PCM710 Intelligent Pressure Switch

Features

- High switching accuracy
- Adjustable response time
- NPN and PNP outputs are compatible and can be switched freely
- Button-based adjustment, one-touch zero calibration, and quick unit switching
- OLED display for real-time pressure. readings
- LED indicators for easy monitoring of switching status

Applications and Industries

- Hydropower
- Chemical processing
- Municipal water supply
- Scientific research
- Accurate measurement and control of fluid pressure

Safety Precautions：

1.Do not touch the diaphragm with hard objects, as this may damage the isolation diaphragm.

2.Read the product user manual carefully before installation and verify the relevant product information.

3.Follow the specified wiring method strictly to prevent product damage and other potential faults.

4.Improper use may result in hazards and personal injury.



Product Overview

The PCM710 Intelligent Pressure Switch is an intelligent pressure measurement and control device integrating pressure measurement, display, signal output, and control functions. The product features a fully electronic structure. A piezoresistive silicon pressure sensor is installed at the front end. Its output signal is amplified and processed by a high-precision, low-temperature-drift amplifier, then sent to a high-precision A/D converter. After processing by a microprocessor, the pressure value is displayed locally, and two switching outputs plus a 4–20 mA analog output are generated for pressure monitoring and control in control systems.

The intelligent digital pressure controller is flexible to use, easy to operate and configure, and safe and reliable. It is widely used in hydropower, water supply, petroleum, chemical processing, machinery, hydraulics, and other industries for pressure measurement, display, and control of fluid media.

Important Notes：

1.Do not misuse this document.

2.The information in this selection guide is for reference only. This document must not be used as an installation guide.

3.Complete installation, operation, and maintenance information is provided in the product manual.

4.Improper use may result in hazards and personal injury.

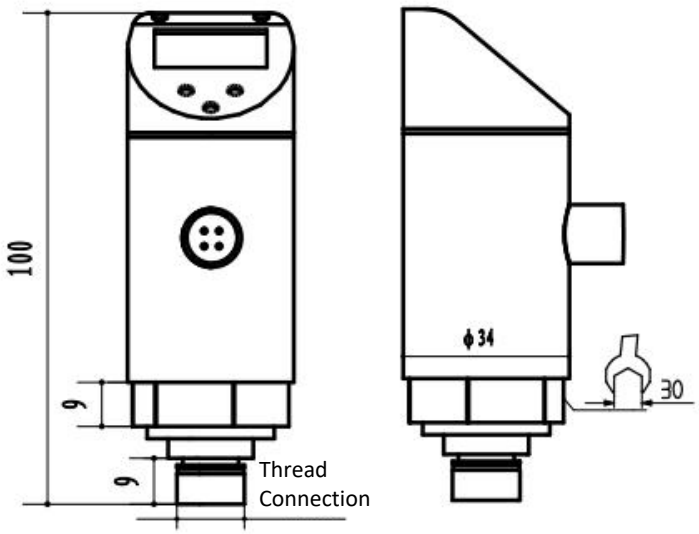
Specifications

Parameter	Specification
Measuring Range	0 – 10 kPa to 100 MPa
Overload Capacity	150 – 300% FS
Accuracy Class	0.2 / Class 0.5
Power Supply	12 – 30 V DC; 24 V recommended
Display	4-digit OLED display
Output	Two switching outputs, NPN/PNP compatible, plus 4 – 20 mA analog output
Load Capacity	≤ 24 V, 1.2 A
Power Consumption	≤ 15 mA
Operating Temperature	−25° C to 80° C
Storage Temperature	−40° C to 100° C
Response Time	≤ 20 ms
Insulation Resistance	100 MΩ at 250 V DC
Protection Rating	IP65

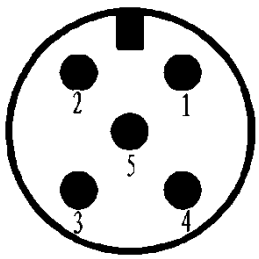
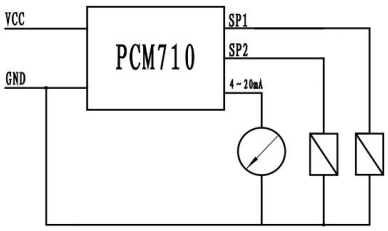
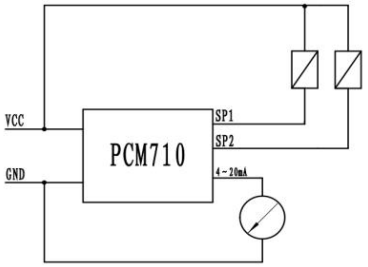
Parameter	Specification
Housing Material	304 Stainless Steel
Wetted Materials	316L stainless steel diaphragm; 304 stainless steel pressure connection

