

High-density Signal Conditioners 10-RACK

5: 0 - 5 V DC (Load resistance 500 Ω min.)

6: 1 - 5 V DC (Load resistance 500 Ω min.)

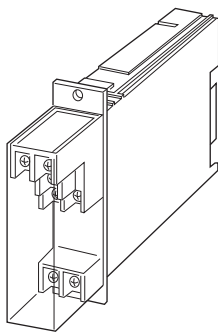
SQUARE ROOT EXTRACTOR

Functions & Features

- Providing two DC outputs proportional to the root of the input signal
- Low-end cutout
- Optional second channel output available at the front terminals and at the Standard Rack connector

Typical Applications

- Converting differential pressure to flow



[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 ±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

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

ORDERING INFORMATION

• Code number: 10FNS-[1][2][3]-R[4]

Specify a code from below for each [1] through [4].

(e.g. 10FNS-6A6-R/Q)

• Specify the specification for option code /Q

(e.g. /C01)

[1] INPUT

Current

A: 4 - 20 mA DC (Input resistance 87.7 Ω)

H: 10 - 50 mA DC (Input resistance 100 Ω)

Voltage

6: 1 - 5 V DC (Input resistance 1 MΩ min.)

[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 kΩ max.)

Voltage

3: 0 - 1 V DC (Load resistance 100 Ω min.)

4: 0 - 10 V DC (Load resistance 1000 Ω min.)

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)

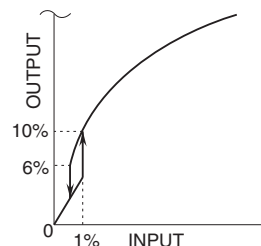
Isolation: Input to output 1 to output 2 to power

Overrange output: Approx. 0 to 120 % at 1 - 5V

Zero adjustment: -2 to +2 % (front)

Span adjustment: 95 to 105 % (front)

Low-end cutout: Approx. 10 % (output); curve characteristics shown in the figure below



INPUT SPECIFICATIONS

- DC Current: Input resistor incorporated

OUTPUT SPECIFICATIONS

The output turns to 0 % when the input is open.

INSTALLATION

Current consumption: Approx. 30 mA with voltage output 1

Approx. 55 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: $\pm 0.25\%$ (input 1 - 100 %)

Temp. coefficient: $\pm 0.03\%/^{\circ}\text{C}$ ($\pm 0.02\%/^{\circ}\text{F}$)

Response time: ≤ 0.5 sec. (0 - 90 %)

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

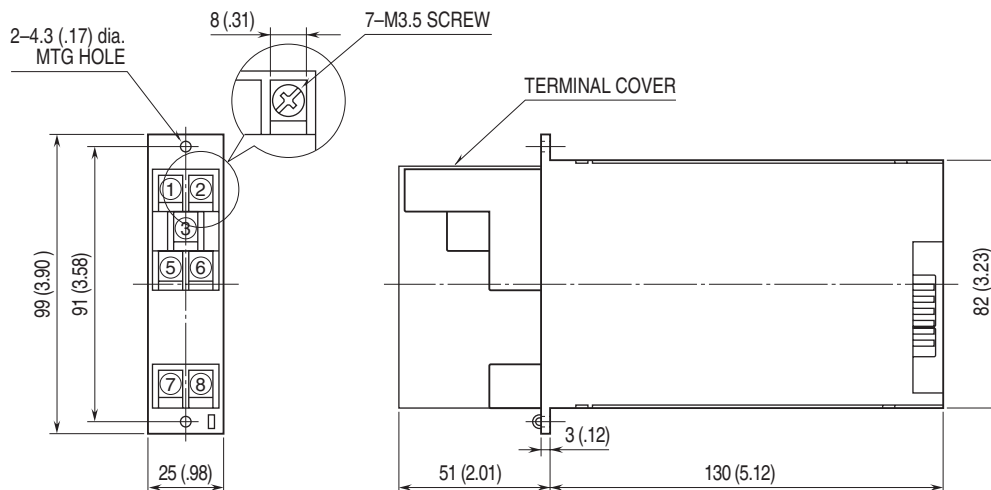
Insulation resistance: $\geq 100\ \text{M}\Omega$ with 500 V DC

Dielectric strength: 500 V AC @ 1 minute

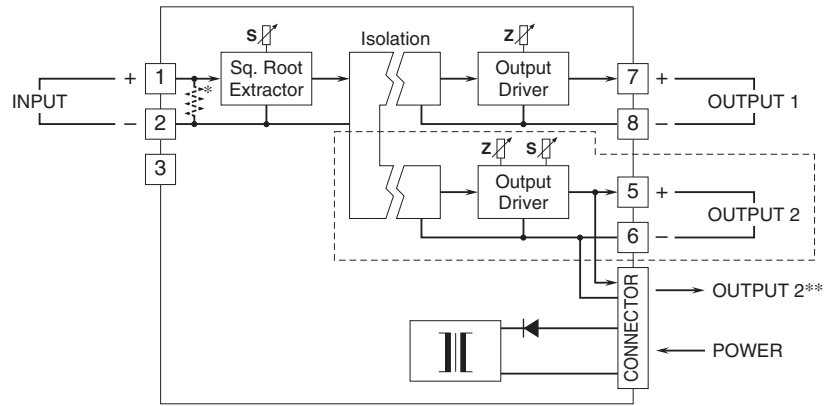
(input to output 1 to output 2 to power)

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.

**1 output type has the output 1 connected to the card-edge connector in parallel.

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



Specifications are subject to change without notice.

