

## PSWI5581 Intelligent Pressure Switch

### Features

- Pressure measurement for gas and liquid
- Optional for PNP , voltage and current output
- Peak value display
- Ranges drift function
- PNP switch point setting, time delay setting for action
- Modbus communication
- OLED display
- Display rotate 180°
- Body rotate 330°
- Change-over of different units



### Introduction

PSWI5581 is an intelligent pressure switch combining pressure measurement, local display and control together. It uses advanced industrial-grade MCU as core and high quality pressure sensor as sensing element. With well-designation and adjustment, PSWI5581 has quick reaction and good electro-magnetic compatibility for pressure control at the premise of accuracy. It can be widely used for industrial site pressure control in pump, hydraulic and pneumatic equipments.

PSWI5581 is able to visually process the process pressure and switch contacts status through switch output, analog output and display screen. It has various output signals for different application. MPM5581 switch has functions such as time delay setting, ranges drift setting (scales: 25%FS~100%FS), as well setting: clear zero, base point, peak display. With special designation and construction, it can be installed vertically, horizontally or rack mounting. The body can rotate 330°; display can rotate 180° in order for viewer to face up to the display screen. OLED display is very clear to read.

### Specifications

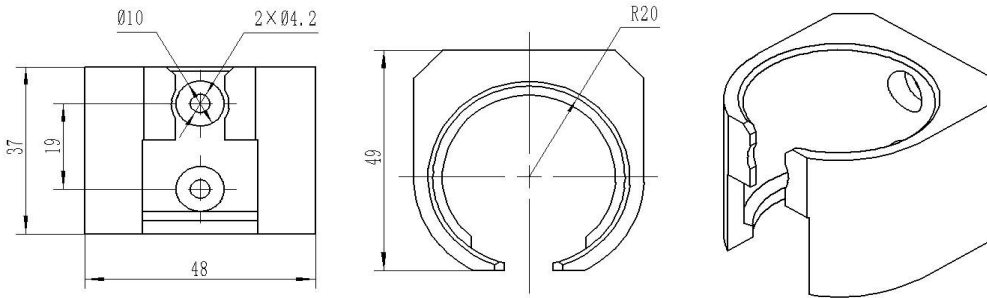
Range: (MPa) 0.1,0.35,0.7,1.6,3.5,7,10,25,40,60 Range drift: 25%FS~100%FS Pressure Type: Gauge, Absolute Overpressure: 2×FS or 100MPa(min. value is valid) Accuracy: ±0.5%FS Hysteresis: ±0.2%FS Thermal error: ±0.02%FS/°C (Zero/FS) Power supply: 12V~30VDC Long Time Stability: ±0.3%FS/year	Outputs: 2 switches + voltage output: 2×PNP +0V~5VDC/10VDC 2 switches + current output: 2×PNP +0mA/4mA~20mADC Switch current: 1.0A(Max.) Switch life time: >100 times Switch reaction: <10ms Switch time delay: 0.0s~99.9s Switch action pattern: Hys.Mode/Win.Mode
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<p>Screen display: Blue 128×64 OLED                  Switch display: 2 red LED                  Display units : MPa   kPa   bar   psi   kgf/cm<sup>2</sup>                  Key: 3 silicone rubber keys, pleas operate according to instructions on the screen.                  Temperature display: referenced environment temperature                  Peak display: Pressure peak in process</p>	<p>Working Temperature: -20℃~80℃                  Storage Temperature: -40℃~80℃                  Relative Humidity: 0%~85%                  EMC: GB/T 17626.2/3/4-2006                  Shoc: ≤10g/10Hz...500Hz(IEC 60068-2-6-2007)                  Impact: ≤50g/11ms(IEC 60068-2-27-2008)                  Protection: IP65</p>
<p>Housing: SS                  Display board: PMMA                  Diaphragm: SS 17-4/316L                  Electric connection: M12×1 round plug                  Gross weight: 300g</p>	

**Outline Construction and Installation**

<p>Unit: mm</p>	<p>Forward up display</p>	<p>Reversal display</p>	<p>Forward up display</p>
	<p>Rack Mounting Installation</p>	<p>Pipe horizontal installation</p>	<p>Pipe vertical installation</p>

MS801 mounting bracket (optional components):



