



# IOEPC Electro-Pneumatic Converter IOEPC

## Description

The IOEPC is an electric to pneumatic transducer which converts an analogue input signal to a proportional pneumatic output. The unit will automatically modulate its control valve to regulate the branch line pressure to the selected set point as determined by the input signal. The unit offers four selectable input ranges of 0 to 5, 0 to 10, 0 to 15 VDC and 0 to 20 mA. Output pressure ranges are jumper shunt selectable for 0 to 10, 0 to 15 and 0 to 20 psig, and adjustable in all ranges. A 0-5 VDC feedback signal indicating the resultant branch line pressure, is also provided. This signal varies linearly with branch pressure range selected. EPC's are designed with electrical terminals on one end and pneumatic connections on the other, allowing for maximum convenience in wiring and tubing installation when panel mounted.

## Features

- Connections oriented for convenient panel installation.
- Field selectable analog input ranges and pressure output ranges.
- Analog Feedback on branch pressure.
- Field adjustable offset and span.
- EPC bleeds at the rate of 41 scim
- Plug-in Terminal Block.
- Not Position Sensitive.
- 50/60 Hz Compatible.
- Supplied with snap track and integral-in-barb filter.
- Closed loop control, 1% accuracy at room temperature.



## Technical Specification

|                                 |  |
|---------------------------------|--|
| <b>Power Supply Voltage:</b>    | 24 VDC (+10%/-5%)<br>24 VAC (+/-10%) 50/60 Hz at terminals   |
| <b>Supply Current:</b>          | 180 mA max.  |
| <b>Feedback Signal Output:</b>  | Factory Calibrated 0-5 VDC   |
| <b>Input Signal Ranges:</b>     | 0-5 VDC@ Infinite ohms<br>0-10 VDC@ Infinite ohms<br>0-10 VDC@ Infinite ohms<br>0-20 mA @ 250 ohms                     |
| <b>Air Supply:</b>              | Maximum 25 psig (172.38 kPa),<br>minimum 18 psig (124.11 kPa)  |
| <b>Main Air Supply:</b>         | 0-10 psig ( 68.95 kPa)<br>0-15 psig (103.43 kPa)<br>0-20 psig (137.9 kPa)<br>jumper selectable output pressure ranges. |
| <b>Accuracy:</b>                | 1% full scale at room temperature<br>2% full scale @ 0 to 48.8°C   |
| <b>Override Contact Rating:</b> | 24 VAC or 24 VDC, 1 A maximum  |

## Order Codes

|         |  |
|---------|--|
| IOEPC   | Electro-Pneumatic Converter            |
| IOEPC-G | Electro-Pneumatic Converter with gauge |

## Setup

Select one of the four input signal combinations by moving the jumper shunt J1 identified as "Input Signal Range Selector". Select a preset pressure output range by moving jumper shunt J2 identified as "Pressure Output Range Selector", or set custom range as described below. Verify the MAN/AUTO switch is in the AUTO position. In AUTO, the manual override pot is inactive, the override contacts are open, and the analogue input signal is supplying the set-point. The offset pot may be adjusted to any desired offset between 0 and 14 psig. When in the MAN position, the override contacts are closed, the offset pot is inactive and the manual override pot is supplying the set point (the analogue input signal is locked out). Supply power and the LED power Indicator will light, but only measurement will verify proper voltage

- 1. Setting the minimum pressure** - Make sure the signal connections are made and input is at minimum. Place the manual override switch to the AUTO position. Adjust the OFFSET pot to the desired pressure output, or until the actuator just starts to move. The adjustment range of the OFFSET pot is 0 to 9 psig (62.05 kPa), 0 to 14 psig (96.53 kPa), or 0 to 19 psig (131 kPa) depending on range selected. Zero pot is factory set - do not adjust.
- 2. Setting the maximum pressure** - Now place the manual override switch to the MAN position. Turn the Manual pot to produce the maximum branch line pressure available. Turn the SPAN pot for the maximum desired output pressure, or until the actuator just stops. **Be sure the MAIN air pressure is at least 2 psig greater than the desired maximum branch output pressure.**
- 3. Repeat** - Because the OFFSET and SPAN pots are slightly interactive, steps 1 and 2 must be repeated until the desired minimum and maximum pressures are repeatable. Since the Manual pot is set for maximum pressure, it is only required that you switch the manual override switch back and forth from MAN to AUTO when repeating steps 1 and 2. Calibration is usually accomplished in less than 3 iterations. Apply minimum and maximum input signals and measure response. Response between the minimum and maximum values will be linear, therefore software algorithms are easy to derive. The feedback signal range on all selections is 0-5 VDC and is proportional to the output pressure range selected.

