

# Multi-Channel Controller for Detecting Differential Pressure

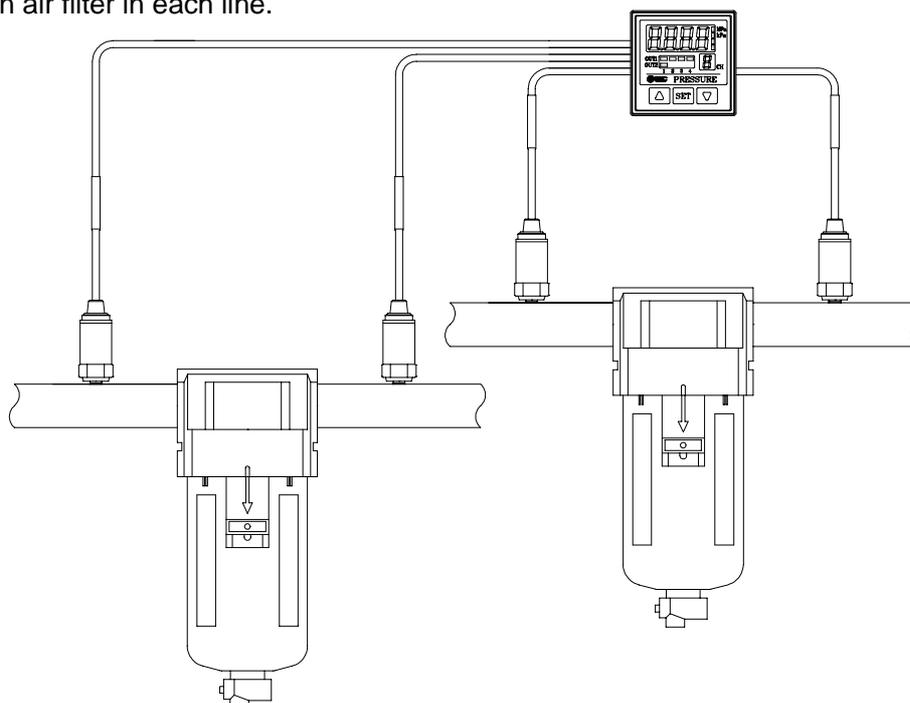
## PSE200-(M)-X101

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### Application: Set and display differential pressure<sup>(\*1)</sup> detected by 2 pressure sensors

Application example:

An air filter needs replacement and maintenance due to clogging of an element. This sensor controller can detect pressures of inlet and outlet of an air filter with 2 pressure sensors independently, and display the differential pressure (The more an element clogs, the more differential pressure becomes large). Setting threshold and outputting signal make it possible to control clogging of an air filter in each line.



**Feature 1: Display differential pressure detected by 2 pressure sensors.**

**Feature 2: A single controller can monitor 2 types of differential pressure.**

**Feature 3: CE Marked**

\*1) It is possible to set and display differential pressures detected by between CH1 and CH2, and also between CH3 and CH4. (CH: Channel)

# Specifications

Model		PSE200-(M)-X101			
Applicable pressure sensor		PSE530	PSE531	PSE532	PSE533
Setting pressure range		-0.1 to 1MPa	10 to -101kPa	-10 to 101kPa	-101 to 101kPa
Setting/ Display resolution (*2)	kPa	—	0.1	0.1	0.1
	MPa	0.001	—	—	—
	kgf/cm <sup>2</sup>	0.01	0.001	0.001	0.001
	bar	0.01	0.001	0.001	0.001
	psi	0.1	0.01	0.01	0.02
	mmHg	—	1	—	1
Output specifications		NPN output (PSE200) PNP output (PSE201)			
Power supply voltage		12 to 24VDC±10%, Ripple(p-p)10% or less (with power supply polarity protection)			
Current consumption		55mA or less (Current consumption for sensor is not included)			
Sensor power supply voltage		[Power supply voltage] - 1.5V			
Sensor current consumption (*3)		Max.40mA (100mA maximum for the total power supply current when 4 sensors are input.)			
Sensor input		1 to 5VDC (Input impedance: Approx. 800k Ω)			
Sensor input	No. of inputs	4 inputs			
	Input protection	With excess voltage protection ( up to 26.4VDC)			
Hysteresis	Hysteresis mode	Variable			
	Window comparator mode	3digits fixed			
Switch output (*4)	No. of outputs	5 outputs (CH1 sensor input: 2 outputs, CH2 to 4 sensor input: 1 output)			
	Maximum load current	80mA			
	Maximum load voltage	30VDC (NPN output)			
	Residual voltage	1V or less (with load current of 80mA)			
Output protection		With short circuit protection			
Response time		5ms or less			
	Anti-chattering function	Response time selections with anti-chattering function: 20ms, 160ms, 640ms			
Repeatability		±0.1%F.S. or less			
Setting/Display accuracy		±0.5%F.S.±1digit or less (at ambient temperature of 25±3°C)			
Display		For measured value display: 4 digits, 7 segment display, Display color: Yellow For channel: 1 digit, 7 segment display, Display color: Red			
Indication light		Red (Light up when output is ON)			
Auto shift input		Non-voltage input (reed or solid state), Input 10ms or more			
Auto identification function (*5)		With auto identification function			
Environmental resistance	Enclosure	Front face: IP65, Others: IP40			
	Ambient temperature range	Operating: 0 to 50°C, Stored: -10 to 60°C (no freezing or condensation)			
	Ambient humidity range	Operating and stored: 35 to 85%RH (no condensation)			
	Vibration resistance	10 to 500Hz at whichever is smaller: 1.5mm amplitude or acceleration of 98m/s <sup>2</sup> in X, Y, Z directions for 2 hours each. (de-energized)			
Impact resistance		980m/s <sup>2</sup> in X, Y, Z directions 3 times for each.(de-energized)			
Temperature characteristics		±0.5%F.S. or less (based on 25°C)			
Connection		Power supply/Output connection: 8P connector, Sensor connection: 4P connector			
Material		Enclosure: PBT, Display: Transparent nylon, Back rubber cover: CR			
Weight		Approx. 60g (power supply/output connecting cable not included)			

