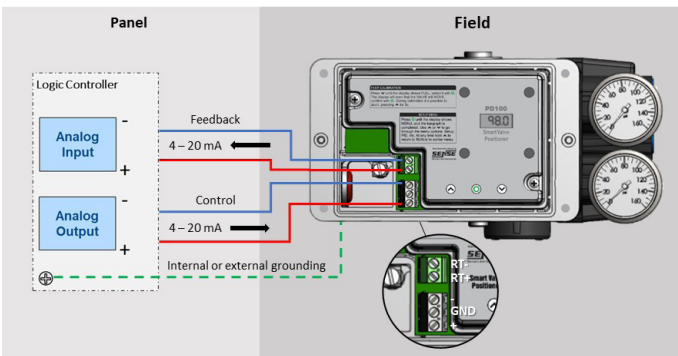


## PD100 Smart Valve Positioner Quick Start Guide

### Environmental Certifications

UL Listed General Purpose E359150  
 Ingress Protection Rating: Type 4X  
 UL Listed Non-Incendive E125326  
 Ingress Protection Rating: Type 4X, IP66

### Wiring Diagram



Both control and position feedback signals are 4-20mA

### WARNING

To reduce risk of death, serious injury or property damage:

- Personnel installing, maintaining, or operating this equipment must be qualified, must read, understand, and follow these instructions before proceeding.
- This document must be retained for future reference.
- Please contact local TopWorx representative for questions, clarifications, or comments.

### Storage

Store the Positioner in a dry indoor environment within a relative humidity range of 10% to 95% and within a temperature range of -40°F to 149°F (-40°C to 65°C). The Positioner will only support its ingress protection ratings when fully installed with Conduit, conduit plugs and any applicable port connections.

### Installation Notes

The PD100 is suitable for use with rotary or linear, single or double, direct or reverse action valve actuators. Depending on the model, the Positioner will be supplied with a rotary NAMUR adaptor or linkages for linear valve actuators. Always use sound mechanical practices when mounting the Positioner.

When fastening the unit to the bracket on the actuator, tighten the fasteners to a minimum of 11 ft-lbs (15 Nm) of torque after cycling the valve a couple of times. This allows the shaft to self-center in the pinion slot, or coupler. Be cautious not to allow undue axial (thrust) load on the shaft.

This product ships with plastic covers installed in the conduit and pneumatic connection holes to protect the internal components from debris during shipment and handling. It is the responsibility of the receiving and/or installation personnel to provide appropriate permanent sealing devices to prevent the intrusion of debris or moisture, when stored outdoors or when installed. It is the responsibility of the installer, or end user, to install this product in accordance with the National Electrical Code (NFPA 70 or any other national or regional code defining proper practices.)

### Easy Setup (Auto-Calibration)

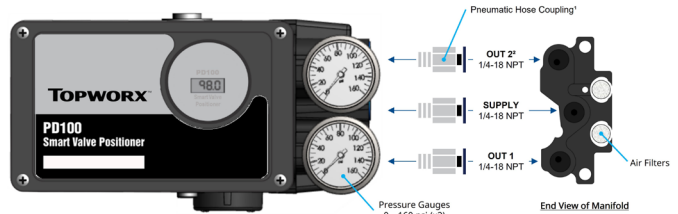
The PD100 can perform auto-calibration to determine all the parameters of the valve, such as the open and closed positions and the PID values.

After removing the outer cover, auto-calibration is performed in two easy steps:

1. Press and hold the DOWN arrow key for 5 seconds. The display will show "FULL" then "SURE".
2. Press the ENTER key to start the auto-calibration process.

### Pneumatic Connection Procedure

Prior to connecting the supply air to the supply port, flush the system to remove debris or contaminants. Galvanized pipe can easily flake and contaminate the system and therefore is not recommended for use with the PD100. A 50 micron point of use filter is recommended for use with every device an installation.



#### Notes

1. Pneumatic hose couplings are not supplied with the positioner.
2. The second OUT port is normally supplied plugged.
3. Air-supply pressure = 2.8 to 8 bar (40 to 116 psi)

## NOTICE

### Special Conditions of Safe Use

Clean only with a damp cloth to prevent the possibility of electrostatic discharge. Grounding the positioner is extremely important and highly recommended. Two grounding points are provided, one internal and one external. If a shielded cable is utilized, it is recommended to ground the shield at one end only. The non-earthed end must be carefully insulated.

### Connection Specifications

Electrical Connections	
Number of Entry Ports	1
Cable Gland Entry Ports	½ inch NPT female
Pneumatic Connections	
Medium	Dried, filtered air
Filter Size	50 microns
Operating Pressure	40 to 116 psi (2.8 to 8 bar)
Pneumatic Ports	¼ inch NPT Female

### About Emerson-TopWorx

Emerson TopWorx is the global leader in valve control and position sensing for the process industries. Our product solutions manage and control operations more intelligently and efficiently under the most demanding and extreme industry conditions. The TopWorx portfolio of proximity sensors, discrete valve controllers, and smart valve positioners enable automated valve feedback with control and communication via FOUNDATION Fieldbus, Profibus, DeviceNet, AS-Interface, and HART protocols. They attach to all rotary and linear valves and actuators and carry a variety of global certifications. For more information, please visit [www.topworx.com](http://www.topworx.com)

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