

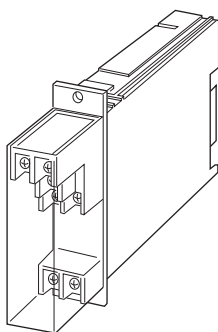
High-density Signal Conditioners 10-RACK

SIGNAL TRANSMITTER

(high speed response)

Functions & Features

- Converts DC input from a sensor into a standard process signal
- Isolation between input and output
- 180-microsecond response



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

ORDERING INFORMATION

- Code number: 10VF-[1][2]0-R[3]
Specify a code from below for each [1] through [3].
(e.g. 10VF-6A0-R/Q)
- Special input range (For codes 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

- 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.)
 4W: -10 – +10 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.)

D: 0 – 20 mA DC (Load resistance 600 Ω max.)G: 0 – 1 mA DC (Load resistance 12 k Ω max.)

Voltage

- 3: 0 – 1 V DC (Load resistance 1000 Ω min.)
 4: 0 – 10 V DC (Load resistance 10 k Ω min.)
 5: 0 – 5 V DC (Load resistance 5000 Ω min.)
 6: 1 – 5 V DC (Load resistance 5000 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

Zero adjustment: -5 to +5 %; multi-turn screwdriver
adjustments (front)

Span adjustment: 95 to 105 %; multi-turn screwdriver
adjustments (front)

INPUT SPECIFICATIONS

■ DC Current: Input resistor incorporated

■ DC Voltage: -300 – +300 V DC

Minimum span: 1 V

Offset: Max. 1.5 times span

Input resistance: $\geq 1 \text{ M}\Omega$

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. 35 mA for voltage output

Approx. 65 mA for current output

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

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

Mounting: Standard Rack 10BXx

Weight: 180 g (0.40 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: Approx. 180 μsec . (0 - 90 %)

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

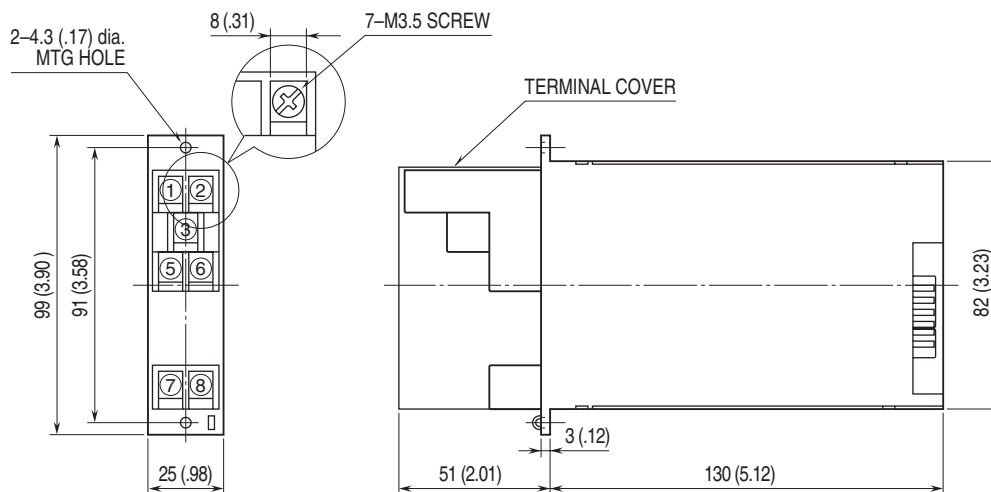
Insulation resistance: $\geq 100 \text{ M}\Omega$ with 500 V DC

Dielectric strength: 500 V AC @ 1 minute

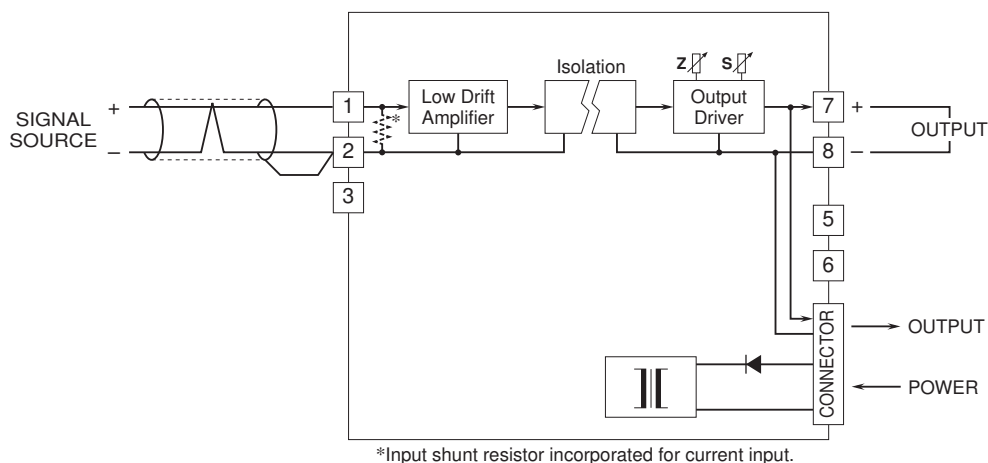
(input to output to power)

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

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Remark: This module, due to its fast-response design, does not eliminate noises included in the input signal. Use shielded twisted-pair cable for preventing them.



Specifications are subject to change without notice.