



# Type 590X

## I/P Transducer

Compact size. Vibration Insensitive.

The Type-590X I/P (current to pressure) transducer converts a variable electrical signal to a linearly proportional pneumatic output. The small size, light weight and immunity to shock and vibration make it ideal for use in process control applications. Conversion technology utilizing open loop control and a low mass magnet produces accurate pressure control at an economical cost. The Type-590X can mount in any position and is impervious to RFI/EMI interference.

### Features

- **Small Size** Allows for dense mounting in panels
- **Vibration and Position Insensitive** Unit can mount in any plane and is stable in high vibration environments
- **Worldwide Safety Approvals** Factory Mutual (FM), Canadian Standards Association (CSA), ATEX and UKCA certifications
- **Din Rail Mounting** Ported version comes standard with din rail adapter
- **Wide Operating Temperature Limits**

### Hazardous Area Classification

#### Factory Mutual (FM) & Canadian Standards (CSA) Approvals

##### Intrinsically Safe Entity Parameters

Class I, Division 1, Groups A, B, C, D	Ui (Vmax) = 40 VDC
<b>Suitable for</b>	li (Imax) = 150 mA
Class I, Division 2, Groups A, B, C, D	Ci = 0
Temp. Code T4 Ta = 75° C	Li = 0
	Pi = 0.7 watts max.

##### ATEX & UKC Approvals

<b>Intrinsic Safety</b>	II 1 G Ex ia IIC T* Ga Ta=-55°C to Ta max.
<b>Intrinsic Safety</b>	II 3 G Ex ic IIC T* Gc Ta=-55°C to Ta max
<b>Increased Safety</b>	II 3 G Ex ec ic IIC T6** Gc Ta=-55°C to +85°C

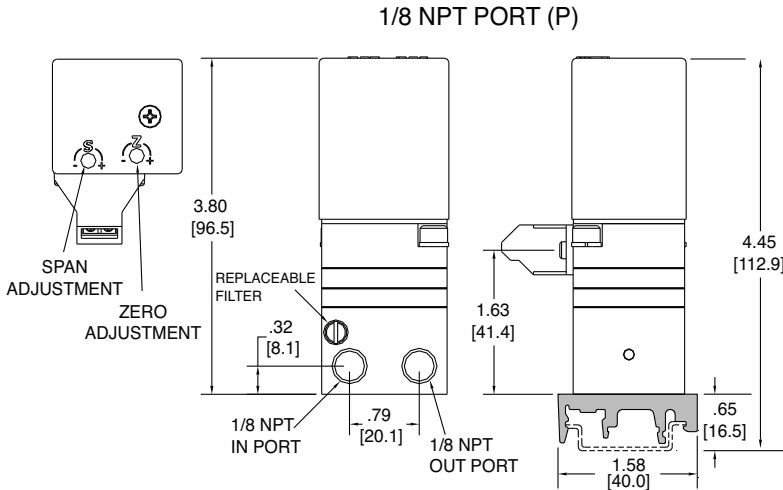
\*See Energy Limiting Parameters Table in IOM 441622089

\*\*Ui = 40 V ; li = 20 mA



# Type 590X I/P Transducer

## Dimensions



Shown with standard DIN Rail Mounting Kit: P/N 445-766-024

## Functional Specifications

P Connection (1/8" NPT)	
<b>Input</b>	4-20 mA
<b>Outputs</b>	3-15 psig 0.20-1.0 BAR 3-27 psig 0.20-1.8 BAR 6-30 psig 0.40-2.0 BAR
<b>Air Consumption</b>	6 scfh (170 NI/hr)
<b>Supply Pressure</b>	3-15: 22 psig (1.5 BAR) max. 3-27, 6-30: 42 psig (2.8 BAR) max. <small>Note: Supply pressure must be a minimum of 5 psig (0.3 BAR) above maximum output</small>
<b>Flow Capacity</b>	2.4 scfm max
<b>Temperature Limit</b>	-40°F to 185°F (-40°C to 85°C) Low Temperature Option (L): -67°F to 158°F (-55°C to 70°C)
<b>Relative Humidity</b>	75% average - 95% short time non-condensing
<b>Impedance</b>	260 Ohms @ 70°F (21°C)
<b>Loop Load</b>	5.2 volts @ 70°F (26°C)

## Ordering Use this coding system to order

<b>Model</b> <b>590</b>	<b>Options</b>
<b>Input Signal</b>	<b>K</b> ATEX/UKCA Approval (FM/CSA Approvals are standard feature)
<b>A</b> 4-20 mA	<b>L</b> Low Temperature Operation (67°F / -55°C)
<b>Connection</b>	
<b>P</b> 1/8" NPT Port	
<b>Output psig BAR</b>	
<b>C</b> 3-15 0.2-1.0	
<b>D</b> 3-27 0.2-1.8	
<b>E</b> 6-30 0.4-2.0	

## Performance Specifications

<b>Linearity (Independent)</b>	<±0.5% of span
<b>Hysteresis</b>	<±0.3% of span
<b>Deadband</b>	<±0.1% of span
<b>Repeatability</b>	<±0.3% of span; <±0.15% of span typical
<b>Mounting Orientation</b>	<±0.5% / 90 degree change (metric)
<b>Air Supply Sensitivity</b>	< .3% per 1.5 psig change
<b>Vibration Effect</b>	<±1% up to 10g and 20-80 Hz
<b>Temperature Effect</b>	<±0.75% / 10°F change (metric)

## Accessories

Replacement Filter: P/N 449-871-096

**Warranty** ControlAir LLC products are warranted to be free from defects in materials and workmanship for a period of eighteen months from the date of sale, provided said products are used according to ControlAir LLC recommended usages. ControlAir LLC's liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir LLC's sole option, of any products proved defective. ControlAir LLC reserves the right to discontinue manufacture of any products or change products materials, designs or specifications without notice. Note: ControlAir does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for the proper selection, use, and maintenance of any ControlAir product remains solely with the purchaser and end user. Drawing downloads available at [www.controlair.com](http://www.controlair.com)

## Physical Specifications

<b>Housing</b>	NEMA 1 (IP 20)
<b>Port Sizes</b>	1/8" NPT (P-Connection)
<b>Media</b>	Clean, dry, oil-free, instrument air, filtered to 40 micron
<b>Electrical Connections</b>	Terminal block
<b>Mounting</b>	Pipe or DIN rail
<b>Materials</b>	Housing: Chromate-treated aluminum, plastic Elastomers: Buna-N Trim: Stainless steel; brass; zinc-plated steel Cover: Polypropylene
<b>Weight</b>	0.75 lbs (0.34 kg)



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