

Type 2000

Pneumatic and Electro-Pneumatic Valve Positioner

Stable and accurate positioning of rotary and linear valves

The ControlAir Type-2000 pneumatic and electro-pneumatic positioner provides stable and accurate positioning of rotary and linear valves. The force balanced instrument is simple, reliable and user friendly for calibration, maintenance and field upgrades. The electro-pneumatic unit is available with worldwide safety approvals in an Intrinsically Safe and Explosion-proof version. The NEMA-4X (IP 66) housing provides rugged resistance to severe industrial environments. The modular design of the Type-2000 allows multiple feature ordering options or easy field conversions.

Features

- **Modular construction** Base pneumatic unit can be quickly field converted to a fully optioned electro-pneumatic unit.
- **Rotary and linear, single and double acting**
- **External zero adjustment for easy calibration**
- **Compact design** Small size and low weight
- **Vibration, position and shock insensitive**
- **Single piece spindle** Minimizes long-term spindle wear
- **Stainless steel spool valve**
Long operating life
- **High gain pilot valve** Provides quick and accurate valve/actuator response
- **Standard pointed indicator (rotary), standard blank cover (linear) and optional raised beacon.**
- **High maximum supply pressure**
145 psig (10 Bar)
- **FM, CSA & ATEX approvals**
For Intrinsically Safe (CA2010/CA2011) and Explosion-proof (CA2020/CA2021) operation