Unit: mm

Dimensions



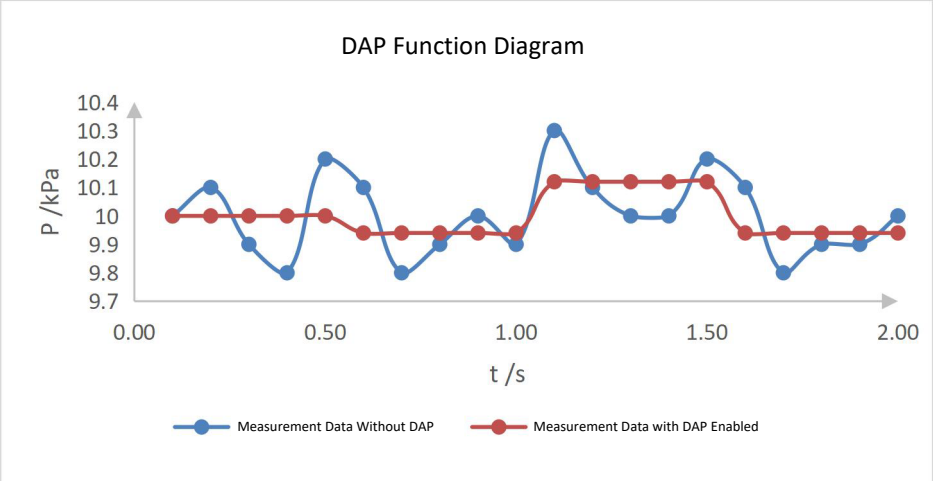
Electrical Connection

M12 × 1 Connector	Pin Definition	Wiring Diagram
	Pin 1 VCC (Power Supply +) Pin 2 SP2 (Switching Output 2) Pin 3 GND (Power Supply −) Pin 4 SP1 (Switching Output 1) Pin 5 4-20 mA Analog Output	 PNP Output Wiring  NPN Output Wiring

Signal Interference Suppression

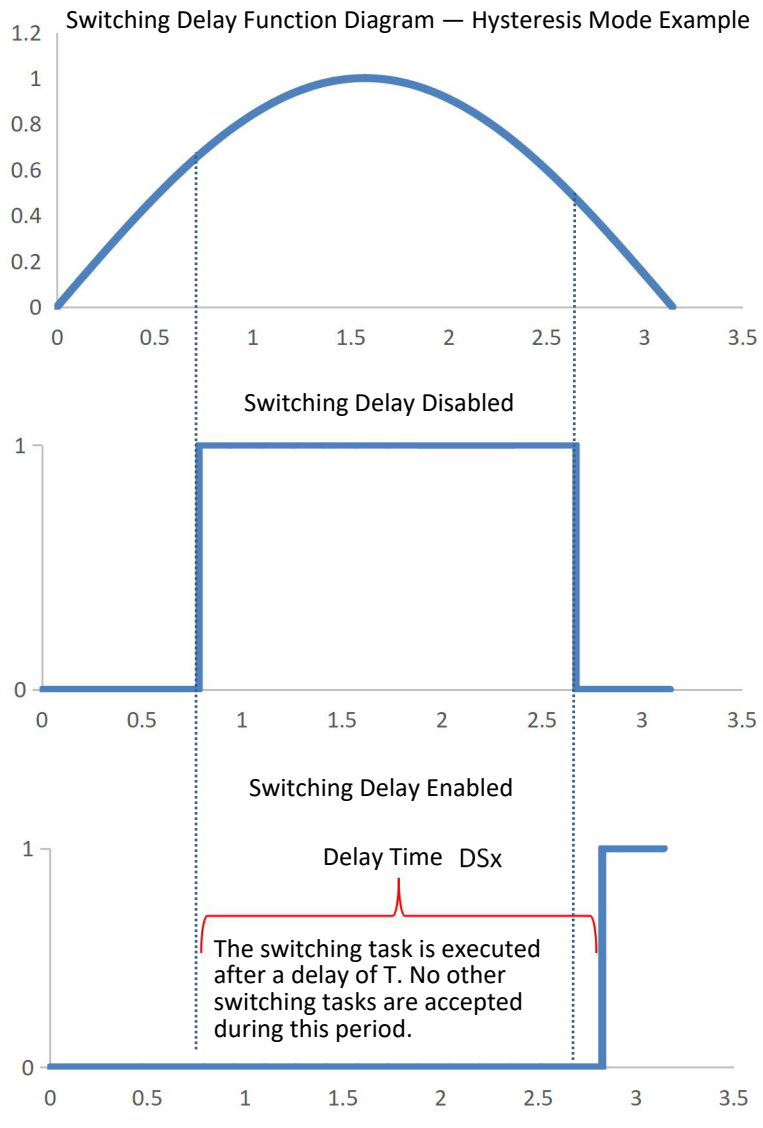
DAP Damping Mechanism:

