

## High-density Signal Conditioners 10-RACK

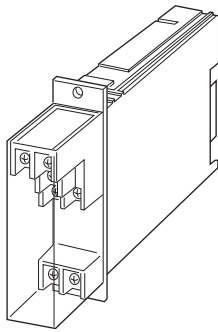
### OUTPUT ISOLATOR

#### 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  $\Omega$ )  
 D: 0 - 20 mA DC (Input resistance 50  $\Omega$ )  
 G: 0 - 1 mA DC (Input resistance 1000  $\Omega$ )  
 H: 10 - 50 mA DC (Input resistance 100  $\Omega$ )

##### Voltage

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

#### [2] OUTPUT 1

##### Current

- A: 4 - 20 mA DC (Load resistance 600  $\Omega$  max.)  
 B: 2 - 10 mA DC (Load resistance 1200  $\Omega$  max.)  
 C: 1 - 5 mA DC (Load resistance 2400  $\Omega$  max.)  
 D: 0 - 20 mA DC (Load resistance 600  $\Omega$  max.)  
 E: 0 - 16 mA DC (Load resistance 750  $\Omega$  max.)  
 F: 0 - 10 mA DC (Load resistance 1200  $\Omega$  max.)  
 G: 0 - 1 mA DC (Load resistance 12 k $\Omega$  max.)

##### Voltage

- 1: 0 - 10 mV DC (Load resistance 10 k $\Omega$  min.)  
 2: 0 - 100 mV DC (Load resistance 100 k $\Omega$  min.)  
 3: 0 - 1 V DC (Load resistance 100  $\Omega$  min.)  
 4: 0 - 10 V DC (Load resistance 1000  $\Omega$  min.)  
 5: 0 - 5 V DC (Load resistance 500  $\Omega$  min.)  
 6: 1 - 5 V DC (Load resistance 500  $\Omega$  min.)

#### [3] OUTPUT 2

0: None

##### Voltage

- 6: 1 - 5 V DC (Load resistance 5000  $\Omega$  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.

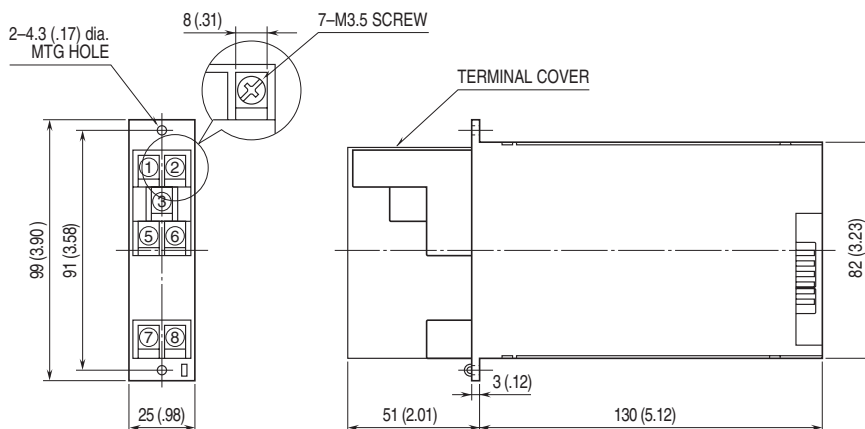
## INSTALLATION

- 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)

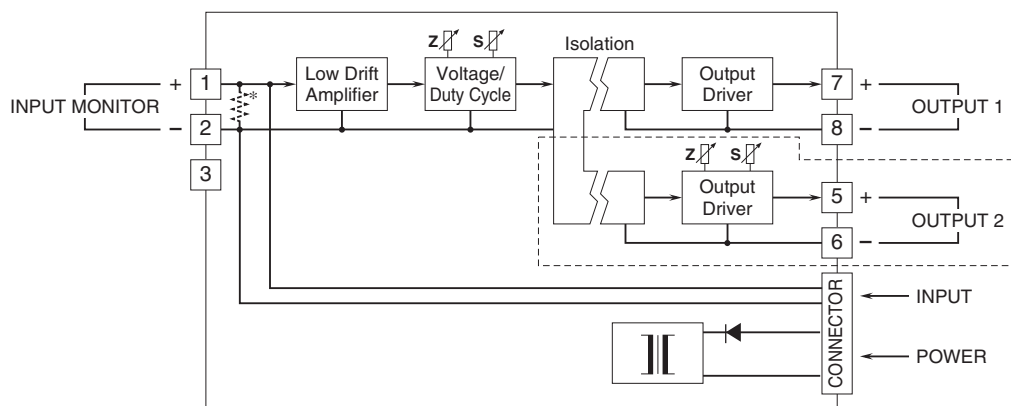
## PERFORMANCE in percentage of span

- 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.