

High-density Signal Conditioners 10-RACK

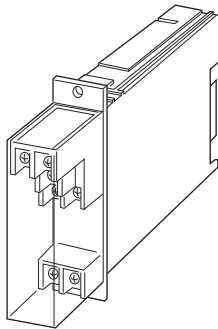
STRAIN GAUGE TRANSMITTER

Functions & Features

- Providing a DC output signal proportional to a bridge type strain gauge utilized in load cells, pressure transducers
- Supplying required excitation voltage
- Excitation adjustable from 2 V to 10 V
- Wide-range adjustment: 0 - 80 % for zero, 20 - 100 % for span

Typical Applications

- Weighing system for tanks, hoppers, silos
- Weighing system using cranes
- Float level meter utilizing strain gauges



MODEL: 10LCS-[1][2]0-R[3]

ORDERING INFORMATION

- Code number: 10LCS-[1][2]0-R[3]
- Specify a code from below for each [1] through [3].
(e.g. 10LCS-2A0-R/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT STRAIN GAUGE

- 2: 2 mV/V
0: Specify (strain gauge and excitation)

[2] OUTPUT 1

Current

- A: 4 - 20 mA DC (Load resistance 600 Ω max.)
B: 2 - 10 mA DC (Load resistance 1200 Ω max.)
C: 1 - 5 mA DC (Load resistance 2400 Ω max.)
D: 0 - 20 mA DC (Load resistance 600 Ω max.)
E: 0 - 16 mA DC (Load resistance 750 Ω max.)

F: 0 - 10 mA DC (Load resistance 1200 Ω max.)

G: 0 - 1 mA DC (Load resistance 12 kΩ max.)

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 10 kΩ min.)

OUTPUT 2

0: None

POWER INPUT

DC Power

R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

[3] OPTIONS

blank: none
/Q: With options (specify the specification)

SPECIFICATIONS OF OPTION: Q

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

- /C01: Silicone coating
/C02: Polyurethane coating
/C03: Rubber coating

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear; terminal cover provided

Connection

Input: M3.5 screw terminals (torque 0.8 N·m)
Output: Card-edge connector and M3.5 screw terminals (torque 0.8 N·m)

Power input: Supplied from card-edge connector

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output to power

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

Excitation adjustment: 2 - 10 V (front)

Zero adjustment (tare): 0 - 80 % (front)

(May not applicable when the excitation voltage is changed after shipment.)

Span adjustment: 100 - 20 % (front)

(May not applicable when the excitation voltage is changed after shipment.)



INPUT SPECIFICATIONS

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

• **Strain Gauge**

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

Input to this module must be over 3 mV.

• **Excitation:** 2 - 10 V adjustable (5 V standard)

Maximum current: 35 mA

INSTALLATION

Current consumption: Approx. 120 mA

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

Operating humidity: 30 to 90 %RH (non-condensing)

Mounting: Standard Rack 10BXx

Weight: 200 g (0.44 lb)

PERFORMANCE in percentage of span

Accuracy: $\pm 0.1\%$ (input ≥ 3 mV)

Temp. coefficient: $\pm 0.015\%/^{\circ}\text{C}$ ($\pm 0.008\%/^{\circ}\text{F}$) (input ≥ 3 mV)

Response time: ≤ 0.5 sec. (0 - 90 %)

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

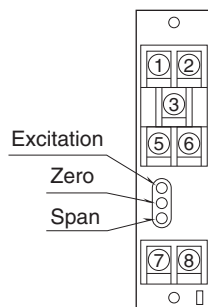
Insulation resistance: $\geq 100\text{ M}\Omega$ with 500 V DC

Dielectric strength: 500 V AC @ 1 minute

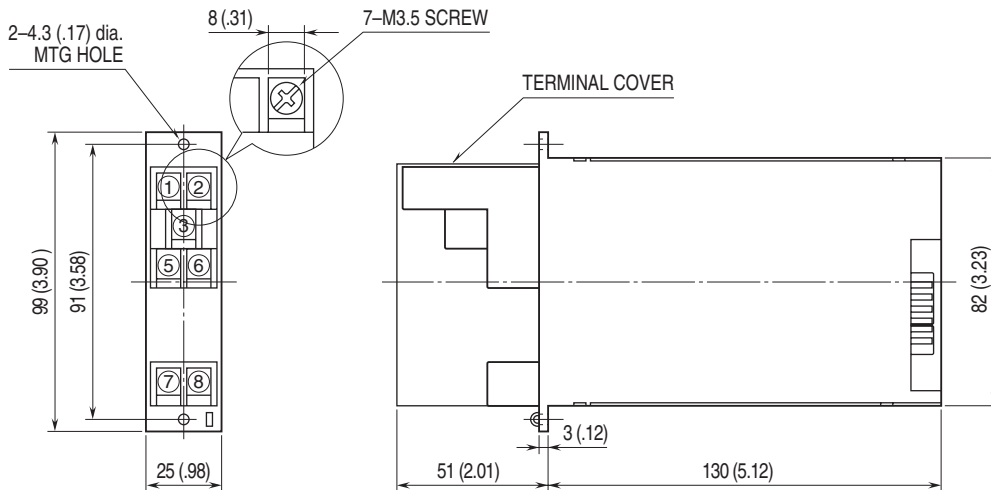
(input to output to power)

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

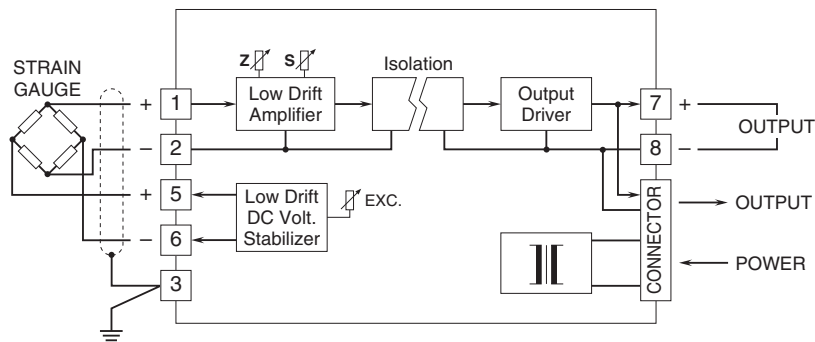
EXTERNAL VIEW




EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



 Specifications are subject to change without notice.