

High-density Signal Conditioners 10-RACK

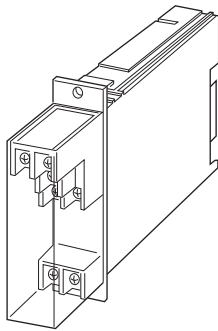
INPUT LOOP POWERED ISOLATOR

Functions & Features

- Loop-powered design eliminates output loop power supply
- 500 V DC input-to-output isolation
- 350 Ω output drive with 4 - 20 mA

Typical Applications

- Isolation between control room and field instrumentation, between telemetering system and input device
- Eliminates ground problems in existing systems thanks to easiness of application without requiring additional power wiring



MODEL: 10SN-[1][2]0[3]

ORDERING INFORMATION

- Code number: 10SN-[1][2]0[3]
- Specify a code from below for each [1] through [3]. (e.g. 10SN-A60/Q)
- Specify the specification for option code /Q (e.g. /C01)

[1] INPUT

Current

- A: 4 - 20 mA DC
- H: 10 - 50 mA DC

[2] OUTPUT 1

Current

- A: 4 - 20 mA DC

Voltage

- 6: 1 - 5 V DC

OUTPUT 2

- 0: None

[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)

Screw terminal: Nickel-plated steel

Housing material: Flame-resistant resin (black)

Isolation: Input to output

Zero adjustment (front)

- Voltage output:** -5 to +5 %
- Current output:** -0.5 to +0.5 %
- Span adjustment (front)**
- Voltage output:** 95 to 105 %
- Current output:** 98.5 to 101.5 %

INPUT & OUTPUT

■ Input 4 - 20 mA DC / Output 1 - 5 V DC

Equivalent input impedance: Approx. 250 Ω with 20 mA input

Operational range: 3 - 22 mA DC
(Accuracy is assured within 4 - 22 mA)

Load resistance: ≥ 50 kΩ

■ Input 10 - 50 mA DC / Output 1 - 5 V DC

Equivalent input impedance: Approx. 100 Ω with 50 mA input

Operational range: 7 - 55 mA DC
(Accuracy is assured within 8 - 55 mA)

Load resistance: ≥ 50 kΩ

■ Input 4 - 20 mA DC / Output 4 - 20 mA DC

Equivalent input impedance: 230 Ω plus load resistance with 20 mA input

Operational range: 3 - 22 mA DC



(Accuracy is assured within 4 - 22 mA)

Load resistance: 50 - 350 Ω (min. 50 Ω required for adequate operation)

■ **Input 10 - 50 mA DC / Output 4 - 20 mA DC**

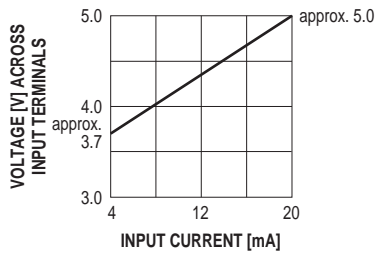
Equivalent input impedance: 90 Ω + [load resistance × 0.16] with 50 mA input

Operational range: 7 - 55 mA DC

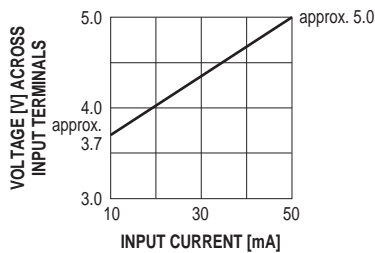
(Accuracy is assured within 8 - 55 mA)

Load resistance: 50 - 600 Ω (min. 50 Ω required for adequate operation)

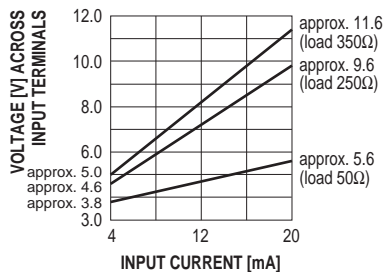
• **INPUT 4 - 20 mA DC / OUTPUT 1 - 5 V DC**



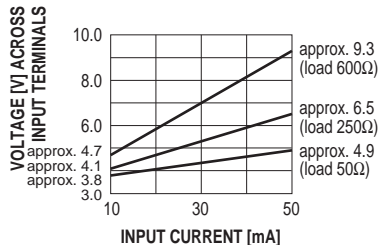
• **INPUT 10 - 50 mA DC / OUTPUT 1 - 5 V DC**