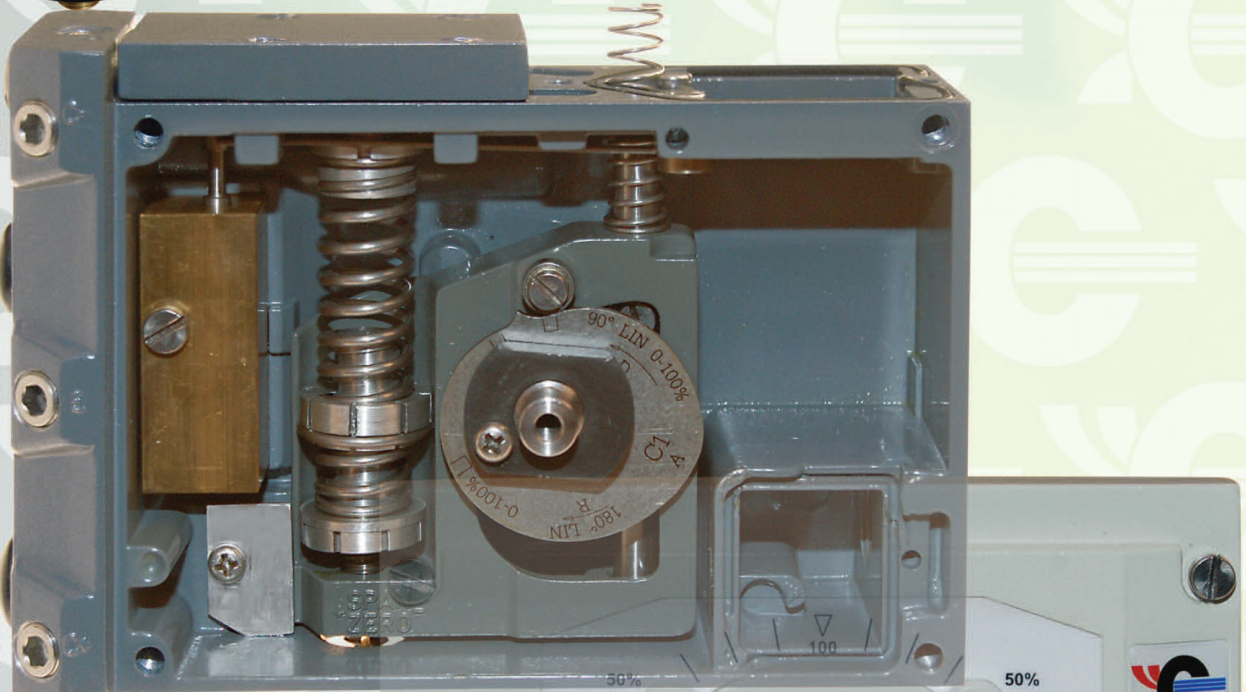


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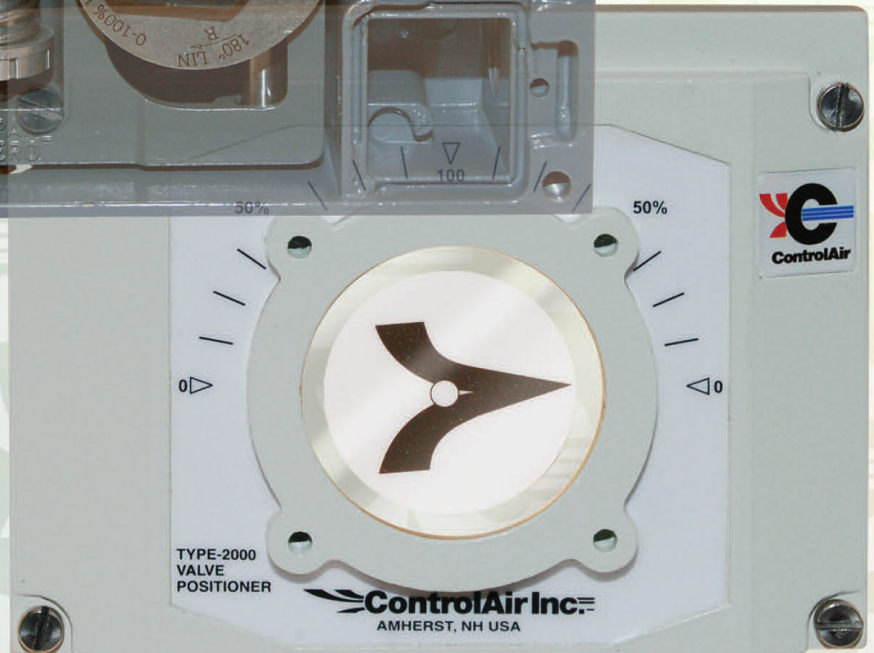
Type 595XP Explosion-proof I/P Transducer
(CA2020/CA2021)

Type 590X
Intrinsically Safe
I/P Transducer
(CA2010/CA2011)



Type 2000
Pneumatic Positioner
(CA2000)

Standard Cover with
Arrow Indicator (Rotary)

