



# Type 595XP

## Explosion-Proof I/P Transducer

High level of regulation accuracy and repeatability for the operation of actuated valves

The Type-595XP Explosion-proof I/P (current to pressure) transducer converts a 4–20mA electrical current signal to a proportionally linear pneumatic output. The unique conversion technology utilizing open loop control provides a high level of accuracy and repeatability for the operation of actuated valves. A low mass control circuit provides consistent output in high vibration applications. This compact unit is housed in an explosion proof enclosure that is designed for pipe, bracket or direct manifold mounting. This explosion-proof and intrinsically safe field device is available with an integral volume booster or as a low-flow signal converter that directly mounts to a pneumatic valve positioner. The Type-595XP has worldwide agency approvals for use in hazardous areas.

### Features

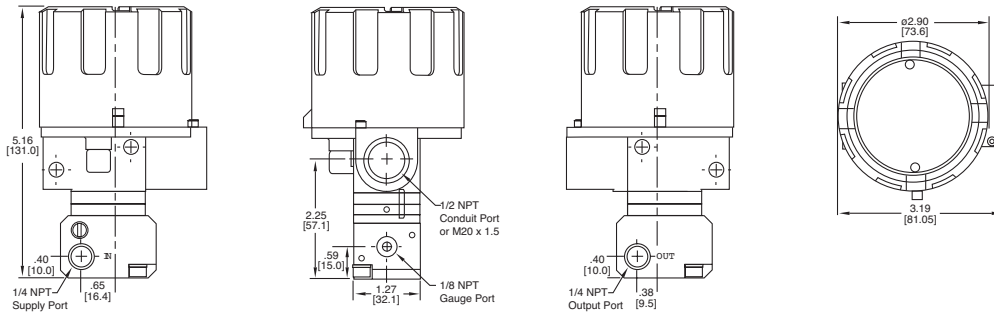
- **Compact Design**  
Small size and low weight
- **Worldwide Safety Approvals**  
Factory Mutual (FM), Canadian Standards Association (CSA), ATEX and EAC
- **Vibration and Position Insensitive**  
Unit can be mounted in any plane and is stable in high vibration environments
- **Low Power Consumption**  
Minimize loop load



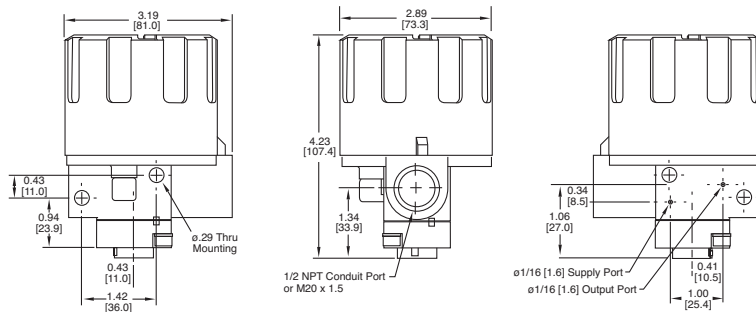
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## Dimensional Drawings

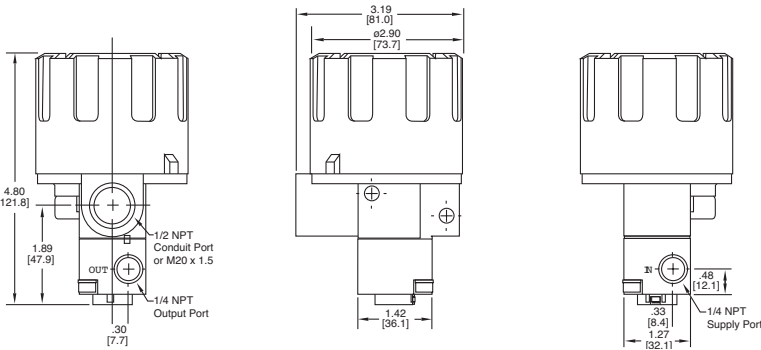
### Ported with Flow Booster (P)