• **INPUT 4 - 20 mA DC / OUTPUT 4 - 20 mA DC**



• **INPUT 10 - 50 mA DC / OUTPUT 4 - 20 mA DC**



INSTALLATION

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: ±0.1 %

Temp. coefficient

Voltage output: ±0.015 %/°C (±0.008 %/°F)

Current output: ±0.02 %/°C (±0.01 %/°F)

Response time

Voltage output: ≤ 0.5 sec. (0 - 90 %)

Current output: Approx. 15 msec. (0 - 90 %)

Load effect (current output)

4 - 20 mA input: 0.015 %/Ω (50 - 150 Ω)

0.003 %/Ω (150 - 350 Ω)

10 - 50 mA input: 0.015 %/Ω (50 - 100 Ω)

0.003 %/Ω (100 - 600 Ω)

(The unit is calibrated with 250 Ω load at the factory.)

Insulation resistance: ≥ 100 MΩ with 500 V DC

Dielectric strength: 500 V AC @ 1 minute

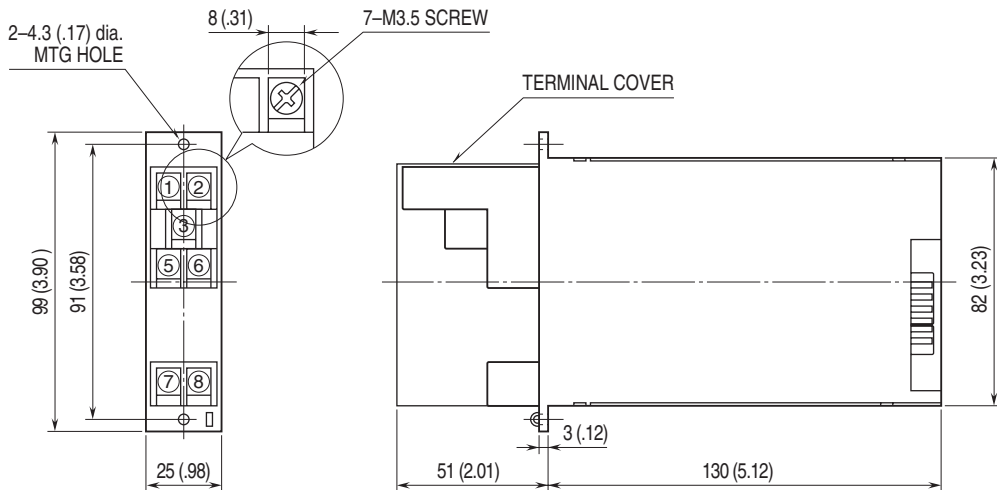
(input to output)

1500 V AC @ 1 minute

(input or output to ground)

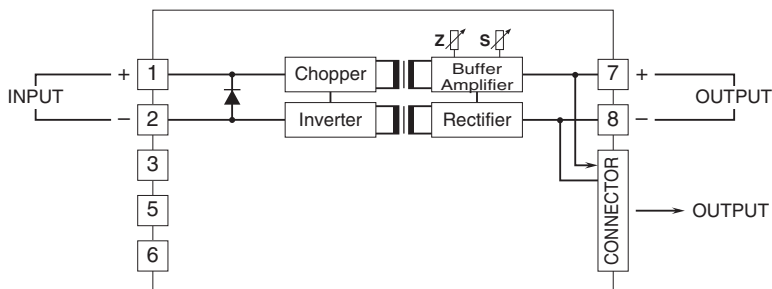


EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)

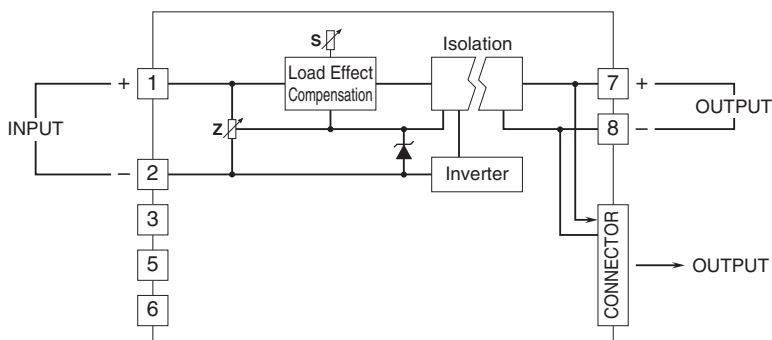


SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM

■ VOLTAGE OUTPUT



■ CURRENT OUTPUT



Specifications are subject to change without notice.

