Code No. LIT-1922495
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EP-8000 Series

# Electro-Pneumatic Transducer

## Description

The EP-8000 Electro-Pneumatic Transducer converts a 0 to 10 VDC or 4 to 20 mA signal from an electric controller into a proportional pneumatic output pressure signal. Four models are available, which are grouped into two basic versions: low-volume output units (non-relay) and high-volume output units (relay).

## Features

- hypodermic needle test point allows easy output pressure signal measurement
- barbed air connections for 5/32 or 1/4 in. O.D. polytubing
- compact, simple design for ease of installation on a wide range of mounting surfaces, including direct mounting on pneumatic valve actuators
- factory set, fully adjustable zero and span facilitates field calibration

## Applications

- typically used with pneumatic valve or damper actuators
- sequencing can be provided through a Johnson Controls® V-9502 Valve Actuator Positioner or D-9502 Damper Actuator Positioner

## Repair Information

If the EP-8000 Series Electro-Pneumatic Transducer fails to operate within its specifications, replace the unit. For a replacement transducer, contact the nearest Johnson Controls representative.

## To Order

Specify the code number from the following selection chart.

**EP-8000 Electro-Pneumatic Transducer**

## Selection Chart

| Code Number | Output | Input | Input Range | Factory Output Range psig (kPa) |
|---|---|---|---|---|
| **EP-8000-1**[1] | Low Volume (Non-Relay) | Voltage | 0.5 to 9 VDC | 1 to 18 (7 to 126) |
| **EP-8000-2** | High Volume (Relay) | Voltage | 0.25 to 9.5 VDC | 0.5 to 19 (3.5 to 133) |
| **EP-8000-3**[1] | Low Volume (Non-Relay) | Current | 4 to 20 mA DC | 3 to 15 (21 to 105) |
| **EP-8000-4** | High Volume (Relay) | Current | 4 to 20 mA DC | 3 to 15 (21 to 105) |

1. Low-volume models are one-pipe instruments requiring a 0.007 in. (0.017 mm) R-3710 Series Restricter, ordered separately.

## Accessories

| Code Number | Description |
|---|---|
| **R-3710** | 0.007 in. Restricter (Required for Low-Volume Models) |
| **EP-8000-101** | Electro-Pneumatic Transducer Mounting Kit (For Mounting the EP-8000 to a Pneumatic Valve Actuator) |
| **A-4000-137** | In-line Filter (Required for All Models) |
| **A-4000-1037** | In-line Filter (Required for all Models; Package of Five) |
| **JC-5361** | Hypodermic Needle Test Probe Assembly |
| **G-2010 Series** | 0 to 30 psig (0 to 210 kPa) Gauge |

## Specifications

| EP-8000 Electro-Pneumatic Transducer (Part 1 of 2) | | |
|---|---|---|
| **Action** | | Proportional — Direct Acting |
| **Supply Pressure** | | 18 to 25 psig (126 to 175 kPa); nominal 20 psig (140 kPa); air supply must be clean, dry, and oil-free. |
| **Supply Pressure Sensitivity** | | 0.3 psig/psig (0.3 kPa/kPa |
| **Adjustments** | **Voltage Models** | 20 VDC Maximum Input; Span Adjustable From 7.5 VDC to 15 VDC; Factory-Set at Approximately 10 VDC |
| | **Current Models** | 30 mA DC Maximum Input; Span Adjustable From 10 to 20 mA DC; Factory-Set at Approximately 16 mA DC |
| | **All Models** | Output can be shifted ±9 psig (±63 kPa) using zero adjustment screw. |
| **Linearity** | | 5% Maximum of Output Span Between 3 to 15 psig (21 to 103 kPa) |
| **Hysteresis** | | 0.5 psig (1.4 kPa) typical |
| **Temperature Coefficient** | | 0.05 psig/°F (0.64 kPa/°C) |
| **Input Impedance** | **Voltage Models** | 1,000 Ohms Minimum |
| | **Current Models** | 350 Ohms Maximum |
| **Air Flow Capacity at 20 psig Supply** | **Low Volume Models** | 45 SCIM (12.3 mL/s) Maximum[1] |
| | **High Volume Models** | 1600 SCIM (437 mL/s) Maximum |

## *Electro-Pneumatic Transducer (Continued)*

| EP-8000 Electro-Pneumatic Transducer (Part 2 of 2) | | |
|---|---|---|
| **Air Consumption** | **Low Volume Models** | 45 SCIM (12.3 mL/s) Maximum[1] |
| | **High Volume Models** | 45 SCIM (12.3 mL/s) Maximum |
| **Electrical Connections** | | Two-Wire Terminal Block for 18 AWG Stranded Wire |
| **Air Connections** | | Barbed Fittings for 5/32 or 1/4 in. O.D. Polytubing |
| **Materials** | **Body** | Polysulphone |
| | **Case and Cover** | Polycarbonate/ABS |
| | **Enclosure Protection** | IP 20 (IEC 60529) |
| | **Air Connections** | Brass |
| **Ambient Operating Limits** | **Temperature** | 41 to 122°F (5 to 50°C) |
| | **Humidity** | 10 to 90% RH, Non-condensing |
| **Ambient Storage Temperature Limits** | | -4 to 140°F (-20 to 60°C) |
| **Mounting** | | Surface-Mounted or Installed on Pneumatic Valve or Damper Actuator Using Accessory Mounting Kit |
| **Shipping Weight** | **EP-8000-1 and -3** | 0.5 lb (227 g) |
| | **EP-8000-2 and -4** | 0.6 lb (272 g) |

1. This value is specified for dead-ended loads or with controlled devices/applications with a maximum air consumption of 10 SCIM (2.7 mL/s).