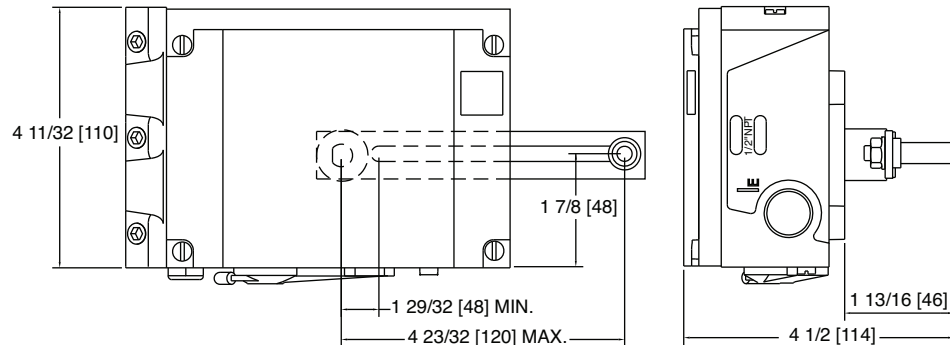


Type 2000 Dimensions

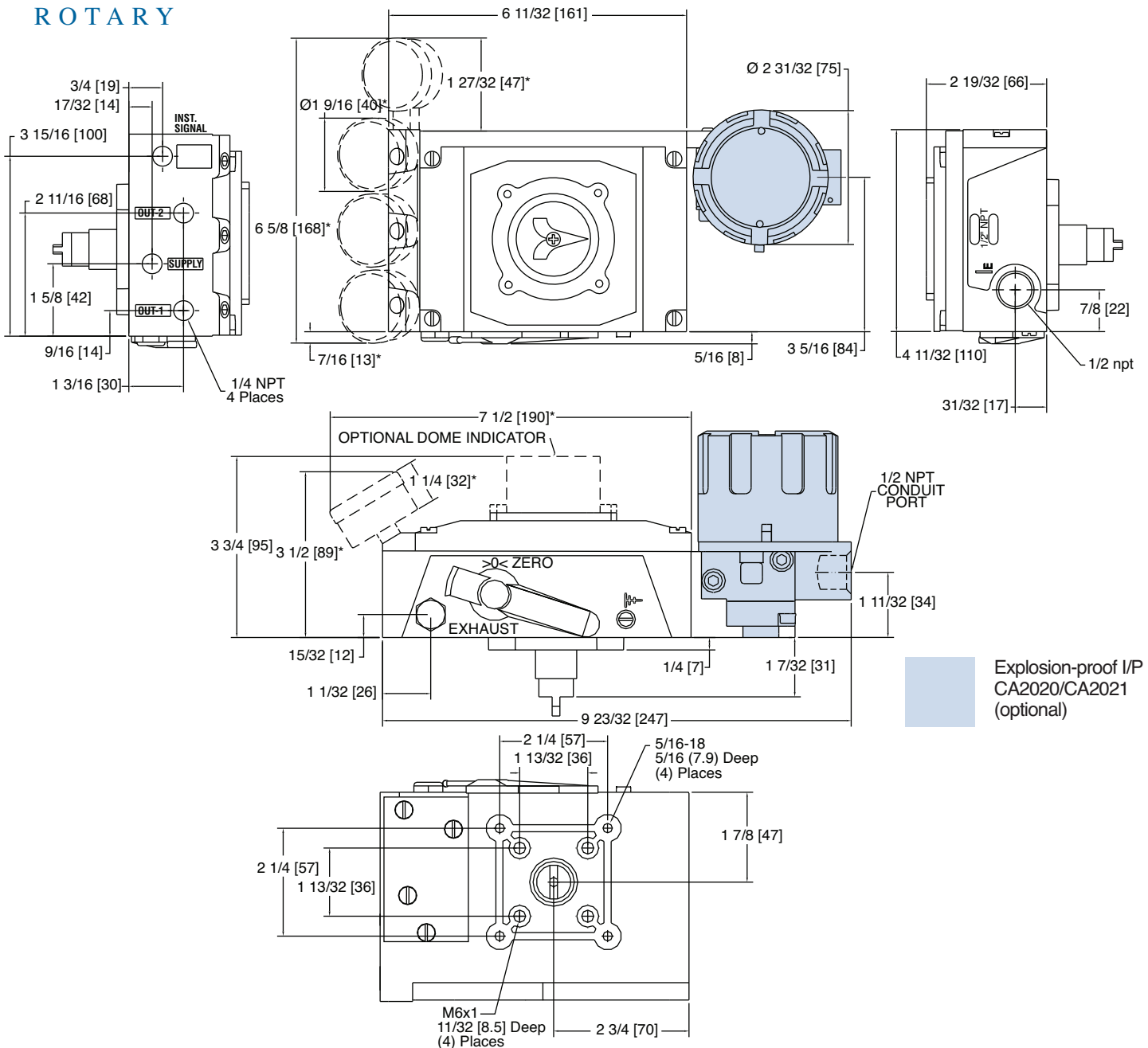
In [mm]

*Optional pressure gauges (gauge brand dependent)