The sampling frequency of the current pressure measurement used to determine switching actions is programmable. When DAP is enabled, the pressure sampling data represents the average pressure over a specified period. A lower sampling frequency can effectively suppress high-frequency pressure signal noise.



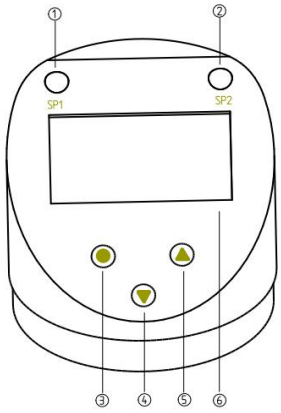
Switching Delay Mechanism:

When the pressure switch detects a switching event, the user can choose whether the switch operates immediately or after a delay of \(t_S\). During the delay period, the pressure switch does not respond to any switching operations. This mechanism helps prevent repeated switching.



Quick Operation

When the system is displaying pressure normally, press [▲]/[▼] to perform quick zero-point calibration and switch units.



Button Operation Instructions

- When displaying pressure normally:

③ [●] Short-press to open the menu.

④ [▼] Long-press for quick zero-point calibration.

⑤ [▲] Short-press to switch units.

- When in the menu:

[●] Confirm/Exit

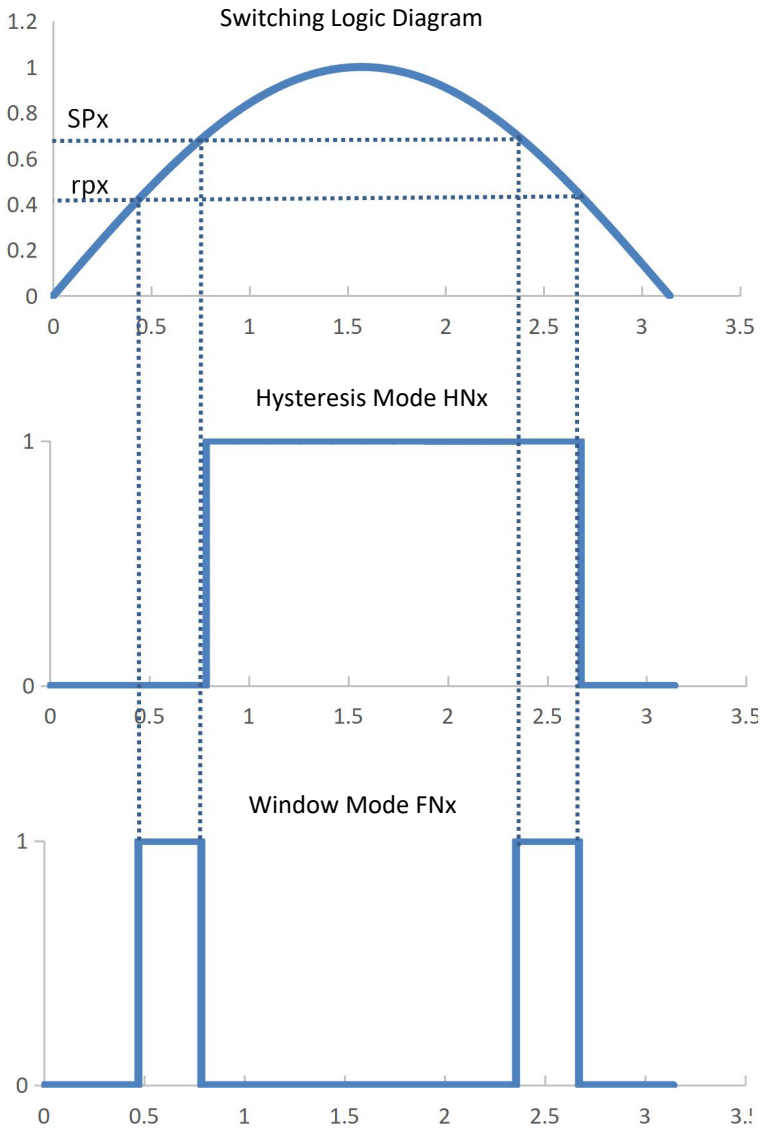
Long-press [▲]/[▼] to edit data.