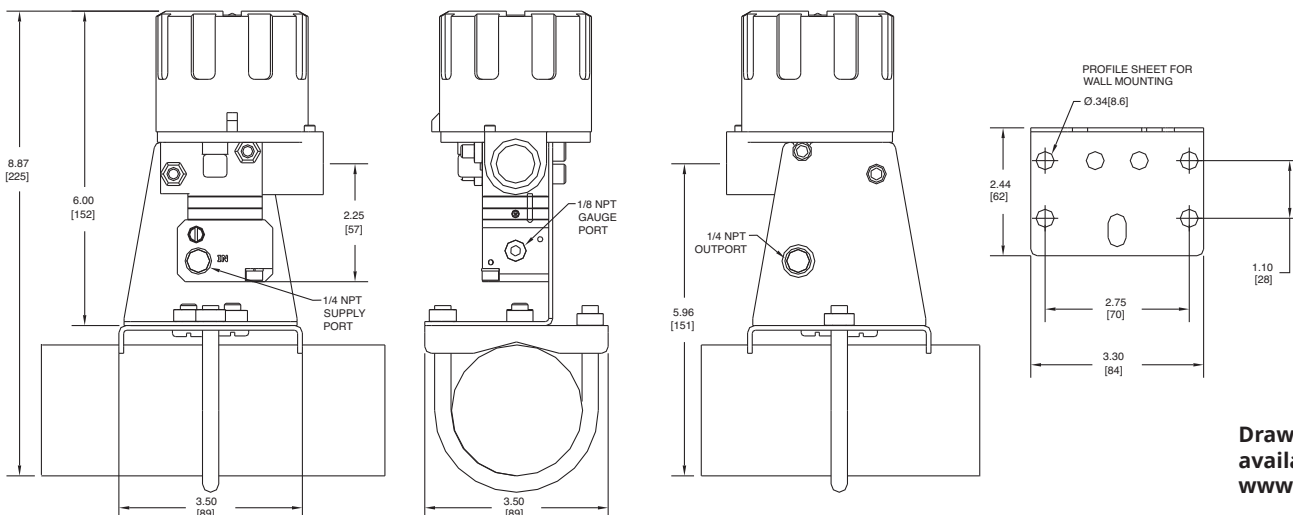
### Manifold Mount without Flow Booster (M)



### Ported without Flow Booster (N)



### Optional 2" Bracket





**P Connection (with Flow Booster)**



**M & N Connection (without Flow Booster)**

## Functional Specifications

<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>	0.1 scfm (2.82 NI/min)	2.00 scfh (1.0 NI/min) @ 20 psig supply (1.4 bar) 4.94 scfh (2.47 NI/min) @ 85 psig supply (6.0 bar) 8.36 scfh (4.18 NI/min) @150 psig supply (10.0 bar)
<b>Supply Pressure</b> Note: Supply pressure must be a minimum of 5 psig (0.3 bar) above maximum output	3-15: 22 psig (1.5 bar) max 3-27, 6-30: 42 psig (2.8 bar) max	150 psig (10.0 bar) max.
<b>Flow Capacity</b>	2.4 scfm (67.92 NI/min) max.	Same as Air Consumption
<b>Temperature Limits</b>	-40°F to 158°F (-40°C to 70°C) *Low Temperature (L) Option: -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	
<b>Loop Load</b>	5.2 Volts @ 70°F	

## 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 Effect</b>	<±0.5% / 90 degree change	
<b>Air Supply Sensitivity</b>	<.3% / 1.5 (0.10 bar) psig change	<±0.6% / 25 (1.72 bar) psig change
<b>Vibration Effect</b>	<±1% up to 10g and 20-80 Hz	
<b>Temperature Effect</b>	<±0.75% / 10°F (5.6°C) change	

## Physical Specifications

<b>Housing</b>	NEMA 4X (IP 65)	
<b>Port Sizes</b>	Pneumatic: 1/4" NPT (P & N versions); 1/16" manifold mount (M version) 1/8" NPT Gauge Port (P version) Electric: 1/2" NPT or M20-1.5	
<b>Media</b>	Clean, dry, oil-free, instrument air, filtered to 40 micron	
<b>Electrical Connections</b>	Terminal block	
<b>Mounting</b>	Direct (standard) or 2" pipe (optional)	
<b>Materials</b>	Housing: Chromate-treated aluminum with epoxy paint. NEMA 4X (IP65) Elastomers: Buna-N Trim: Stainless steel; brass; zinc-plated steel	
<b>Weight</b>	P version = 1.40 lbs (0.64 kg) N version = 1.25 lbs (0.57 kg) M version = 1.20 lbs (0.54 kg)	