\*2) In case of domestic use (Japan), an applicable display unit for PSE200-M-X101 is only MPa or kPa in accordance with the International System of Unit.

\*3) If the power line (DC(+)) side and the GND line(DC(-)) of the sensor input connector are short circuited, the controller inside will be damaged.

\*4) Output specifications are different from the standard PSE200, and differential pressures between CH1and CH2, and also between CH3 and CH4 can be detected. As the operation manual including the setting and displaying method is available, please contact your SMC sales representative.

\*5) Auto identification function comes with Series PSE53\* pressure sensor only.

# How to Order

## PSE200- -X101

Input/Output specifications

0	NPN 5 output + Auto shift input
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Unit specifications

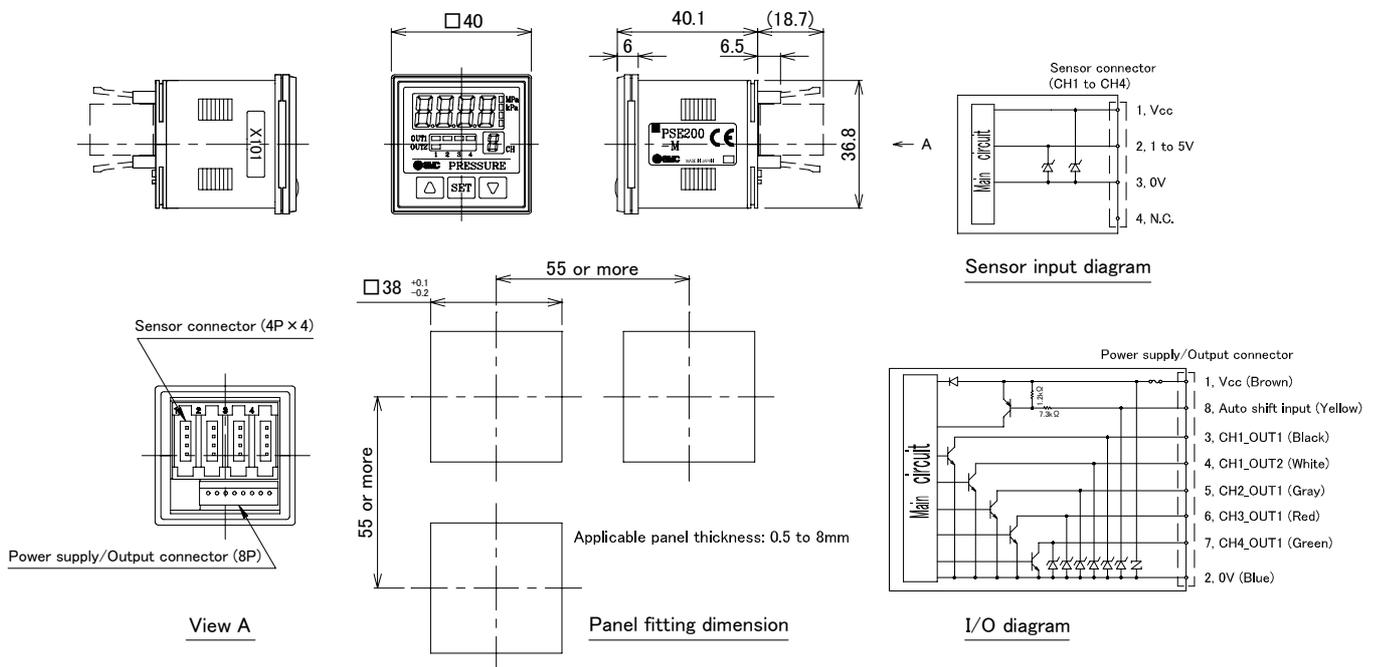
Nil	With unit display switching function(*6)
M	Fixed SI unit (*7)

\*6) Due to International System of Units, one with unit switching function can no longer be used in Japan.

\*7) Fixed units

For vacuum, low & compound pressure: kPa  
For high pressure: MPa

## Dimensions: mm



Note 1: Colors in I/O diagram show the wiring colors at the time of connecting the power supply/output connection cable.

Note 2: The power supply/output connection cable (cable length: 2m) is packaged together. [Cable part number: ZS-26-A].

Note 3: Please refer to the operation manual of -X101 for the pressure setting method of this product and contact with your SMC Sales representative for details.

Note 4: Please refer to the precautions of Series PSE200 other than those for pressure setting.

Note 5: Please refer to our "Best Pneumatics" (general catalog) for selecting sensors and detailed specifications.

**Caution** To ensure the safest possible operation of this product, please be sure to read thoroughly the "Safety Instructions" in our "Best Pneumatics" (general catalog) before use.