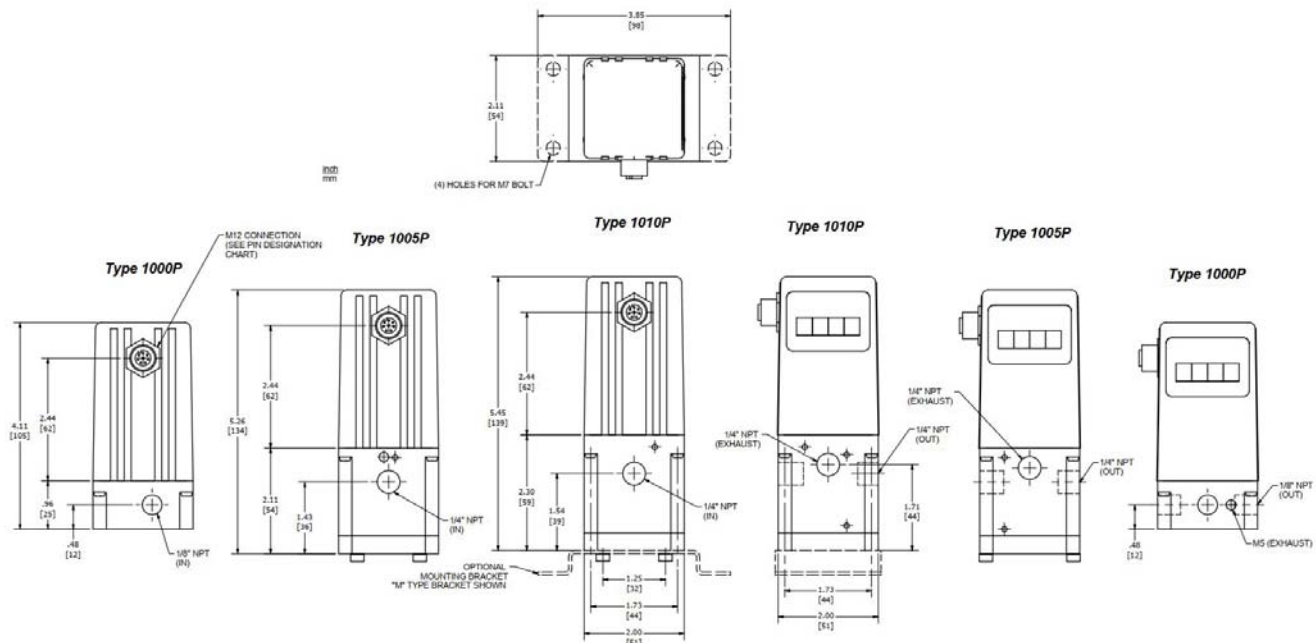


# Type 1000P/1005P/1010P Series

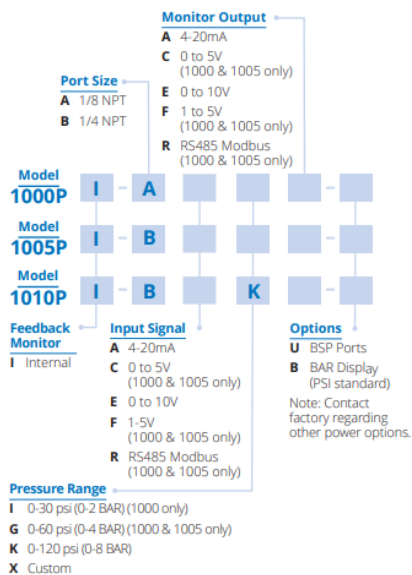
## I/P & E/P Bleed and Feed Electro-Pneumatic Pressure Regulators

### Installation, Operation and Maintenance Instructions



(Drawing downloads available at <http://www.controlair.com>)

#### Ordering Use this coding system to order



#### Accessories

Cable: 6 foot (2 meter) M12 Right angle cable  
P/N: 445-919-013

Bracket Kits: Type 1000P Type 1005P and Type 1010P  
'L' type P/N: 449-542-053 449-542-055  
'M' type P/N: 449-542-057 449-542-059

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# DANGER, WARNING, CAUTION and NOTE statements

## DANGER

Refers to conditions or hazards which could result in serious personal injury or death.

## WARNING

Refers to conditions or hazards which could result in personal injury.

## CAUTION

Refers to conditions or hazards which could result in equipment or property damage.

## NOTE

Alerts you to facts or special instructions.