\*ATEX Exd, FM/CSA Explosionproof, EAC EX -40°F to 158°F (-40°C to 70°C) operation only

# Type 595XP Explosion-Proof I/P Transducer

## Hazardous Area Classification

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

	Entity Parameters	Temperature Code	Enclosure
<b>Intrinsic Safety</b> Class I, Division 1, Groups A, B, C & D Class II, Division 1, Groups E, F, & G Class III, Division 1; Fibers	V <sub>max</sub> = 40 Vdc I <sub>max</sub> = 150 mA P <sub>i</sub> = 0.7 W C <sub>i</sub> = 0 nF L <sub>i</sub> = 0 mH	T4 -40°C ≤ T <sub>a</sub> ≤ 75°C	Nema-4X
<b>Nonincendive</b> Class I, Division 2, Groups A, B, C & D Class II, Division 2, Groups E, F, & G Class III, Division 2; Fibers		T4 -40°C ≤ T <sub>a</sub> ≤ 75°C	
<b>Explosion-Proof</b> Class I, Division 1, Groups B, C & D	---	T6 -40°C ≤ T <sub>a</sub> ≤ 75°C	Nema-4X
<b>Dust Ignition Proof</b> Class II & III, Division 1, Groups E, F, & G	---		

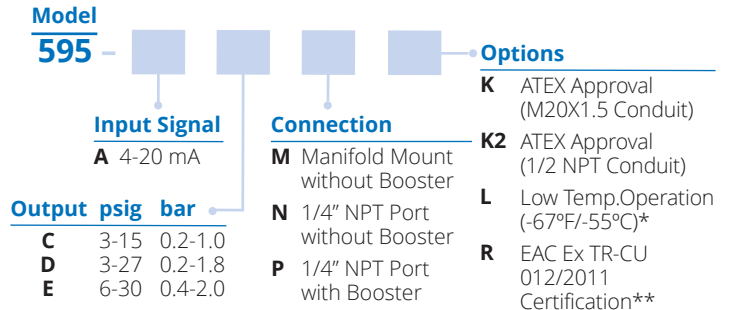
## ATEX

	Entity Parameters	Temperature Code	Enclosure
<b>Intrinsic Safety</b> Ⓢ II 1 G Ex ia IIC	V <sub>max</sub> = 40 Vdc I <sub>max</sub> = 150 mA P <sub>i</sub> = 0.7 W C <sub>i</sub> = 0 nF L <sub>i</sub> = 0 mH	T4, T5, T6* -55°C ≤ T <sub>a</sub> ≤ 85°C*	
<b>Flameproof</b> Ⓢ II 2 G Ex d II B + H2 Ⓢ II 2 D Ex tD A21 T85°C	---	T6 -40°C ≤ T <sub>a</sub> ≤ +75°C	IP65
<b>Limited Energy/Non-Sparking</b> Ⓢ II 3 G Ex nL IIC Ⓢ II 3 G Ex nA nL IIC	---	T4, T5, T6* -55°C < T <sub>a</sub> < 85°C* T6 -55°C ≤ T <sub>a</sub> ≤ +85°C	IP65

\*See energy limiting parameters. Refer to Instruction Manual 441-622-099. IP65



## Ordering Use this coding system to order



\* ATEX Exd, FM/CSA Explosionproof, EAC EX -40°F to 158°F (-40°C to 70°C) operation only

\*\* R option must be combined with K option

## Accessories

2" Pipe Bracket Mounting Kit: P/N 448-542-016

Gauges:	Range PSI (bar)	Part Number
	0-15 (0-1)	446-725-005
	0-30 (0-2)	446-725-006
	0-60 (0-4)	446-725-007
	0-160 (0-11)	446-725-008

**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)



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