LINEAR



ROTARY



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FUNCTIONAL SPECIFICATIONS

Type-2000	Pneumatic (CA2000)		Electro-Pneumatic Intrinsically Safe (CA2010/CA2011)		Electro-Pneumatic Explosion-proof (CA2020/CA2011)
Input Signal	3-15 PSI (0.2-1.0 Bar)		4-20 mA (Ri<250 ohms)		
Supply Pressure	<145 PSI (<10 Bar)		21.8-145 PSI (1.5-10 Bar)		
Linearity Error	<0.7 % f.s		<1.0% f.s		
Hysteresis	<0.4% f.s		<0.6% f.s		
Repeatability	<0.3% f.s		<0.5% f.s		
Pressure Gain	750 P out/P in		750 P out/P in		
Flow Capacity @29 PSI (2.0 Bar) @87 PSI (6.0 Bar) @145 PSI (10 Bar)	SCFM 9.5 28.3 47.1	NI/min 268.9 800.1 1333	SCFM 9.5 28.3 47.1	NI/min 268.9 800.1 1333	
Air Consumption @29 PSI (2.0 Bar) @87 PSI (6.0 Bar) @145 PSI (10 Bar)	SCFM 0.18 0.53 0.88	NI/min 5.09 424.5 707.5	SCFM 0.2 0.6 1.0	NI/min 5.7 17.0 28.3	
Impedance			260 Ohms @ 70°		
Loop Load			5.2 Volts @ 70°F		

PHYSICAL SPECIFICATIONS

Temperature Range	-40° to 185° F (-40° to 85° C)		
Port Sizes	Pneumatic: 1/4" NPT; Gauge Ports - 1/8" NPT Electric: 1/2" NPT; M20-1.5 (ATEX)		
Media	Clean, dry, oil-free instrument air, filtered to 40 micron		
Enclosure	Nema 4X / IP66		
Finish	Polyester Epoxy		
Weight	3.5 lbs (1.6 kg)	3.8 lbs (1.7 kg)	4.8 lbs (2.2 kg)

Ordering Information

Use this coding system to order

Model **CA20** - [] - [] - [] - [] - []

Type of Motion
R Rotary
L Linear

Cam
C1 90°/180° (Standard Rotary)
C2 45°/90°
C3 30°/60° (Standard Linear)

Type of Positioner
00 P/P Pneumatic
10 E/P Electro-pneumatic; FM/CSA Intrinsically Safe
11 E/P Electro-pneumatic; ATEX Intrinsically Safe
20 E/P Electro-pneumatic; FM/CSA Explosion-proof
21 E/P Electro-pneumatic; ATEX Flame-proof

Spindle
0 Namur (Rotary)
1 Standard (Linear)
2 3/8" Square
3 1/2" Square

Indicator
N None (Standard Linear)
A Arrow (Standard Rotary)
D Dome (Option)

Accessories

Gauges 0-30 psi (0-2 bar), 1/8" NPT Back Mount P/N: 446-725-006
0-160 psi (0-11 bar), 1/8" NPT Back Mount P/N: 446-725-008
0-30 psi (0-2 bar), 1/8" NPT Bottom Mount P/N: 446-725-033

Warranty

ControlAir, Inc. 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, Inc. recommended usages. ControlAir, Inc.'s liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir, Inc.'s sole option, of any products proved defective. ControlAir, Inc. 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.

Approvals

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

2010 Intrinsically Safe
Class I, Division 1, Groups A, B, C, D
Nonincendive
Class I, Division 2, Groups A, B, C, D

Entity Parameters
Ui (Vmax) = 40 VDC
Li (Imax) = 125 mA
Ci = 0
Li = 0
Pi = 0.7 watts max.

2020 Intrinsically Safe
Class I, II & III, Division 1, Groups A, B, C, D, E, F, G
Explosion-Proof
Class I, Division 1, Groups B, C, D
Dust Ignition-Proof
Class II, III, Division 1, Groups E, F, G

Model ATEX Approvals

2011 Intrinsically Safe
II 1 G Ex ia IIC T4/T5/T6
2021 Intrinsically Safe
II 1 G Ex ia IIC T4/T5/T6
Flame-Proof – ATEX
II 2 G Ex d IIB + H2 T6
II 2 D Ex tD A21 T850C

Entity Parameters
Ui (Vmax) = 40 VDC
Li (Imax) = 125 mA
Ci = 0
Li = 0
Pi = 0.7 watts max.



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ISO-9001:2008