

Pressure To Current Converter v7 PIC176

DESCRIPTION

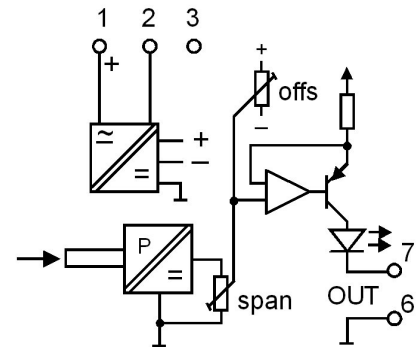
The PRESSURE TO CURRENT CONVERTER PIC176 is designed to convert a wide range of pneumatic pressure signals to any standard process control signal such as the popular 4 - 20mA current loop signal. Pneumatic tubing can be directly connected to the module via a push-on nozzle for soft tubing or a variety of compression fittings for nylon tubing. The air pressure is internally converted to a proportional electrical signal using a temperature compensated pressure transducer. Final calibration is trimmed using the front accessible 'offs' and 'span' 15-turn trim adjustments. The output signal is indicated by the LED on front, giving a clear indication of module function, presence of signal and output loop continuity (for current output). Various power supply choices are available varying from 240Vac down to 8Vdc, all provide power isolation.



General Specifications

| | |
|--------------------------------|--|
| Size: | 52W x 70H x 110D (mm). |
| Mounting: | DIN-Rail, gear plate. |
| Termination electrical: | Screw terminals on front. |
| Termination pneumatic: | Push-on nozzle or compression fitting. |
| Protection class: | IP40 |
| Weight: | 0.300 kg. |
| Housing material: | ABS. |
| Accuracy: | ±0.5% of span (>50kPa input). |
| Front 'OFFS' adjust: | ±20% typical. |
| Front 'SPAN' adjust: | ±20% typical. |
| Linearity: | ±0.5% span (>50kPa input). |
| Temperature effect: | 0.02% per °C. |
| Operating temp. range: | -10...+60°C. |
| Input range: | 1kPa up to 200kPa. |
| Medium computability: | Clean air, low pressure steam, gasoline and oil vapours. |
| Output load effect: | less than 0.2% up to max. load. |
| Output loop drive: | 10mA into 0-2000Ω. 20mA into 0 - 900Ω. 50mA into 0 - 360Ω. |
| Power requirements | AC supply 4W, DC supply 3W. |
| Power supply isolation: | 2kV rms. |
| Electromagnetic compatibility: | Complies with AS/NZS 4251.1 (EN 50081.1) |

Block diagram



For input / output combinations refer to TYPE NO. DESIGNATION overleaf.

TYPE NO. DESIGNATION

Power Supply:

- 1 = 90-280Vac 50/60Hz (65-280Vdc) 6 = 8 - 60Vdc.
 *) 3 = 16-48Vac 50/60Hz (10-60Vdc) *) 9 = Other (Specify).

Input:

- 4 = 1 to 10kPa Specify required calibration within the input range selected.
 7 = 10 to 100kPa.
 8 = 100 to 200kPa. Select 9 when using measurement 1 below.

Nozzle Type:

- 1 = Barbed fitting for 3.5 - 4mm ID soft tube.
 *) 4 = Quick-Connect 3.2mm (1/8") OD tube (recommended tube SMC TE 1800 BG)
 *) 6 = Quick-Connect 6mm OD tube

Output:

- 4 = Link selectable specify range from table below (4 - 20mA is default setting).
 5 = 0 - 50mA (360Ω max).
 6 = 10 - 50mA (360Ω max).
 *) 9 = Other (Specify).

Action:

- 1 = Direct. 2 = Reverse.

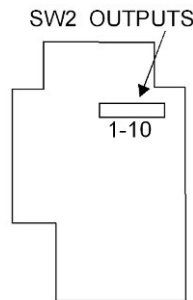
Options:

- 0 = None.
 *) 1 = 0 - 100kPa Vacuum.
 *) 2 = Output ramp.
 *) 9 = Other (Specify).

*) = Price Extra.

Output Range selection

- 1) Disconnect power to unit.
- 2) Remove terminal covers.
- 3) Un-clip housing lid and withdraw unit from housing.
- 4) Set the coding plugs as required.
- 5) Reassemble unit and connect power.
- 6) Adjust SPAN and OFFS pots to recalibrate.
- 7) Change the label information to the new input/output values.

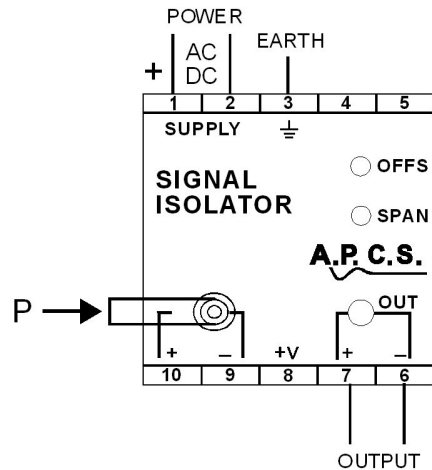


Output Selection – SW2

Factory default us 4-20mA

| Output | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|--------|---|---|---|---|---|---|---|---|---|----|
| 4-20mA | X | X | | | | | | | | |
| 0-20mA | | | | | X | | | | | |
| 0-10mA | | | X | | | | | | | |
| 0-1mA | | | | X | | | | | | |
| 0-1V | | | | | X | | | | X | |
| 0-2V | | | | | X | | | | | X |
| 0-5V | | | | | X | | | X | | |
| 1-5V | X | X | | | | | | X | | |
| 0-10V | | | | | X | | X | | | |

Connection



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