



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) and ATEX Intrinsically Safe and Non-Incendive 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

Suitable for

Class I, Division 2, Groups A, B, C, D
Temp. Code T4 Ta = 75° C

Ui (Vmax) = 40 VDC

Ii (Imax) = 150 mA

Ci = 0

Li = 0

Pi = 0.7 watts max.

ATEX Approvals

Intrinsically Safe

II 1 G Ex ia IIC
T4 Ta* = -55° C to 85° C

Entity Parameters

Ui (Vmax) = 40 VDC

Ii (Imax) = 150 mA

Ci = 0

Li = 0

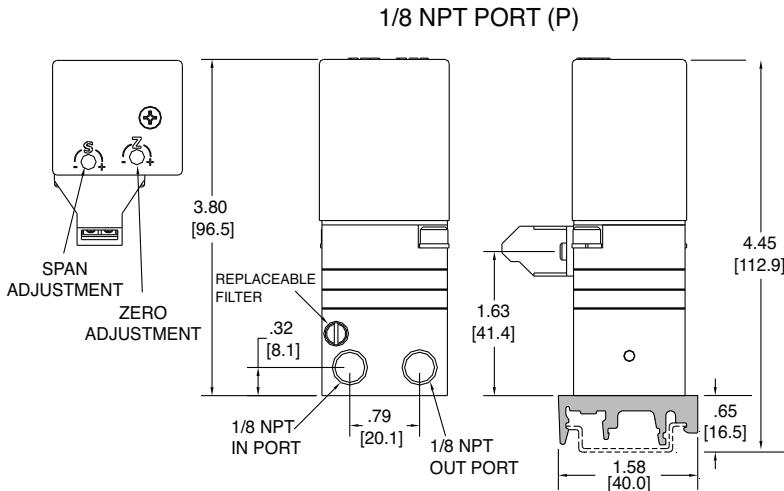
Pi = 0.7 watts max.

*See energy limiting parameters.
Refer to ATEX Certificate
FM07ATEX0002X.



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Dimensions



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

Functional Specifications

P Connection (1/8" NPT)	
Input	4-20 mA
Outputs	3-15 psig 0.20-1.0 BAR 3-27 psig 0.20-1.8 BAR 6-30 psig 0.40-2.0 BAR
Air Consumption	6 scfh (170 NI/hr)
Supply Pressure	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>
Flow Capacity	2.4 scfm max
Temperature Limit	-40°F to 158°F (-40°C to 70°C) Low Temperature Option (L): -67°F to 158°F (-55°C to 70°C)
Relative Humidity	75% average - 95% short time non-condensing
Impedance	260 Ohms @ 70°F (21°C)
Loop Load	5.2 volts @ 70°F (26°C)

Ordering Use this coding system to order

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

Performance Specifications

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

Physical Specifications

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

