

High-density Signal Conditioners 10-RACK

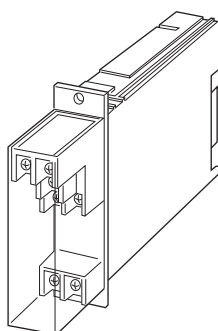
OUTPUT ISOLATOR

Functions & Features

- Converting a DC input into two isolated standard process signal
- Input from the Standard Rack connector can be monitored at the front terminals

Typical Applications

- Isolation between control room and field instrumentation



MODEL: 10YS-[1][2][3]-R[4]

ORDERING INFORMATION

- Code number: 10YS-[1][2][3]-R[4]
Specify a code from below for each [1] through [4].
(e.g. 10YS-1A6-R/Q)
- Special input range (For code 0)
- Specify the specification for option code /Q
(e.g. /C01)

[1] INPUT

Current

- A: 4 – 20 mA DC (Input resistance 250 Ω)
 D: 0 – 20 mA DC (Input resistance 50 Ω)
 G: 0 – 1 mA DC (Input resistance 1000 Ω)
 H: 10 – 50 mA DC (Input resistance 100 Ω)

Voltage

- 1: 0 – 10 mV DC (Input resistance 10 k Ω min.)
 2: 0 – 100 mV DC (Input resistance 100 k Ω min.)
 3: 0 – 1 V DC (Input resistance 1 M Ω min.)
 4: 0 – 10 V DC (Input resistance 1 M Ω min.)
 5: 0 – 5 V DC (Input resistance 1 M Ω min.)
 6: 1 – 5 V DC (Input resistance 1 M Ω min.)
 0: Specify voltage (See INPUT SPECIFICATIONS)

[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.)

[3] OUTPUT 2

0: None

Voltage

- 6: 1 – 5 V DC (Load resistance 5000 Ω min.)

POWER INPUT

DC Power

R: 24 V DC

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

[4] 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: Card-edge connector

Output, input monitor: 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 1 to output 2 to power

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

Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

■ **DC Current:** Input resistor incorporated
■ **DC Voltage:** 0 - 300 V DC
Minimum span: 3 mV
Offset: Max. 1.5 times span
Input Resistance
Span 3 - 10 mV : $\geq 10 \text{ k}\Omega$
Span 10 - 100 mV : $\geq 10 \text{ k}\Omega$
Span 0.1 - 1 V : $\geq 100 \text{ k}\Omega$
Span $\geq 1 \text{ V}$: $\geq 1 \text{ M}\Omega$

OUTPUT SPECIFICATIONS

With the input voltage code 3, 4, 5, 6 and current, the output goes below 0 % when the input is open.

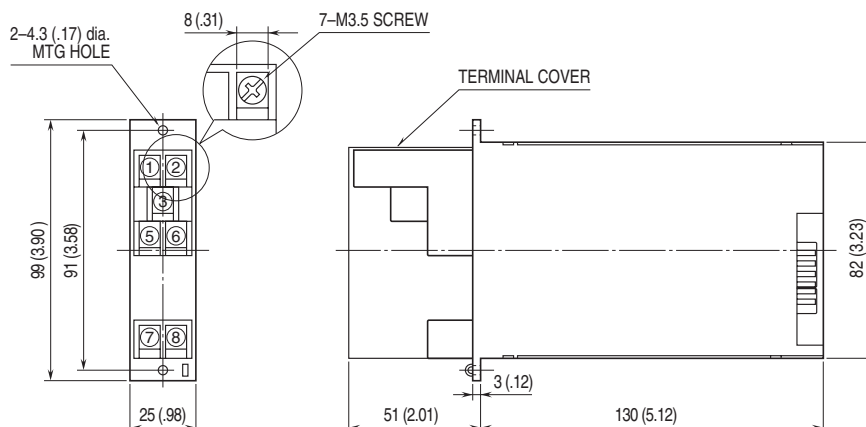
INSTALLATION

Current consumption: Approx. 25 mA with voltage output 1
Approx. 45 mA with current output 1
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)

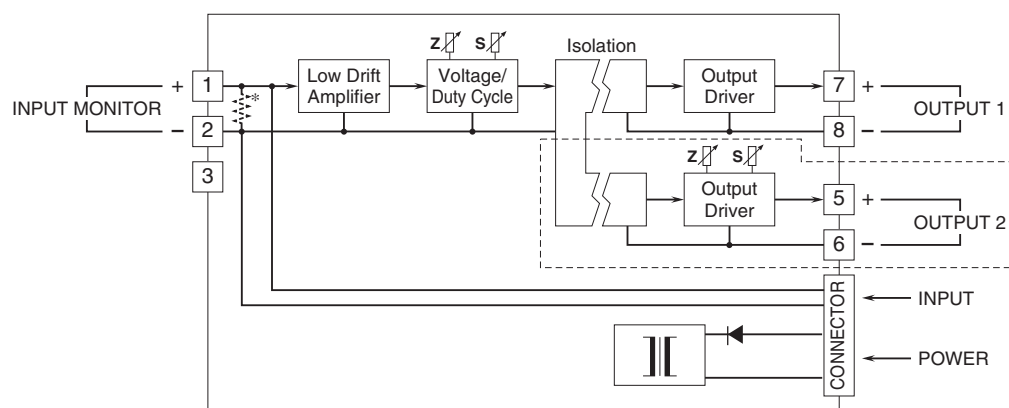
PERFORMANCE in percentage of span

Accuracy: $\pm 0.1 \%$
Temp. coefficient: $\pm 0.015 \%/^{\circ}\text{C}$ ($\pm 0.008 \%/^{\circ}\text{F}$)
Response time: $\leq 0.5 \text{ sec.}$ (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 1 to output 2 to power)
1500 V AC @ 1 minute (input or output or power to ground)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



*Input shunt resistor incorporated for current input.

Remark 1) The section enclosed by broken line is only for 2nd output channel.



Specifications are subject to change without notice.