**Note:** MCU core working temperature is for reference.

### Ranges drift

PSWI5581 is able for ranges drift between 25%FS and 100%FS. Analog output changes along with range scale. And also, analog output can be reversal. E.g, 4mA-20mAADC can be changed into 20mA~4mA;0V~5VDC to 5V~0VDC. Take 4bar current output as an example:

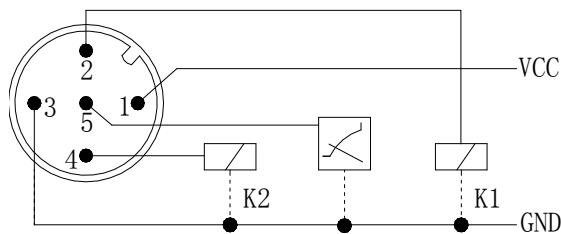
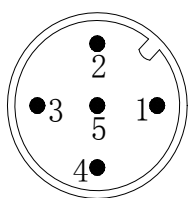
Range	Range drift percent	New range	New range scale
0bar~4bar①	25%FS②	1bar②	0bar~1bar 1bar~2bar③ 2.1bar~3.1bar 3bar~4bar
	50%FS	2bar	0bar~2bar 1.5bar~3.5bar 2bar~4bar
	75%FS	3bar	0bar~3bar 1bar~4bar
	100%FS	4bar	0bar~4bar
0bar~4bar①	25%FS②	1bar② reversal output	1bar~2bar④

Note: Accuracy will decrease for ranges drift.

### Electric Connection

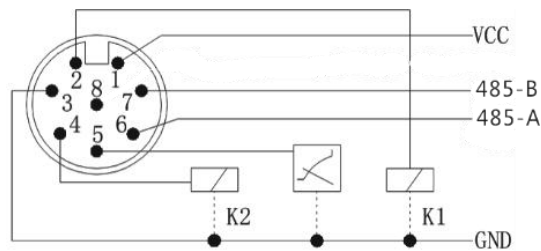
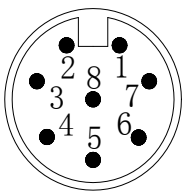
(1) 5-pin plug pin definition and wire connection:

Wire	Color	2×PNP+ Voltage	2×PNP+ Current
1	Red	VCC	
2	Yellow	K1- Output	
3	Black	GND	
4	Blue	K2-Output	
5	Green	0V~5/10V	0/4mA~20mA