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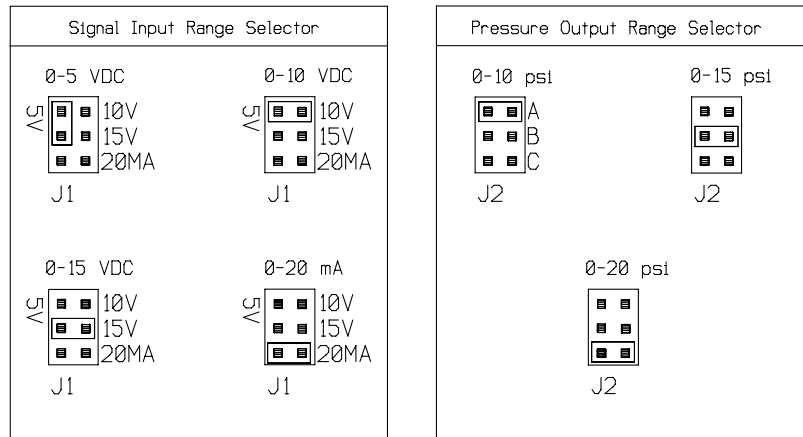
EC House, Amberley Way, Hounslow  
Middlesex, TW4 6BH, United Kingdom

Tel: +44 (0)20 8569 4100 Fax: +44 (0)20 8569 4111

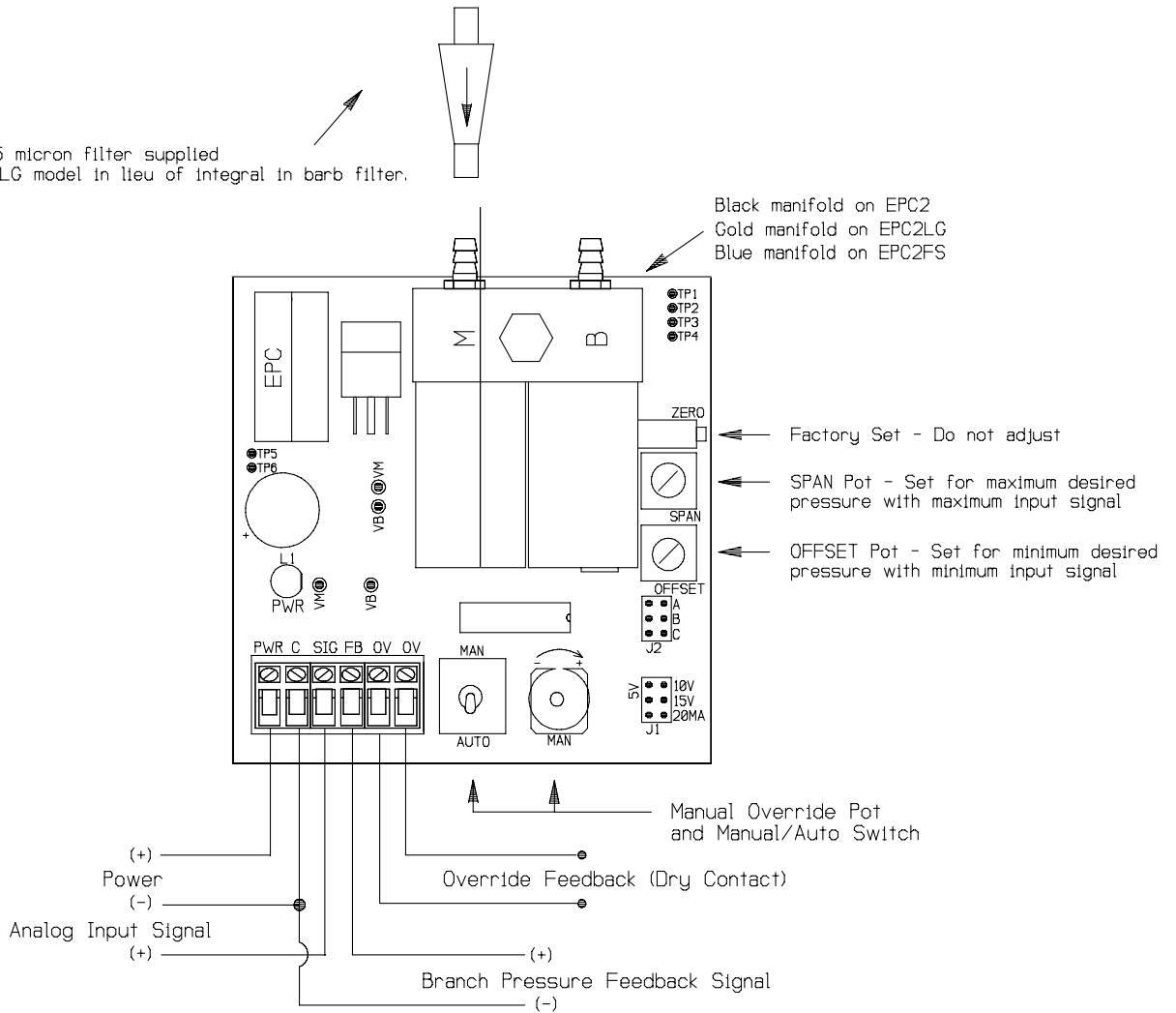


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## Wiring



External 5 micron filter supplied with EPC2LG model in lieu of integral in barb filter.



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