Rack-mounted DCS Signal Conditioners 18-RACK

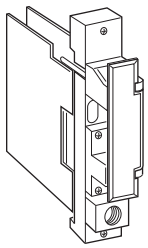
I/P TRANSDUCER

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 of [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/cm^2
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-RACK 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/cm^2
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 Nl/minute (2.1 SCFM)
Maximum air exhaust: 60 Nl/minute (2.1 SCFM)

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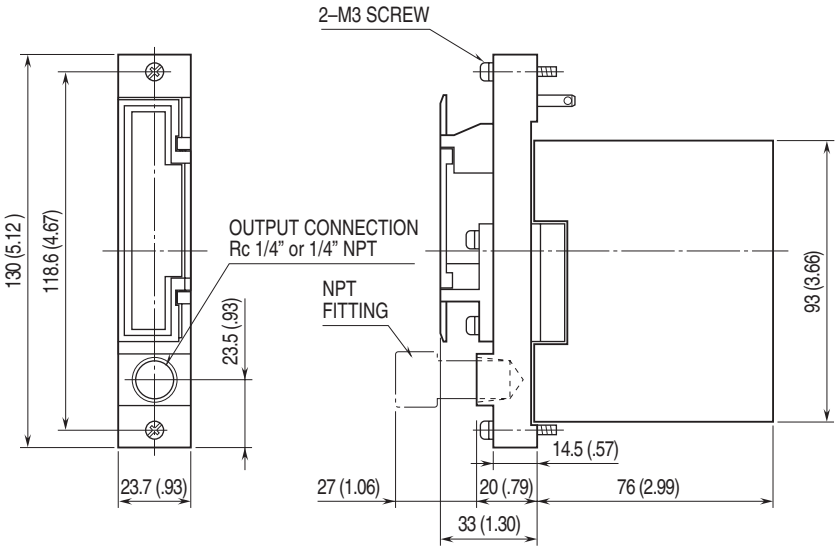
INSTALLATION

Supply pressure: 140 kPa (1.4 kgf/cm^2, 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 Nl/minute (0.21 SCFM)
Current consumption: 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 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)
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)

EXTERNAL DIMENSIONS unit: mm [inch]



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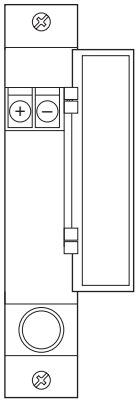
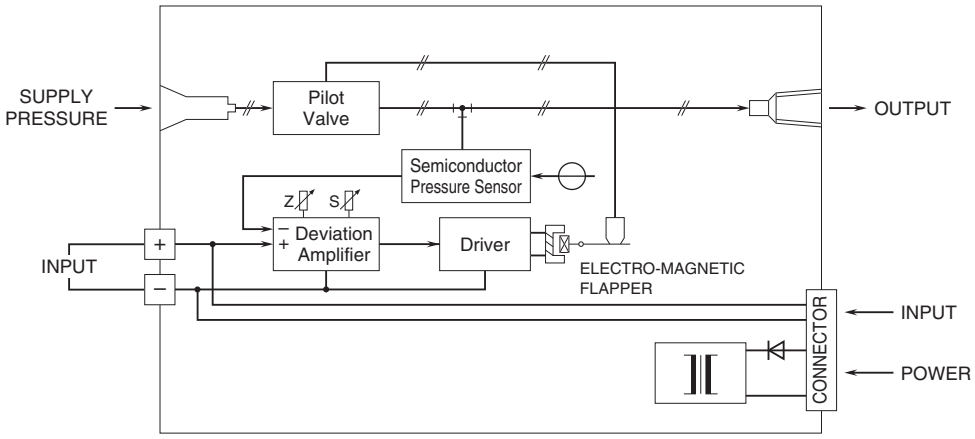
TERMINAL ASSIGNMENTS



SCHEMATIC CIRCUITRY & CONNECTION DIAGRAM



⚠ Specifications are subject to change without notice.

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