Johnson Controls EP-8000-3

Johnson Controls EP-8000-3 Electro Pneumatic Transducer User Manual

Model: EP-8000-3 | **Brand:** Johnson Controls

1. Product Overview

The Johnson Controls EP-8000-3 is an electro-pneumatic transducer designed to convert a standard electrical input signal into a proportional pneumatic output signal. Specifically, it accepts a 4-20 mA DC electrical input and produces a 3-15 PSIG pneumatic output. This device is crucial in industrial control systems for interfacing electronic controllers with pneumatic actuators or other pneumatic equipment. It features a low volume output, ensuring precise and responsive control.

This image displays a Johnson Controls electro-pneumatic transducer, specifically the EP-8000-2 model, which is representative of the EP-8000 series. It is a compact, gray cylindrical unit designed for converting electrical signals to pneumatic signals. Visible features include the brand name 'JOHNSON CONTROLS', model number 'EP-8000-2', input/output specifications, and connection points at the base.

2. Safety Information

Read and understand all instructions before installing, operating, or maintaining this device. Failure to follow these instructions may result in property damage, personal injury, or death.

- Installation and servicing must be performed by qualified personnel only.
- Disconnect all power sources before wiring or servicing the transducer.
- Ensure pneumatic supply lines are depressurized before making or breaking connections.
- Verify that the operating environment is within the specified temperature and humidity ranges.
- Do not exceed the maximum rated input current or output pressure.

3. Setup and Installation

3.1 Mounting

Mount the EP-8000-3 transducer in a location free from excessive vibration, moisture, and extreme temperatures. Ensure adequate space for wiring and pneumatic connections, as well as for future maintenance. The device should be mounted securely to prevent movement during operation.

3.2 Electrical Connections

Connect the 4-20 mA DC input signal to the designated electrical terminals. Observe proper polarity. Use appropriate gauge wiring for the application and ensure all connections are secure to prevent intermittent operation or signal loss. Refer to the device's labeling for specific terminal assignments.

3.3 Pneumatic Connections

Connect the regulated pneumatic supply (typically 20 PSIG for a 3-15 PSIG output range) to the supply port. Connect the output pneumatic line to the designated output port. Ensure all pneumatic connections are leak-free using appropriate fittings and sealing methods. The pneumatic supply must be clean, dry, and oil-free instrument air.

4. Operation

Once properly installed and connected, the EP-8000-3 transducer will convert the incoming 4-20 mA DC electrical signal into a proportional 3-15 PSIG pneumatic output. A 4 mA input will correspond to a 3 PSIG output, and a 20 mA input will correspond to a 15 PSIG output. The transducer operates continuously as long as power and pneumatic supply are provided.

4.1 Calibration (if applicable)

While the EP-8000-3 is factory calibrated, periodic verification of its output against a known input signal is recommended. If field calibration is required, consult the specific calibration procedure outlined in the full technical data sheet or contact Johnson Controls technical support. Typically, calibration involves adjusting zero and span settings to ensure accurate conversion across the full range.

5. Maintenance

The EP-8000-3 transducer is designed for reliable operation with minimal maintenance. However, regular inspection can help ensure optimal performance and longevity.

- **Periodic Inspection:** Visually inspect the transducer and its connections for any signs of damage, corrosion, or loose wiring/tubing.
- **Cleanliness:** Keep the exterior of the device clean and free from dust or debris. Do not use harsh chemicals or abrasive cleaners.
- **Pneumatic Supply Quality:** Ensure the pneumatic supply remains clean, dry, and oil-free. Contaminants can affect the transducer's performance and lifespan.

- **Connection Integrity:** Periodically check electrical and pneumatic connections for tightness.

6. Troubleshooting

If the EP-8000-3 transducer is not functioning as expected, consider the following troubleshooting steps:

Symptom	Possible Cause	Action
No pneumatic output	No electrical input signal; No pneumatic supply; Faulty wiring/tubing; Device failure	Verify 4-20 mA input; Check pneumatic supply pressure; Inspect connections; Replace device if necessary
Incorrect pneumatic output	Incorrect input signal; Calibration drift; Incorrect pneumatic supply pressure	Verify 4-20 mA input signal accuracy; Check pneumatic supply pressure; Perform calibration if required
Unstable pneumatic output	Fluctuating input signal; Unstable pneumatic supply; Loose connections; Vibration	Check stability of input signal and pneumatic supply; Secure all connections; Reduce vibration if possible

If troubleshooting steps do not resolve the issue, contact Johnson Controls technical support for further assistance.

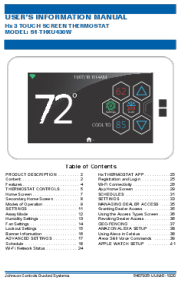
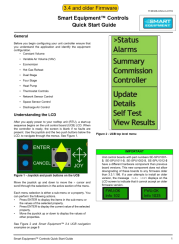
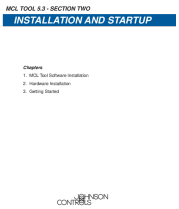
7. Specifications

- **Model:** EP-8000-3
- **Manufacturer:** JOHNSON CONTROLS
- **Input Signal:** 4-20 mA DC
- **Output Signal:** 3-15 PSIG
- **Output Type:** Low Volume
- **Product Type:** Electro Pneumatic Transducer
- **ASIN:** B005KWHVMS
- **Date First Available:** November 8, 2019

8. Warranty and Support

Specific warranty terms and conditions for the Johnson Controls EP-8000-3 transducer are not detailed within this manual. For information regarding product warranty, technical support, or service, please refer to the official Johnson Controls website or contact your authorized Johnson Controls distributor or sales representative. Ensure you have the product model number (EP-8000-3) and purchase details available when seeking support.

Related Documents - EP-8000-3

	[Johnson Controls AD-XXX Series PureFlow Duplex Air Compressors | Product Bulletin] Comprehensive product bulletin detailing the Johnson Controls AD-XXX Series PureFlow Duplex Air Compressors, ranging from 1/2 to 20 hp. Includes features, technical specifications, performance data, ordering information, dimensions, wiring diagrams, and a complete list of repair parts.
	[Hx 3 Touch Screen Thermostat User Information Manual] This user information manual provides detailed instructions and guidance for the Johnson Controls Hx 3 Touch Screen Thermostat (Model: S1-THXU430W), covering installation, features, operation, app connectivity, and settings.
	[Smart Equipment Controls Quick Start Guide for UCB HVAC Systems] Comprehensive quick start guide for Johnson Controls Smart Equipment Unit Control Board (UCB) HVAC systems. Learn setup, navigation, firmware updates, configuration backup, commissioning, and troubleshooting for Constant Volume, VAV, Economizer, and Heat Pump applications. Includes detailed menu structures and operational parameters.
	[Smart Equipment™ Controls Quick Start Guide - Firmware 3.4 and Older] A quick start guide for Smart Equipment™ Controls (version 3.4 and older firmware), detailing setup, firmware updates, navigation, and configuration for HVAC control systems.
	[MCL Tool 5.3 Installation and Startup Guide - Johnson Controls] Comprehensive guide for installing and setting up Johnson Controls' MCL Tool 5.3 software and hardware, covering system configurations, network setup, and initial startup procedures.
	[Smart Equipment Controls Quick Start Guide - Johnson Controls UCB Firmware 3.3.1.186] This Quick Start Guide provides essential instructions for configuring and updating Johnson Controls Smart Equipment™ Unit Control Boards (UCB) with firmware version 3.3.1.186. Learn how to navigate the local LCD, perform system configuration backups, update firmware, and understand key menu options for various HVAC applications.