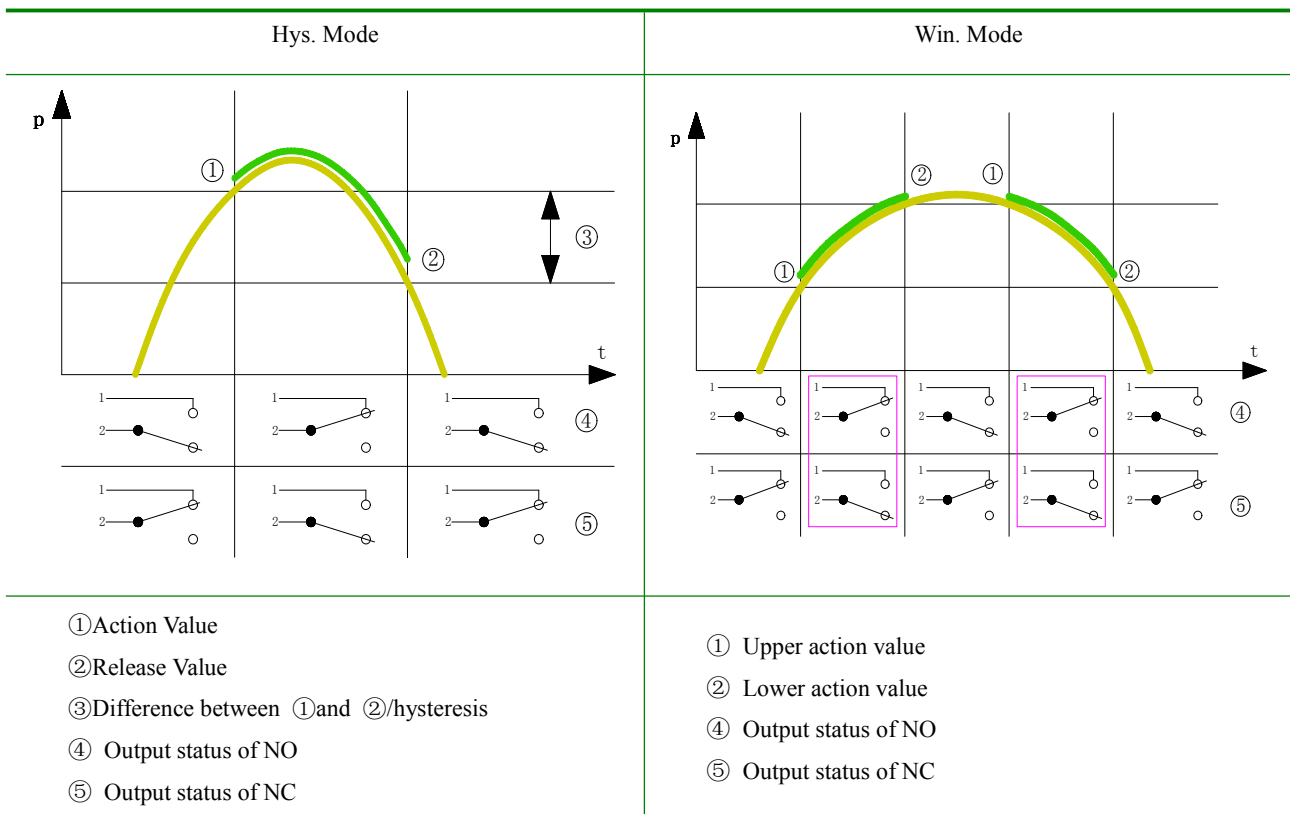


(2) 8-pin plug pin definition and wire connection:

Code	Wire color	2×PNP+ Voltage	2×PNP+ Current
1	Red	VCC	
2	Yellow	K1- Output	
3	Black	GND	
4	Blue	K2-Output	
5	Green	0V~5/10V	0/4mA~20mA
6	Brown	485-A	
7	White	485-B	
8	-		



Switch Action :



Setting range for switch points: Action Value: 1.5%FS~100%FS Release Value: 1%~99.5%FS Action Value-Release Value $\geq$ 0.5%FS	Switch point setting ranges: Upper Action Value: 1.5%FS~100%FS Lower Action Value: 1%~99.5%FS Upper Action Value-Lower Action Value $\geq$ 0.5%FS
Switch action time delay can be set: 0.0s~99.9s	

### Optional Components

- MS801 Mounting Bracket
- MS901 2m RVVP cable with 5-pin M12X1 female right angle plug
- MS902 2m RVVP cable with 8-pin M12X1 female right angle plug

### Order Guide

PSWI5581	Intelligent Pressure Switch					
	Code	Pressure Range	Type	Code	Pressure Range	Type
	G1	0kPa~100kPa	G	A1	0kPa~100kPa	A
	G2	0kPa~350kPa	G	A2	0kPa~350kPa	A
	G3	0kPa~700kPa	G	A3	0kPa~700kPa	A
	G4	0MPa~1.6MPa	G	A4	0MPa~1.6MPa	A
	G5	0MPa~3.5MPa	G	A5	0MPa~3.5MPa	A
	G6	0MPa~7MPa	G	A6	0MPa~7MPa	A
	G7	0MPa~10MPa	G			
	G8	0MPa~20MPa	G			
	G9	0MPa~40MPa	G			
	G10	0MPa~60MPa	G			
		Code	Output			
		2KV	2×PNP+0V~5/10VDC			
		2KA	2×PNP+0/4mA~20mADC			
		Code	Thread			
		C1	M20X1.5 male, face-seal			
		C2	G1/4 male			
		C3	G1/2 male			
		C5	M20X1.5 male, waterline seal			
		C6	1/4NPT male			
		Code	Others			
		R5	5-pin M12X1 male plug			
		R8	8-pin M12X1 male plug for Modbus communication			
PSWI5581	G4	2KA	C2	R5	the whole spec.	

### Notes

1. PSWI5581 standard electric connection is 5-pin M12X1 male plug without Modbus communication.
2. Thread can be customized according to user's request. Please make clear note in purchase order.
3. If users have special request for specifications and functions, please contact our company.