Switching Characteristics

The pressure switch supports two switching modes:

1. Hysteresis Mode
2. Window Mode

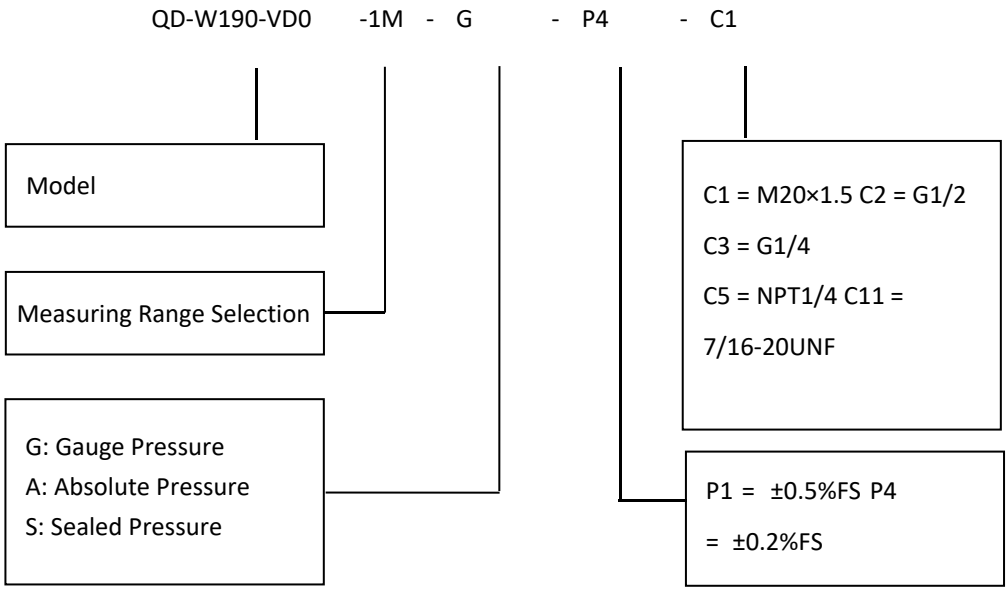
Normally Open (NO) and Normally Closed (NC) configurations are selectable.



Measuring Range Selection

Range Code	Pressure Type	Measuring Range	Overload (% FS)	Burst Pressure (% FS)
10k	G	0～10kPa	300	600
35k	G	0～35kPa	300	600
70k	G	0～70kPa	300	600
100k	G、A	0～100kPa	200	500
250k	G、A	0～250kPa	200	500
400k	G、A	0～400kPa	200	500
600k	G、A	0～600kPa	200	500
1.0M	G、A	0～1.0MPa	200	500
2.5M	G、S	0～2.5MPa	200	500
6M	S	0～6MPa	200	400
10M	S	0～10MPa	200	400
16M	S	0～16MPa	200	400
25M	S	0～25MPa	150	300
40M	S	0～40MPa	150	300
60M	S	0～60MPa	150	300
100M	S	0～100MPa	150	200

Model Selection



Model Example： PCM710-1MGP4C1

- Product: PCM710 Pressure Switch
- Measuring Range: 1 MPa
- Pressure Type: Gauge Pressure
- Accuracy: ±0.2% FS
- Thread Type: M20 × 1.5

Accessories	
Accessory	**Specification**
Female aviation connector cable	M12, 5-pin female connector cable, 2 m long

Ordering Notes

1. When selecting a model, ensure compatibility between the measured medium and all product components that come into contact with it.
2. Customization is available if special requirements apply to the product dimensions or performance specifications.