



IP8□ Series

Electro-Pneumatic Positioner/Smart Positioner Specific Product Precautions 1

Be sure to read this before handling the products.

Operation

Warning

1. Do not operate the positioner outside the specified range as this may cause problems. (Refer to the specifications.)
2. Design the system to include a safety circuit to avoid the risk of danger should the positioner suffer failure.
3. Be sure that exterior lead-in wiring to the terminal box is based on the guidelines for explosion-protection of manufactory electric equipment when being used as a flame proof, explosion proof construction.
4. Do not remove terminal cover in a hazardous location while the power is on.
5. Covers for the terminal and body should be in place while operating.
6. When using as an intrinsically safe explosion-proof product, do not wire in a hazardous location while the power is on.

Caution

1. Do not touch the actuator or valve's oscillating section when supply pressure has been added, as this is dangerous.
2. Make sure fingers do not get caught when mounting and aligning the cam.

Cut off the pressure supply and always release the compressed air inside the positioner and actuator before performing this work.

3. Always use with the body cover unit mounted.
Moreover, the positioner may not meet degrees of protection IP65 depending on the body cover mounting conditions. In order to meet degrees of protection IP65, tighten threads using the proper tightening torques (2.8 to 3.0 N·m).
4. Always flush the pipe's insides before piping to ensure foreign objects such as machining chips do not enter the positioner.
5. The actuator opening may become unstable when using the booster relay.
6. Always use a ground connection to prevent noise from the input current and to prevent damage because of static electricity.
7. Use the pressure reading on the supplied pressure gauge as an indication.
8. The supplied pressure gauge's needle will malfunction if the pressure supply to the internal mechanism or positioner freezes.
Ensure that the pressure gauge's internal parts do not freeze if using the pressure gauge in an operating environment with an ambient temperature of less than 0°C.
9. This positioner performs the fixed position control.
Avoid turning ON or OFF the input signal highly frequently.

For Users

Caution

1. Assemble, operate and maintain the positioners after reading the operation manual thoroughly and understanding the content.

Handling

Caution

1. Avoid excessive vibration or impact to the positioner body and any excessive force to the armature, as these actions may cause damage to the product. Handle carefully while transporting and operating.
2. If being used in a place where vibration occurs, using a binding band is recommended to prevent broken wires because of the vibration.
3. When exposed to possible moisture invasion, please take the necessary measures. For example, if the positioner is left on-site for long periods, a plug should be put in the piping port and a body cover unit fitted to avoid water penetration.

Take measures to avoid dew condensation inside the positioner if exposed to high temperature and humidity. Take enough measures against condensation especially when packing for export.

4. Keep magnetic field off the positioner, as this affects its characteristics.

Air Supply

Caution

1. As the positioner contains extra-fine orifices such as restrictor and nozzle, if drain or dust is present in the supply pressure line, malfunction (*1) may result. In addition to an air filter (SMC Series AF), it is recommended to use a mist separator (SMC Series AM, AFM) and a micro mist separator (SMC Series AMD, AFD). Also, refer to "SMC Air Preparation System" for air quality.
2. Never use a lubricator, as this can cause a malfunction (*1).
3. Do not use compressed air containing chemicals, organic solvents, salinity or corrosive gases, as this may cause malfunction.
4. When operating below the freezing point, protect the positioner from freezing.

*1 If the restrictor is clogged, output from the OUT1 port of the positioner may occur continuously or hunching and overshoot may occur.

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IP8□ Series

Electro-Pneumatic Positioner/Smart Positioner Specific Product Precautions 2

Be sure to read this before handling the products.

Operating Environment

Caution

1. Do not operate in locations with an atmosphere of corrosive gases, chemicals, sea water, or where these substances will adhere to the regulator.
2. Do not operate out of the indicated operation temperature range as this may cause damage to electronic parts and seal materials to deteriorate.
3. Do not operate in locations where excessive vibration or impact occurs.
4. If the body cover is being installed in a place where the body cover is exposed to direct sunlight, the use of a standard body cover without the LCD window is recommended.

Maintenance

Warning

1. After installation, repair or disassembly, connect compressed air and conduct tests to confirm appropriate function and leakage.

Do not use the positioner when noise from the bleeder sounds louder compared with the initial state, or when it does not operate normally. If these occur, check immediately if assembled and mounted correctly.

Never modify electrical construction to maintain explosion-proof construction.

Caution

1. Confirm whether the compressed air is clean.
Dust, oil, or moisture mixed within the equipment may result in malfunction and positioner problems. Perform periodic inspection of the air preparation equipment to ensure clean air is always supplied.
2. Improper handling of compressed air is dangerous. Not only observing the product specifications, but also replacement of elements and other maintenance activities should be conducted by personnel having sufficient knowledge and experience pertaining to instrumentation equipment.
3. Perform annual inspections of the positioner.
Replace badly damaged seals and units such as diaphragm and O-ring during the inspection.
When used in tough environmental and/or service conditions such as seaside locations, replacements should be undertaken more frequently.

Maintenance

Caution

4. When performing inspections, demounting the positioner, or replacing the elements with the positioner still in its mounted position, first, stop the compressed air, then exhaust the residual pressure before undertaking operation.
5. Should the restrictor become clogged with carbon particles, etc., demount automatic/manual change-over screw (with built-in restrictor) and clean it using a $\phi 0.2$ wire.
Stop the compressed air and remove the screw to switch the pilot valve off before replacing the restrictor.
6. Apply just a small amount of grease set by SMC to the sliding parts (O-ring and exhaust valve) when disassembling a pilot valve unit.
Replacing the valve unit every three years is recommended.
7. Check for air leakage from pipes that pass compressed air and connecting parts.

Air leakage from air piping results in reduced operational performance and a decline of characteristics, etc.

It is structurally necessary for air to be released from the bleeder, it is not abnormal as long as the air consumption is within the specified range.