

Italtecnica PM/5G

Italtecnica PM/5G Pressure Switch for Water Systems, 1-5 bar

Instruction Manual

1. PRODUCT OVERVIEW

The Italtecnica PM/5G is a single-phase pressure switch designed for controlling electric pumps in water systems. It automatically starts and stops the pump based on pre-set pressure limits, ensuring efficient operation and protection of your water installation. This device features a robust metal construction and a 1/4" female rotating connection for easy integration.

Key features include an adjustable pressure range of 1.0 to 5 bar, IP44 protection, and suitability for ambient and fluid temperatures up to 55 °C.

2. SAFETY INFORMATION

Please read all safety instructions carefully before installation and operation. Failure to follow these instructions may result in electric shock, fire, or serious injury.

- **Electrical Safety:** Installation and wiring must be performed by a qualified electrician in accordance with local electrical codes and regulations. Ensure the power supply is disconnected before any installation or maintenance work. The device operates at 250 Volts.
- **Pressure Safety:** Do not exceed the maximum operating pressure of 5 bar. Ensure all connections are properly sealed to prevent leaks.
- **Temperature Limits:** Do not expose the device to ambient or fluid temperatures outside the specified range (maximum 55 °C).
- **Intended Use:** This pressure switch is designed for water systems. Do not use it with flammable or corrosive liquids.
- **Children and Pets:** Keep the device out of reach of children and pets.

3. PACKAGE CONTENTS

- 1 x Italtecnica PM/5G Pressure Switch

4. SETUP AND INSTALLATION

The Italtecnica PM/5G pressure switch is designed for straightforward installation. However, due to its electrical and pressure components, professional installation is recommended.

1. **Mounting:** Securely mount the pressure switch in a suitable location, ensuring it is protected from direct weather exposure and excessive vibration.
2. **Hydraulic Connection:** Connect the pressure switch to your water system using its 1/4" female rotating connection. Ensure a watertight seal using appropriate thread sealant.
3. **Electrical Wiring:**
 - **WARNING:** Disconnect all power before proceeding with electrical connections.
 - Open the cover of the pressure switch.
 - Connect the power supply wires (250V) to the designated terminals.
 - Connect the electric pump wires to the designated terminals. The contact is electro-welded 16 (10) A.
 - Ensure all connections are tight and secure.
 - Close the cover securely, ensuring the IP44 protection is maintained.



Figure 1: Side view of the Italtecnica PM/5G pressure switch, highlighting the robust black casing and the metal connection port at the bottom. The electrical conduit entry point is visible on the left side.



Figure 2: Top view of the Italtecnica PM/5G pressure switch. Visible on the black casing are the manufacturer's details, model number 'PM 6', electrical rating '16(10)A 250V~ IP44', and 'Made in Italy' text. A screw for adjustments is also visible.

5. OPERATING INSTRUCTIONS

The PM/5G pressure switch operates automatically once installed and configured. The primary operational aspect is setting the desired pressure range.

- 1. Initial Power-Up:** After installation and wiring are complete, restore power to the system. The pump should activate if the pressure is below the minimum set point.
- 2. Pressure Adjustment (Calibration):** The pressure switch allows adjustment of both the minimum (cut-in) and maximum (cut-out) pressure points within the 1-5 bar range. This typically involves two springs: a large spring for the minimum pressure and a small spring for the differential (difference between cut-in and cut-out).
 - **Adjusting Minimum Pressure:** Loosen the nut on the large spring to decrease the minimum pressure, or tighten it to increase the minimum pressure. It is advisable to have a tap slightly open during this process to allow the pump to cycle.
 - **Adjusting Maximum Pressure (Differential):** Once the minimum pressure is set, adjust the nut on the small spring. Tightening this nut increases the differential, meaning the pump will switch off at a higher pressure relative to the minimum. Loosening it decreases the differential.
 - **Monitoring:** Use a pressure gauge to accurately monitor the cut-in and cut-out pressures during adjustment. Tap the manometer if it tends to stick during the cycle.
 - **Optimal Setting:** A greater difference between the minimum and maximum pressures can reduce the frequency of pump cycles, potentially extending pump life.
- 3. Normal Operation:** The pump will automatically start when the system pressure drops below the set minimum and stop when it reaches the set maximum.

6. MAINTENANCE

The Italtecnica PM/5G pressure switch is designed for durability and requires minimal maintenance. Regular checks can help ensure its longevity and reliable operation.

- **Periodic Inspection:** Periodically inspect the device for any signs of physical damage, corrosion, or loose connections.
- **Cleanliness:** Keep the exterior of the pressure switch clean and free from dust and debris. Do not use abrasive cleaners or solvents.
- **Connection Integrity:** Check the hydraulic and electrical connections for tightness and absence of leaks or fraying wires.
- **Pressure Verification:** Occasionally verify that the cut-in and cut-out pressures are still within your desired range using a reliable pressure gauge.

7. TROUBLESHOOTING

If you encounter issues with your Italtecnica PM/5G pressure switch, refer to the following common problems and solutions:

- **Pump Does Not Start:**
 - Check if there is power to the pressure switch and pump.
 - Verify electrical connections are secure.
 - Ensure the system pressure is below the minimum set point.
 - Inspect the pressure switch contacts for damage or corrosion (only by qualified personnel).
- **Pump Does Not Stop:**
 - Check for leaks in the water system that prevent pressure from building up.
 - Verify the maximum pressure set point is correctly adjusted.
 - Ensure the pump is capable of reaching the desired maximum pressure.
 - Inspect the pressure switch contacts for sticking (only by qualified personnel).
- **Erratic Pump Cycling:**
 - Check for air in the system or a faulty pressure tank (if applicable).
 - Re-calibrate the pressure switch settings.
 - Ensure there are no small leaks causing rapid pressure drops.

If the problem persists after attempting these solutions, contact a qualified technician for assistance.

8. SPECIFICATIONS

Model Number	050873
Product Dimensions (L x W x H)	20 x 10 x 10 cm
Adjustment Range	1.0 - 5 bar
Maximum Operating Pressure	5 bar
Protection Rating	IP44

Maximum Ambient Temperature	55 °C
Maximum Fluid Temperature	55 °C
Electrical Contact	16 (10) A
Operating Voltage	250 Volts
Connection Type	1/4" NPT Female (Rotating)
Material	Metal, Brass
Operating Mode	Automatic

9. WARRANTY AND SUPPORT

Specific warranty information for the Italtcnica PM/5G pressure switch may vary by region and retailer. Please refer to your purchase documentation or contact your point of sale for details regarding warranty coverage.

For technical support or further assistance, please contact the manufacturer, Italtcnica, or your authorized distributor. Ensure you have your product model number (PM/5G) and any relevant purchase information available when seeking support.