



### Features

- 2 output & analog output ( 1 ~ 5 V )
- 10 mm width with compact size
- Key-lock function
- Selectable pressure unit:  
kPa, MPa, kgf / cm<sup>2</sup>, bar, psi, inHg, mmHg
- Applicable for semiconductor manufacturing process, please consult us for further information.

### Specification

Model		MP90P (Positive)	MP90V (Vacuum)	MP90C (Compound)
Rated pressure range		0.000 ~ 1.000 MPa	- 101.3 ~ 0.0 kPa	- 100.0 ~ 100.0 kPa
Setting pressure range		- 0.100 ~ 1.000 MPa	- 101.3 ~ 10.0 kPa	- 101.0 ~ 101.0 kPa
Allowable pressure		1.5 MPa	500 kPa	
Fluid		Filtered Air, Non-corrosive / Non-flammable gas		
Set pressure resolution	KPa	—	0.1	0.1
	MPa	0.001	—	—
	kgf/cm <sup>2</sup> / bar	0.01	0.001	0.001
	psi	0.1	0.01	0.01
	InHg	—	0.1	0.1
	mmHg	—	1	1
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤ 40mA (With no load)		
Switch output		2 NPN : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 30 V DC Residual Voltage : ≤ 1.5 V		2 PNP : open collector 2 outputs Max. Load Current : 125 mA Max. Supply Voltage : 24 V DC Residual Voltage : ≤ 1.5 V
Repeatability		± 0.2% F.S. ±1 digit		
Hysteresis	Hysteresis Mode	Adjustable		
	Window Comparator Mode	Fixed ( 3 digits )		
Response time		≤ 2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
Display		4 digit, 7 segment LED display ( Red ) ( Sampling rate : 5 times / sec.)		
Indicator accuracy		±2% F.S. ±1 digit (Ambient temperature: 25 ± 3°C)		
Switch on indicator		Indicator Red : OUT1 & Indicator Green : OUT2		
Analog Output ( Voltage Output )		Output Voltage : 1 ~ 5 V ± 2.5 % F.S. ( within rated pressure range ) Linearity : ± 1 % F.S. Output Impedance : about 1 kΩ		
Environment	Enclosure	IP40		
	Ambient temp. range	Operation: 0 ~ 50°C, storage : -10 ~ 60°C ( No condensation or freezing)		
	Ambient humidity range	Operation / Storage: 35 ~ 85% RH (No condensation)		
	Withstand voltage	1000V AC in 1-min. (between case and lead wire)		
	Insulation resistance	≥ 50MΩ (at 500V DC, between case and lead wire)		
	Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z		
	Shock	980 m/s <sup>2</sup> (100G), 3 times each in direction of X, Y and Z		

(Continued)

# MP90 Specifications & Order example



## SLIM PRESSURE SENSOR

mindman

### Specification

Model	MP90P (Positive)	MP90V (Vacuum)	MP90C (Compound)
Temperature characteristic	±2% F.S. of detected pressure (25°C) at temp. range of 0 ~ 50°C		
Port size	M5		
Lead wire	ø3.8 Oil-resistance cable ( PVC ) - 26 AWG ( 0.15 mm <sup>2</sup> ) - 5 cores		
Weight ( with 2 meter lead wire )	Approx. 53 g		
Analog Output (Output range 1 to 5 V, proportional to the pressure range)			

### Output circuit wiring graph

Model	MP90□-010-M5	MP90□-030-M5
Connect diagram		
Output method	2 NPN Output + Analog Output ( 1 ~ 5 V )	2 PNP Output + Analog Output ( 1 ~ 5 V )

### Order example

## MP90C – 010 – M5

MODEL

OUTPUT METHOD

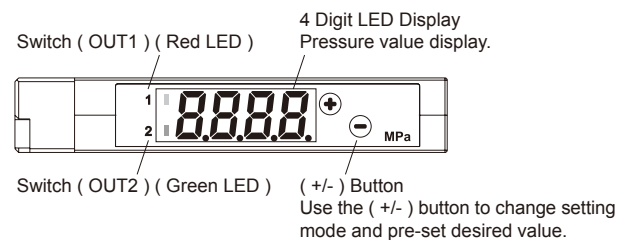
**010:** 2 NPN output & Analog output ( 1 ~ 5 V )  
**030:** 2 PNP output & Analog output ( 1 ~ 5 V )

PRESSURE PORT

PRESSURE RANGE

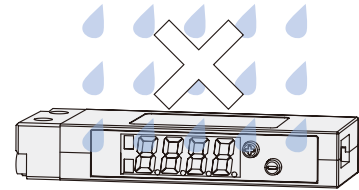
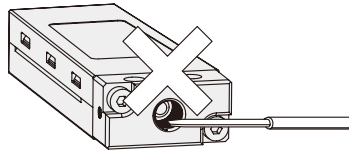
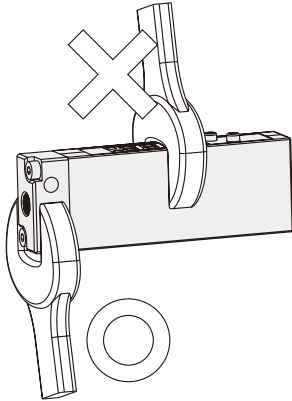
**P:** Positive ( - 0.1~1.0 MPa )  
**V:** Vacuum ( - 101.3~10.0 kPa )  
**C:** Compound ( - 101.0~101.0 kPa )

### Panel instructions



### Installation precautions

- When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.
- Do not use a sharp tool to insert the pressure inlet to avoid damaging the sensor chip.
- Do not use the product in an environment that is exposed to the splash of water or dust. Otherwise failure or malfunction may occur.



### Dimensions

