

Rack-mounted DCS Signal Conditioners 18-RACK

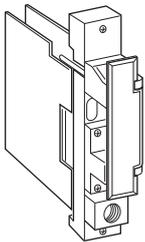
I/P TRANSDUCER

Functions & Features

- Converting a DC input into a proportional standard pneumatic signal
- 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: 18VP-[1][2][3]-R

ORDERING INFORMATION

- Code number: 18VP-[1][2][3]-R

Specify a code from below for each [1] through [3]
(e.g. 18VP-261-R)

[1] PNEUMATIC CONNECTION

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

[2] INPUT

Current

A: 4 - 20 mA DC (Input resistance 250 Ω)

Voltage

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

[3] 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

POWER INPUT

DC Power

R: 24 V DC

(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

RELATED PRODUCTS

- Standard rack with air manifold

Note: The 18VP must be installed in a 18- or 18K-Rack series rack with air manifold.

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals on the front and connector on the rear; terminal cover provided

Connection

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

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

Power input: supplied from connector

Supply pressure: supplied collectively from the rack

Screw terminal: Nickel-plated steel

Isolation: Input to power

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

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

- **DC Current:** Input resistor incorporated

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)

Power consumption

•DC: Approx. 30 mA

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

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

Mounting: Standard Rack 18BXx or 18KBXx

Weight: 250 g (0.55 lbs)

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)

Line voltage effect: ±0.1 % over voltage range

Insulation resistance: ≥ 100 MΩ with 500 V DC

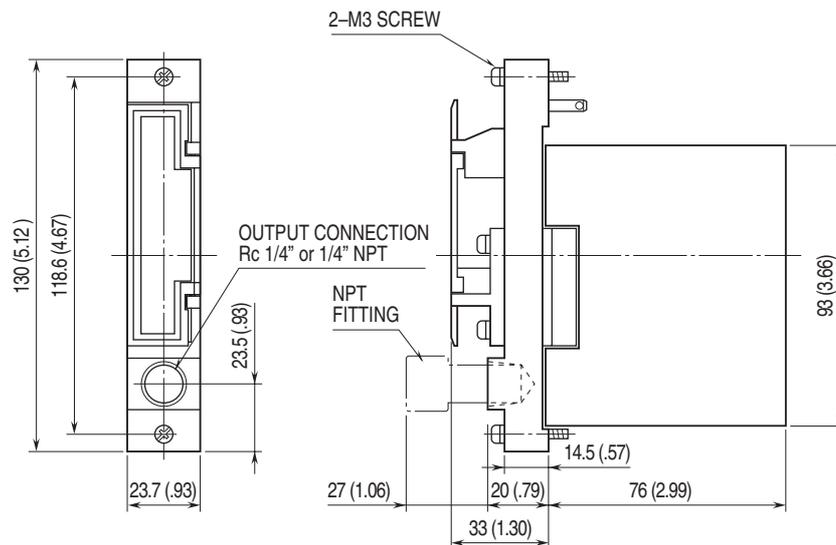
Dielectric strength: 500 V AC @ 1 minute

(input to power)

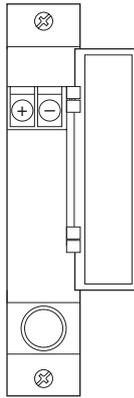
1500 V AC @ 1 minute

(input or power to ground)

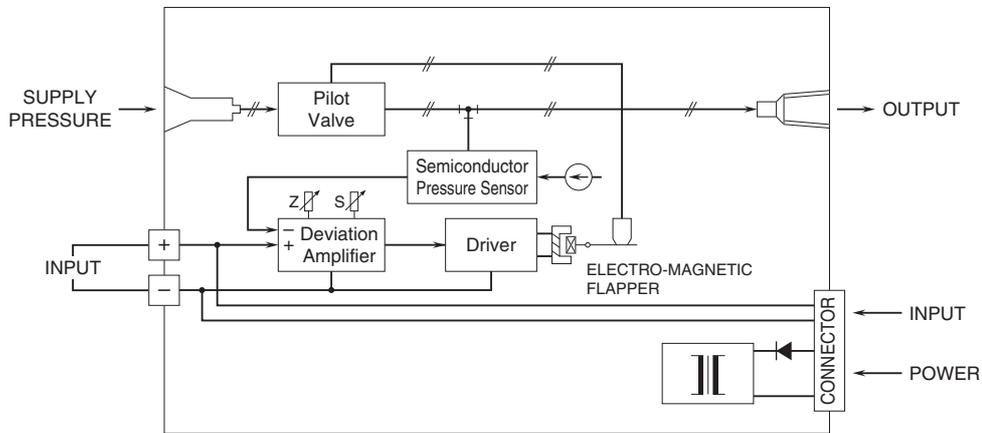
DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



Specifications are subject to change without notice.