**ALL DANGER, WARNING, AND CAUTION NOTICES MUST BE COMPLIED WITH IN FULL.**

## 1. SPECIFICATIONS

Functional Specifications		Type 1000P	Type 1005P	Type 1010P
Input Signal	0-5V, 0-10V, 1-5V, 4-20mA, RS485			0-10V, 4-20mA
Input Signal Impedance	Voltage: 10 kOhm			
	Current: 250 Ohm			
Output Pressure Ranges	0-30 psig (0-2 bar), 0-60 psig (0-4 bar), 0-120 psig (0-8 bar)	0-60 psig (0-4 bar), 0-120 psig (0-8 bar)		0-120 psig (0-8 bar)
Supply Pressure Max.	45 psig (3 bar), 75 psig (5 bar), 130 psig (9 bar)	75 psig (5 bar), 130 psig (9 bar)		130 psig (9 bar)
Port Size	1/8" NPT	1/4" NPT		
Monitor Output	0-5V, 0-10V, 1-5V, 4-20mA, RS485			0-10V, 4-20mA
Power Supply	DC24V			
Flow Rate	0.1 scfm (4 L/min), 0.3 scfm (8 L/min), 0.6 scfm (16 L/min)	22 scfm (600 L/min), 42 scfm (1200 L/min)		42 scfm (1200 L/min)
Temp. Range (Operating)	32° to 158°F (0° to 70°C)			
Performance Specifications				
Response	0.8S			
Repeatability	<± 0.1% full scale			<± 0.5% full scale
Hysteresis	<± 0.1% full scale	<± 0.25% full scale		<± 0.6% full scale
Linearity	<± 0.1% full scale	<± 0.25% full scale		<± 0.5% full scale
Accuracy	<± 0.1% full scale			<± 0.5% full scale
Life Cycle	Over 1 billion times			
Physical Specifications				
Medium	Clean compressed air or with 5 µm filter			
Electrical Connection	M12 Connector			
Ingress Protection	IP65			
Materials: Manifold Wetted	Aluminum Aluminum, Stainless Steel, NBR			
Weight	0.92 lbs (0.42 kg)	1.21 lbs (0.55 kg)		0.95 lbs (0.43 kg)

## 2. DESCRIPTION and INSTALLATION

### 2.1 Description

- 2.1.1 The Type 1000P, 1005P & 1010P electronic pressure regulators are a complete closed loop servo system consisting of two solenoid valves, an internal pressure transducer, and electronic controls. Based on analog signal, the pressure is controlled by two solenoid valves to maintain precise pressure: one valve functions as inlet control, the other as exhaust. The pressure output is measured by an internal feedback pressure transducer that provides a feedback signal to the electronic controls. The regulator is suitable for industries that require precise pressure changes at any time and monitor pressure values. Available with five selections of input signal: 0-5VDC, 0-10VDC, 1-5VDC, 4-20mA, or RS485 Modbus. Monitor signal can be chosen from 0-5V, 0-10V, 1-5V, 4-20mA or RS485 Modbus.

## 2.2 Mounting

2.2.1 Bracket kits are available in 2 different styles: M-mount or L-mount. (bracket kit comes with bracket and screws)

	Type 1000P	Type 1005P	Type 1010P
<b>L-mount bracket kit</b>	P/N: 449-542-053	P/N: 449-542-055	P/N: 449-542-055
<b>M-mount bracket kit</b>	P/N: 449-542-057	P/N: 449-542-059	P/N: 449-542-059

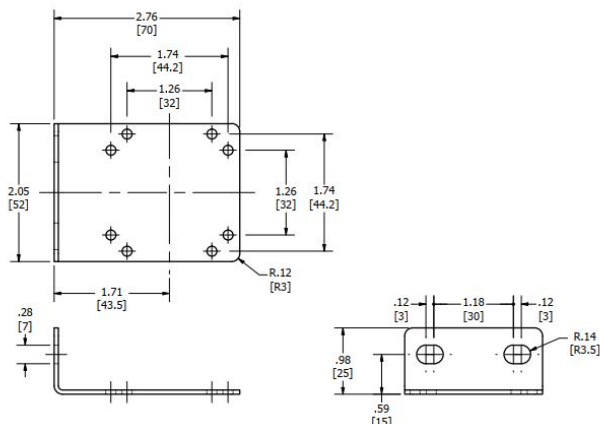


Figure 1: 449-542-053 "L" mount (Type 1000 only)

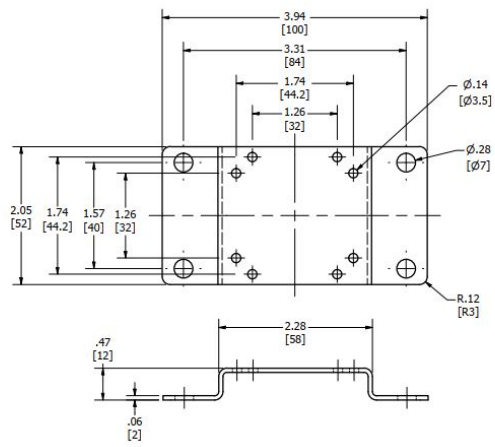


Figure 2: 449-542-057 "M" mount (Type 1000 only)

