min.)
/ 1 – 5 V DC (Load resistance 2500 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 10 %, ripple 10 %p-p max.)

RELATED PRODUCTS

- Installation Base or Single Mount Base Socket (model: M8BSx)

This unit must be mounted on dedicated base or socket.

GENERAL SPECIFICATIONS

Construction: Plug-in

Mounting screw: M3 screw (torque 0.3 N·m)

Housing material: Flame-resistant resin (black)

Power supply: Via the Installation Base terminals
(model: M8BSx)

Isolation: Input to output 1 to output 2 to power

Zero adjustment: 0 – 60 % (front)

Span adjustment: 100 – 40 % (front)

INPUT SPECIFICATIONS

■ **Input:** Bridge voltage from load cells

Permissible leadwire resistance: Strain Gauge Composite
Resistance $\times$ 0.25

• **Strain Gauge**

Rated output from strain gauge: 1 – 20 mV/V;

M8LCS input voltage -100 – +100 mV;

Input to the M8LCS must be over 5 mV.

(The input must be over 10 mV when Code 0 is selected for the strain gauge and/or the excitation.)

• **Excitation:** 2 – 10 V

Maximum current: 45 mA

INSTALLATION

Current consumption: Approx. 60 mA (80 mA for current output)

Operating temperature: 0 to 55°C (32 to 131°F)

Operating humidity: 30 to 95 %RH (non-condensing)

Mounting: Installation Base (model: M8BSx)

Weight: 70 g (2.5 oz)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$ (input ≥ 5 mV)

Temp. coefficient: $\pm 0.02\%/^{\circ}\text{C}$ ($\pm 0.01\%/^{\circ}\text{F}$) (input ≥ 5 mV)

Response time: ≤ 0.2 sec. (0 - 90 %)

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

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

Dielectric strength:

1500 V AC @1 minute (input to output 1 or output 2 or power to ground)

500 V AC @1 minute (output 1 to output 2 to power)

SWC test: ANSI/IEEE-C37.90.1-1989

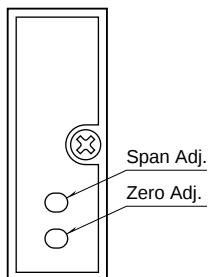
FRONT VIEW

Span adjustment (sensitivity adjustment)

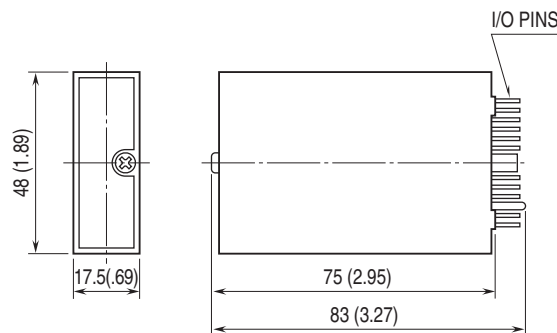
40 - 100 % of input span

Zero adjustment (tare adjustment)

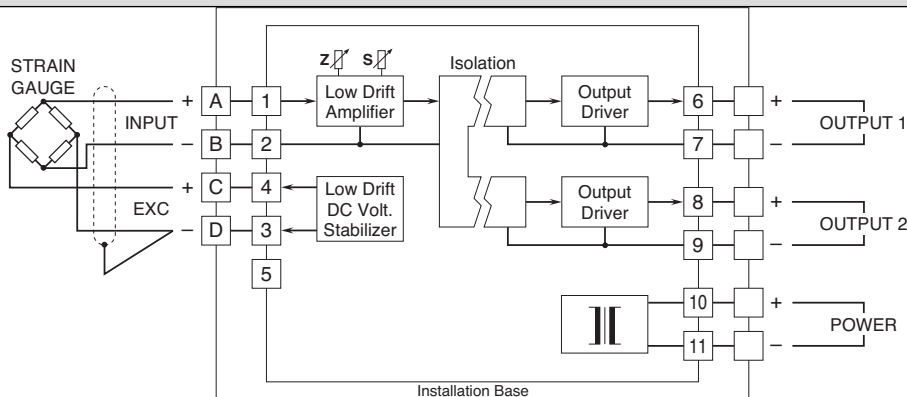
0 - 60 % of input span



EXTERNAL DIMENSIONS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM





Specifications are subject to change without notice.