

## High-density Signal Conditioners 10-RACK

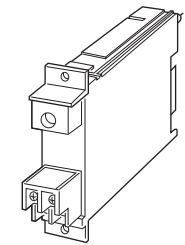
### LOOP POWERED I/P TRANSDUCER

#### 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 of [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/cm<sup>2</sup>
- 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 our 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

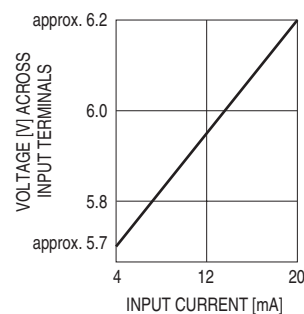
**Screw terminals:** Nickel-plated steel

**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/cm<sup>2</sup>

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/cm<sup>2</sup>, 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 %

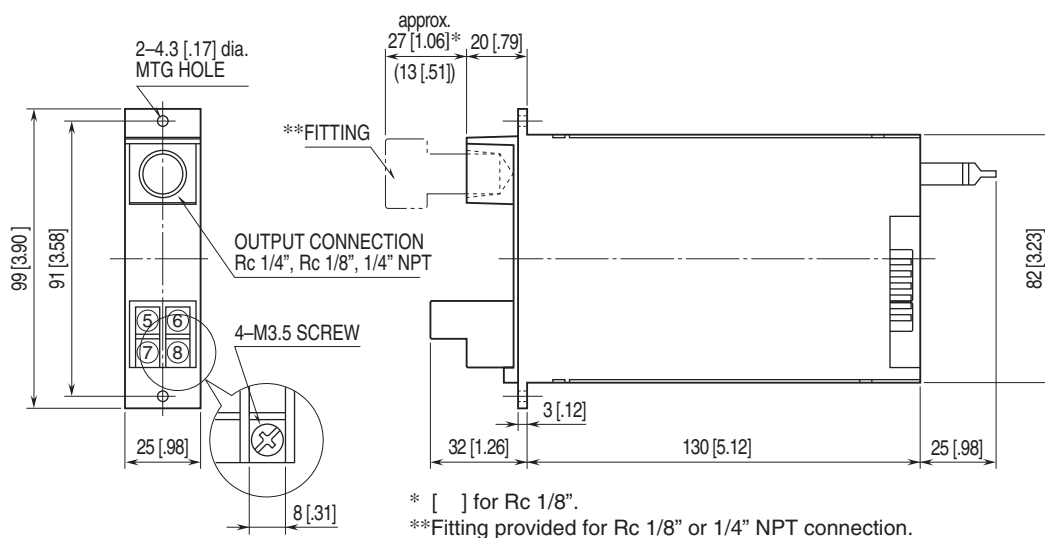
**Repeatability:** 0.1 %

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

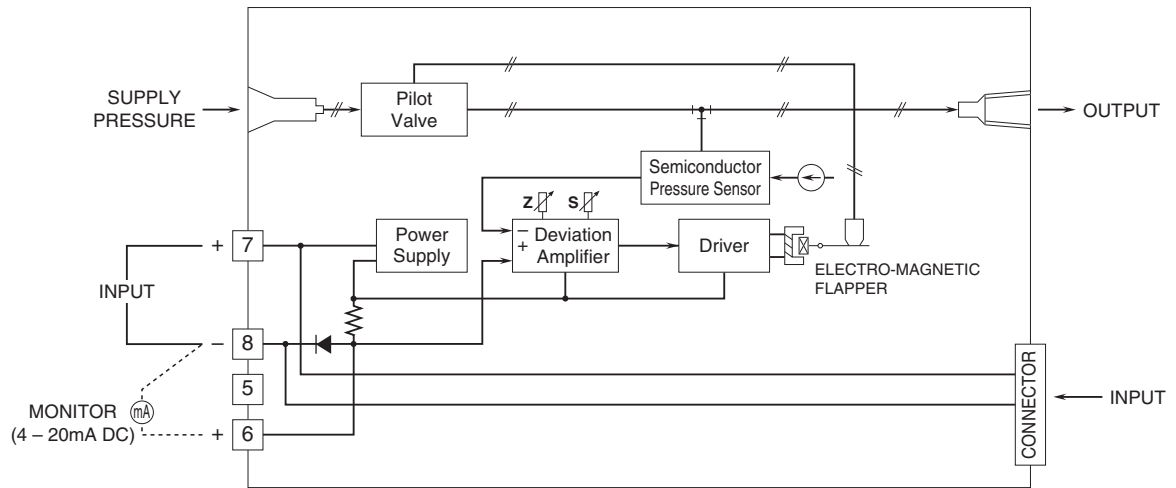
**Response time:** ≤ 3 sec. (0 - 90 %)

**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.