

High-density Signal Conditioners 10-RACK

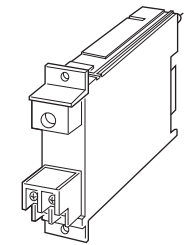
LOOP POWERED I/P TRANSDUCER

Functions & Features

- Converting a DC input into a proportional standard pneumatic signal
- Loop powered
- Semiconductor pressure sensor in the feedback circuit
- High resolution
- No mounting position effect

Typical Applications

- Converting a 4 - 20 mA from a PID controller into a pneumatic signal



MODEL: 10VPN-[1]A[2]0[3]

ORDERING INFORMATION

- Code number: 10VPN-[1]A[2]0[3]
Specify a code from below for each [1] through [3].
(e.g. 10VPN-2A2S0/Q)
- Specify the specification for option code /Q
(e.g. /C01)

[1] PNEUMATIC CONNECTION

- 2: Rc 1/4"
- 5: Rc 1/8" fitting
- 7: 1/4" NPT fitting

INPUT

Current

A: 4 - 20 mA DC

[2] OUTPUT

- 1S: 19.6 - 98.1 kPa
- 2S: 20 - 100 kPa
- 3S: 20.7 - 103.4 kPa
- 1: 0.2 - 1.0 kgf/cm²
- 2: 0.2 - 1.0 bar
- 3: 3 - 15 psig

[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

RELATED PRODUCTS

- Standard rack with air manifold

The 10VPN must be installed in a 10-Rack series rack with air manifold.

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals at the front and via card-edge connector at the rear

Connection

Input: M3.5 screw terminals (torque 0.8 N·m) and card-edge connector

Pneumatic: Rc 1/4", Rc 1/8" or 1/4" NPT female
(torque ≤ 12 N·m)

Material

Housing: Flame-resistant resin (black)

Base: Die cast aluminium

Screw terminals: Nickel-plated steel

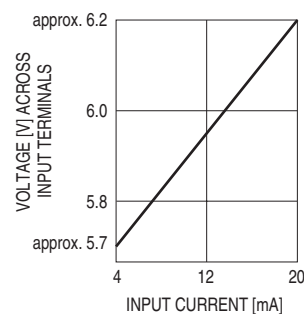
Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

Equivalent input impedance: Approx. 310 Ω at 20 mA

The voltage measure at the input terminals changes corresponding to the input signal as in the diagram below. Be sure that the device at the input side allows the load increase.



OUTPUT SPECIFICATIONS

■ Output:

19.6 - 98.1 kPa, 0.2 - 1.0 kgf/cm²

20 - 100 kPa, 0.2 - 1.0 bar

20.7 - 103.4 kPa, 3 - 15 psig

The output goes below 0 % if the input loop is open.

Maximum air delivery: 60 NI/minute (2.1 SCFM)

Maximum air exhaust: 60 NI/minute (2.1 SCFM)

INSTALLATION

Supply pressure: 140 kPa (1.4 kgf/cm², 1.4 bar, 20 psig)
±10 %. Use dry air containing no carbon black or other foreign particles. To ensure reliability use an air filter (0.01 microns).

Air consumption: 6 NI/minute (0.21 SCFM)

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

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

Mounting: Standard Rack 10BXx

Weight: 300 g (0.66 lb)

PERFORMANCE in percentage of span

Accuracy: ±0.3 % including linearity and repeatability

Linearity: ±0.2 %

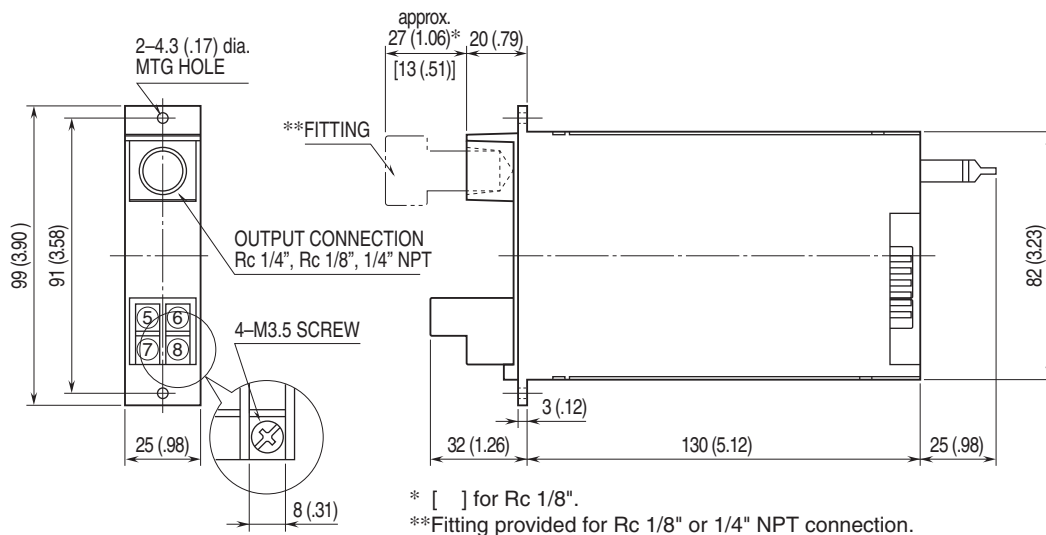
Repeatability: 0.1 %

Temp. coefficient: ±0.05 %/°C (±0.03 %/°F)

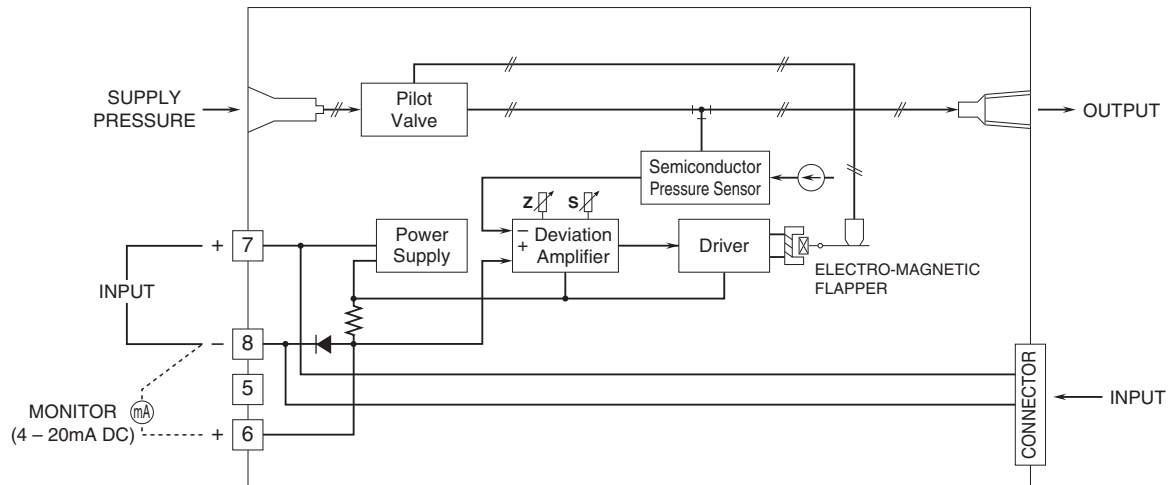
Response time: ≤ 3 sec. (0 - 90 %)

Mounting position effect: ±0.1 % (all dimensions)

EXTERNAL DIMENSIONS & TERMINAL ASSIGNMENTS unit: mm (inch)



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



When the input signal is provided from the card-edge connector, the front terminals are not available for use.



Specifications are subject to change without notice.

