



## *Installation Instructions*

# **Electronic to Pneumatic Transducer**

Catalog Number(s) 1414-INZ10ZXPBP,  
1414-CNZ10ZXPBP



## Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. *Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls* (Publication SGI-1.1 available from your local Rockwell Automation sales office or online at <http://www.literature.rockwellautomation.com>) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

<p><b>WARNING</b></p> 	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
<p><b>IMPORTANT</b></p>	Identifies information that is critical for successful application and understanding of the product.
<p><b>ATTENTION</b></p> 	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard and recognize the consequences.
<p><b>SHOCK HAZARD</b></p> 	Labels may be located on or inside the equipment (e.g., drive or motor) to alert people that dangerous voltage may be present.
<p><b>BURN HAZARD</b></p> 	Labels may be located on or inside the equipment (e.g., drive or motor) to alert people that surfaces may be dangerous temperatures.

## Preparation

### ATTENTION



Disconnect the power supply before installation.

- Do not exceed the ratings of the device.
- Make all connections in accordance with the wiring diagram and electrical codes.
- Particles in the air supply larger than 0.03 microns may adversely affect the reliability and life of the transducer. An in-line air filter<sup>(1)</sup> is recommended for installation between the main air supply and the main air port of the device.
- A refrigerated air dryer, particulate filter, and coalescing filter should provide a quality air supply.
- Compressor oil must be non-paraffin mineral base or naphtha base. Synthetic base oils will destroy pneumatic controls and void the warranty.
- Do not locate the unit in areas subject to incidental contact, vibration, severe mechanical shock, excessive moisture, or corrosive fumes.
- The transducers must be mounted within 5° of the upright position. See the "UP" arrow on the PCB or label.

(1) Use the filter for the Electronic to Pneumatic Transducer to filter the air supply (catalog number 1414-CAZZZPZZZZ).

## About the Electronic to Pneumatic Transducer

The Electronic to Pneumatic transducer provides a linear 3 to 15 psi output in response to a 4 to 20mA. It is available in an open style for commercial applications and in an ABS enclosure for light-industrial applications.

## Install the Electronic to Pneumatic Transducer

1. Select the mounting location and mount the device with the 'UP' arrow pointing up using two screws through the base of the snap track or enclosure.

The printed circuit board may be removed from the snap track for easier installation. Ensure that the screw heads do not contact the circuit board.

2. Make all necessary electrical connections as per the wiring examples.

The transducer is jumper selectable. The factory default setting is 2-wire, loop powered 4 to 20 mA device requiring a 4 to 20 mA signal connected to the INPUT and COM terminals. The unit may also be configured for 3-wire, 0 to 10V dc operation by carefully changing the location of the jumper. Three-wire operation requires a 24 to 30V ac or DC supply connected to PWR and COM terminals in addition to the 0 to 10V dc signal applied to the INPUT terminal.

3. Connect the pneumatic lines to the unit, ensuring that the main air supply is connected to the black tube and the branch line is connected to the clear tube.

The main and branch lines are also labeled on the end of the valve with a 'M' and a 'B'.

4. The device may be tested by applying the input ZERO signal (either 4 mA or 0V dc as applicable) and checking the output for a pressure of 3 psig (21 kPa)<sup>(1)</sup>.

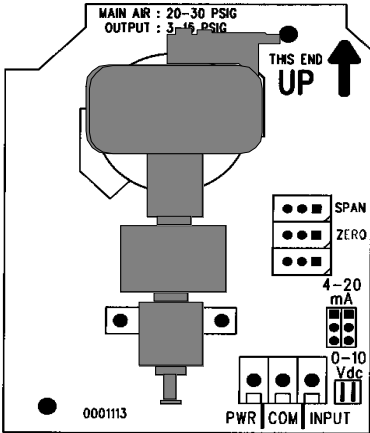
Adjust the input for the SPAN signal, 20 mA and check the output for a pressure of 15 psig (103 kPa). The device is factory calibrated for these ranges and should not be readjusted in the field.

5. If the unit does not perform as indicated in step 4, then verify all applicable electrical signals (4 mA, 20 mA; or 10V and the power supply) using a multimeter.

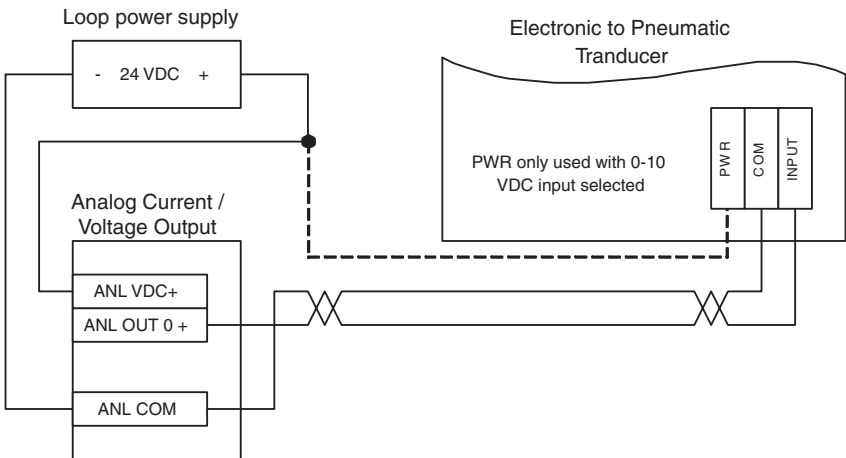
Also verify that the input air supply is 20 to 30 psig (138 to 207 kPa) and that the unit is properly mounted and that all wiring is per the wiring examples.

(1) Use the gauge for the Electronic to Pneumatic Transducer to measure pressure (catalog number 1414-CADZZZZFZZ).

## Wire/Connect the Electronic to Pneumatic Transducer



**PWR – 24 to 30 Vac/dc (0 to 10V dc only)**  
**COM – POWER/SIGNAL COMMON**  
**INPUT – 0-10Vdc OR 4-20mA**



## Specifications

### Electronic to Pneumatic Transducer Specifications

Specification	Value
Input Signal	4...20mA, 0...10V dc jumper selectable
Input Impedance	4...20mA input, 400 $\Omega$ minimum, 550 $\Omega$ maximum
Power Supply	4...20mA input, Loop powered; 1.0 Watt maximum
Air Supply	138 kPa (20 psig) nominal, 207 kPa (30 psig) maximum Clean, dry, oil-free air required.
Air Consumption	5.66 ml/s (0.012 scfm) @ 138 kPa (20 psig) supply, maximum
Output Air Capacity	141 ml/s (515 scim) maximum @ 138 kPa (20 psig) supply
Air Connections	Male barbed fittings for flexible 1/4" OD pneumatic tubing
Wiring Connections	Screw terminals for 14 ... 22 AWG wire
Output Signal	21...103 kPa (3-15 psig) nominal, direct acting
Manufacturing Process	ISO 9002 certified
Linearity	$\pm 1\%$ of span
Hysteresis	$\pm 1\%$ of span
Adjustments	Zero and span potentiometers
Operating Temperature	0°C ... 60°C (32°F ... 140°F)
Operating Humidity	5...95% RH, non-condensing
Dimensions H x W x D (Snap-Track model)	83mm x 70mm x 50mm (3.25" x 2.75" x 2")
Dimensions H x W x D ABS model)	116mm x 84mm x 53mm (4.55" x 3.3" x 2.1")



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**Power, Control and Information Solutions Headquarters**

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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