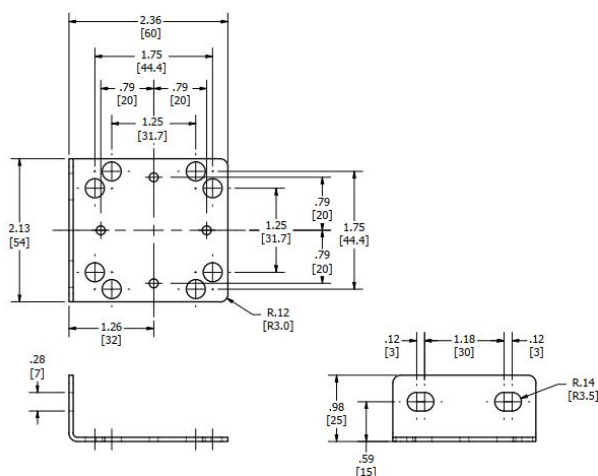


Figure 3: 449-542-055 "L" mount (Type 1005 & 1010 only)

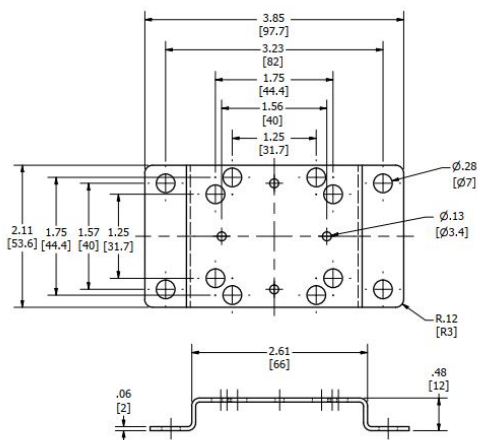


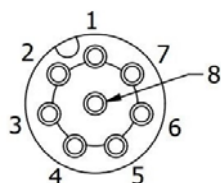
Figure 4: 449-542-059 "M" mount (Type 1005 & 1010 only)

## 2.3 Pneumatic / Pressure Connections

- 2.3.1 Clean all pipe lines to remove dirt and scale before installation.
- 2.3.2 Air lines must be filtered to 40 microns and free of moisture and lubricants.
- 2.3.3 Avoid getting pipe sealant inside the piping or regulator.

## 2.4 Electrical Connection

### 2.4.1 Pin Designation Chart



Pin	Description	Color
1	24V DC Power (-) Command (-) Output monitor (-) 2nd loop transducer 0-10V (-)	Blue
2	24V DC Power (+) 2nd loop transducer 4-20mA (+)	Brown
3	Monitor output (+)	Black
4	0-5V Command (+) 0-10V Command (+) 4-20mA Command (+)	White
5	RS485(D-)	Gray
6	2nd loop transducer 0-10V (+) 2nd loop transducer 4-20mA (-)	Green
7	-	-
8	RS485(D+)	Red

## 3. OPERATION

### 3.1 Calibration

- 3.1.1 All units are shipped from the factory calibrated, direct acting.
- 3.1.2 Consult factory for custom calibration.

## 4. MAINTENANCE & REPAIRS

### 4.1 Precautions

- 4.1.1 Do not rotate the M12 connection socket at any time.
- 4.1.2 Never handle circuit board unless properly grounded to prevent ESD (Electro-static Discharge).
- 4.1.3 Clean, dry air should be used with the Type 1000P. Foreign matter in the air lines can clog the solenoid valve orifices.

## 5. TROUBLESHOOTING

PROBLEM	LOOK FOR	SOLUTION
No or low output (pressure)	Supply pressure too low	Increase supply pressure (see specs)
No digital display	Insufficient 24 VDC power	Verify 24 VDC supply with minimum 4W available.
Not responding to command signal	Improper wiring connections	Verify wiring per section 2.4

#### NOTE

*If problems are not solved by troubleshooting procedures, contact a factory application's engineer at (603) 886-9400 for further assistance.*

## 6. WARNING

**FAILURE MODES:** This device must not be used for protecting final control elements connected to the output port from the effect of pressure present at the supply port. If devices connected to the output port have a pressure rating less than the pressure present at the supply port, then pressure relieving or pressure limiting devices must be employed to protect the devices from over pressurization, possibly causing physical damage, personal injury and/or property damage.

## 7. WARRANTY & DISCLAIMER

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.

Before using these products with fluids other than air, for non-industrial application, life-support systems, or other applications not within published specifications, consult ControlAir LLC.