POCREATION QPM10-NO/NC

POCREATION Diaphragm Type Pressure Switch User Manual

Model: QPM10-NO/NC

1. Introduction

This manual provides essential instructions for the safe and efficient installation, operation, and maintenance of your POCREATION Diaphragm Type Pressure Switch, Model QPM10-NO/NC. Please read this manual thoroughly before using the product to ensure proper function and to prevent damage or injury. Keep this manual for future reference.

2. Product Overview and Features

The POCREATION Diaphragm Type Pressure Switch is designed for reliable pressure monitoring and control in various industrial applications. It features a robust stainless steel construction and an insulating cover for enhanced safety.

Key Features:

- **Safer Circuit with Insulation Cover:** Equipped with an external insulating sheath cover for enhanced electrical safety.
- **Premium Stainless Steel Material:** Constructed from durable stainless steel and rubber for longevity and resistance to wear.
- **Quick and Simple Installation:** Compact and lightweight design facilitates easy and efficient installation.
- **Easy Pressure Adjustment:** Pressure settings can be adjusted effortlessly using a hex wrench. Turn clockwise to increase pressure, counterclockwise to decrease.
- **Portable and Convenient:** Its compact and lightweight nature makes it easy to handle and transport for various tasks.

Figure 2.1: The POCREATION Diaphragm Type Pressure Switch shown alongside its insulating cover.

3. Specifications

Parameter	Value
Item Type	Diaphragm Type Pressure Switch
Material	Stainless Steel, Rubber
Thread Size	1/2 inch
Maximum Number of Pulses	200 cycles/min
Operating Medium	Compressed air, Water
Power Level (with cover)	IP54
Ambient and Medium Temperature	-5 to 60 °C
Maximum Pressure	1.0 Mpa
Rated Current	500mA

Rated Power	250W
Mechanical Useful Life	1 million weeks
Working Pressure	Adjustable
Nominal Voltage	≤ AC220V, AC110V, DC24V, DC12V
Pressure Range	0.1 to 1 Mpa
Model Number	QPM10-NO/NC

4. Safety Information

- Always disconnect power before installation, maintenance, or troubleshooting.
- Ensure the pressure switch is installed by qualified personnel in accordance with local electrical and safety codes.
- Do not exceed the maximum pressure or voltage ratings specified in the 'Specifications' section.
- Verify that the operating medium (compressed air, water) is compatible with the switch materials.
- The insulating cover must be properly installed to ensure circuit safety.
- This is a normally open pressure switch, which closes when the burst pressure increases to the set value. Understand its operational logic before integration.

5. Setup and Installation

Follow these steps for proper installation of the pressure switch:

1. **Prepare Wiring:** Carefully cut the top of the insulating sleeve to expose the wiring terminals.
2. **Internal Wiring:** Connect the electrical wires to the appropriate terminals (COM, NO, NC) as per your system's requirements. Refer to the internal wiring diagram on the switch body for guidance. Ensure secure connections.
3. **Install Insulating Cover:** Once wiring is complete, install the insulating cover completely over the terminals to ensure electrical safety and IP54 protection.
4. **Mechanical Installation:** Thread the pressure switch into the appropriate 1/2 inch port in your pneumatic or hydraulic system. Use thread sealant if necessary to ensure a leak-free connection. Do not overtighten.

Figure 5.1: View of the pressure switch terminals (COM, NO, NC) before cover installation.

Figure 5.2: The pressure switch with the insulating cover fully installed, protecting the electrical connections.

6. Operating Instructions

Pressure Adjustment:

The working pressure of the QPM10-NO/NC pressure switch is adjustable within the range of 0.1 to 1 Mpa. To adjust the set pressure:

1. Locate the adjustment screw, typically accessible via a hex opening on the switch body (often near the terminals).
2. Using a suitable hex wrench, turn the screw **clockwise** to **increase** the set pressure.
3. Turn the screw **counterclockwise** to **decrease** the set pressure.
4. Monitor your system's pressure gauge while adjusting to achieve the desired activation point.

Figure 6.1: The adjustment screw for setting the pressure threshold is located at the base of the terminal block.

Operational Logic:

The QPM10-NO/NC is a **Normally Open (NO)** pressure switch. This means:

- Under normal operating pressure (below the set point), the switch contacts between COM and NO are open, and contacts between COM and NC are closed.
- When the system pressure rises to or exceeds the set point, the switch actuates: the contacts between COM and NO close, and contacts between COM and NC open.
- The switch will revert to its normal state when the pressure drops below the set point.

7. Maintenance

Regular maintenance ensures the longevity and reliable operation of your pressure switch.

- **Inspection:** Periodically inspect the switch for any signs of physical damage, corrosion, or leaks.
- **Cleaning:** Keep the exterior of the switch clean. If necessary, wipe with a damp cloth. Do not use harsh chemicals or abrasive cleaners.
- **Connection Check:** Ensure all electrical and mechanical connections remain tight and secure.
- **Insulating Cover:** Verify that the insulating cover is intact and properly seated to maintain IP54

protection.

- **Recalibration:** If precise pressure control is critical, periodically verify the switch's set point against a calibrated pressure gauge.

8. Troubleshooting

Problem	Possible Cause	Solution
Switch does not activate at set pressure.	Incorrect pressure setting; Clogged pressure port; Faulty wiring; Internal switch failure.	Verify pressure setting and adjust if necessary. Check for obstructions in the pressure port. Inspect wiring for loose connections or damage. If issues persist, the switch may need replacement.
Switch activates erratically.	Pressure fluctuations in the system; Vibration; Loose connections.	Stabilize system pressure. Ensure the switch is securely mounted to minimize vibration. Check all electrical connections.
Leakage at connection point.	Improperly sealed threads; Damaged threads.	Ensure proper thread sealant is used. Re-tighten connection (do not overtighten). Inspect threads for damage and replace if necessary.
No electrical continuity.	Broken wire; Loose terminal connection; Internal switch failure.	Check all wiring for breaks and ensure terminals are securely fastened. Use a multimeter to test continuity. Replace switch if internal failure is suspected.

9. Warranty and Support

For warranty information or technical support, please contact your retailer or the manufacturer directly. Keep your purchase receipt as proof of purchase.
Manufacturer: POCREATION
Model: QPM10-NO/NC