

High-density Signal Conditioners 10-RACK

STRAIN GAUGE TRANSMITTER

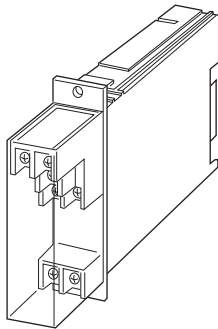
(fast response)

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: 10LCK-[1][2]0-R[3]

ORDERING INFORMATION

- Code number: 10LCK-[1][2]0-R[3]
- Specify a code from below for each [1] through [3].
(e.g. 10LCK-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 k Ω max.)

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 10 k Ω min.)

OUTPUT 2

0: None

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V $\pm$ 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

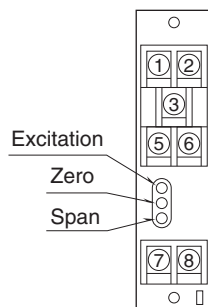
INSTALLATION

- 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)

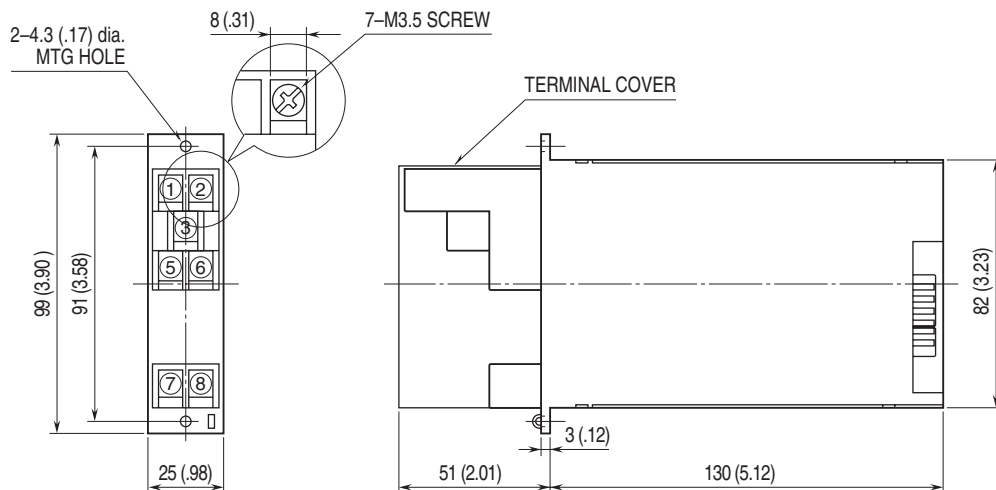
PERFORMANCE in percentage of span

- 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:** Approx. 25 msec. (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)

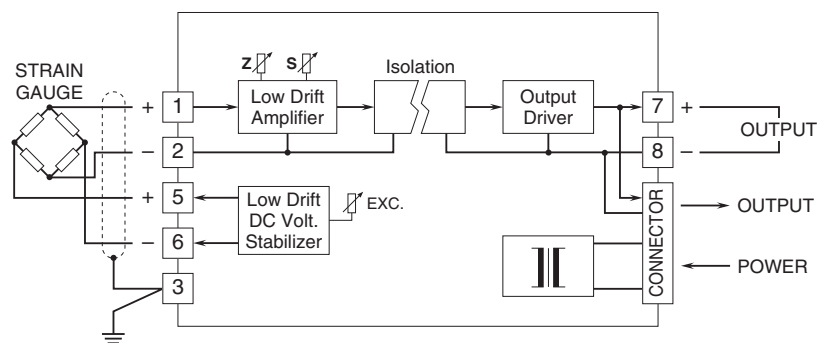
EXTERNAL VIEW



EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.