MP10 series

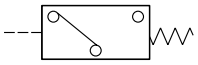
PNEUMATIC **PRESSURE SWITCH**

mindman

User manual

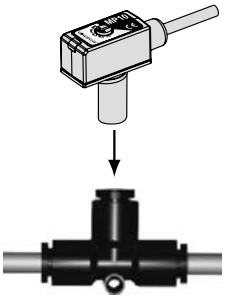
Selection table

Symbol



Features

- Simple installation, plug-in port or thread-in fitting.
- Compact size: 26×10×10.4 mm.
- Setting pressure range.
  Switch: Vacuum (0~ -101.3 kPa)
  Positive (0~0.6 MPa)
  Analog: Compound (-100~100 kPa)
  Compound (-101~500 kPa)
  Low (0~100 kPa)
  Vacuum (0~-101.3 kPa)
  Positive (0~1.0 MPa)
- Low cost.



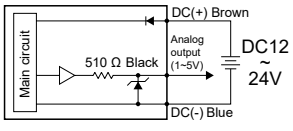
Specification

Model	MP10C	MP10L	MP10V	MP10R	MP10P	MP10V	MP10P	MP10A	MP10B
Output method	01					02 / 04		–	
Type	Analog					Switch		–	
Setting pressure range	-100~100 kPa	0~100 kPa	-101.3 ~0 kPa	-101~500 kPa	0~1.0 MPa	-101.3~0 kPa	0~0.6 MPa	-0.1~0.6 MPa	
Withstand pressure	0.2 MPa			1.5 MPa		0.6 MPa	1.5 MPa	1.5 MPa	
Fluid	Filtered air, Non-corrosive / Non-flammable gas								
Power supply voltage	12 to 24V DC (5% ripple voltage)					10.8 to 30V DC (include ripple voltage)		12 to 24V DC±10% Ripple(P-P) 10% or less	
Load / Leak current	–					80mA max. (Load)		5~40mA / ≤ 1mA	
Internal voltage drop	–					≤ 0.8V		≤ 5V	
Current consumption	10mA max.							–	
Analog output	1~5V ± 1% F.S. / Linearity ± 0.5% F.S.					–		–	
Sensor type	–					NPN or PNP		Present press.≥ Set press.: ON	Present press.≥ Set press.: OFF
Output short circuit protection	–					Yes		None	
Setting method	–					Adjusting by VR			
Response time	–					Approx. 1ms			
Repeatability	–					±1% F.S.			
Hysteresis	–					≤ 3% F.S. max.		≤ 4% F.S.	
Indicator	–					Red LED turns ON			
Enclosure	IP 40								
Temperature characteristic	≤±2% F.S. of detected pressure (25°C) at temp. Range of 0~50°C					≤±3% F.S. of detected pressure (25°C) at temp. Range of 0~50°C			
Ambient temp. range	Operation: 0 ~ 50°C, storage: -20 ~70°C (No condensation or freezing)					Operation: 0 ~ 60°C, storage: -20 ~70°C (No condensation or freezing)			
Ambient humidity range	Operation / Storage: 35~85% RH (No condensation)								
Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, two hours each direction of X, Y and Z								
Shock	980m/s^2 (100G),3 times each in direction of X, Y and Z								
Port size	ø4mm. ø6mm, R1/8, NPT1/8, G1/8, M5								
Lead wire	Oil-resistance cable, 3 wires (0.18mm^2), ø2.6mm							Oil-resistance cable, 2 wires (0.18mm^2), ø2.6mm	
Weight	Approx. 50 g (with 3 meter lead wire)								

Circuit wiring diagram

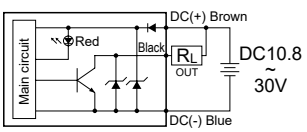
MP10□-01

Analog Output (1~5V)

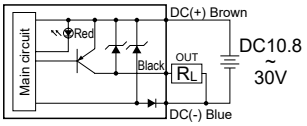


MP10□-02/04

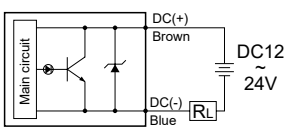
NPN

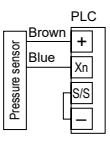


PNP

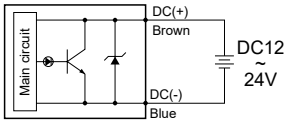


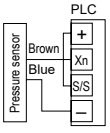
MP10A / MP10B





Connection to PNP input module

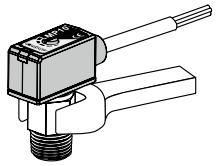


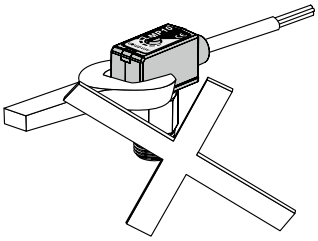


Connection to NPN input module

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.
- Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply pressure and power after installation and make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.

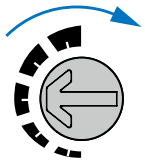




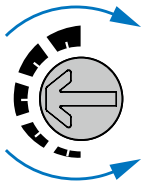
How to set pressure

- Use the pressure setting trimmer to set "ON" pressure.
  Rotate clockwise to increase pressure setpoint.
  Rotate counter-clockwise to decrease pressure setpoint.
- Use appropriate size screwdriver for the setting trimmers.
  Gently turn the screwdriver to make adjustments.
  To prevent damage to the Pressure setting trimmer, DO NOT force the trimmer when it comes to a stop.

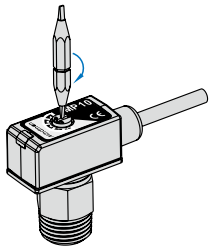
MP10□-02/04
Positive & Vacuum



MA10A / MA10B
Positive



Vacuum



Order example

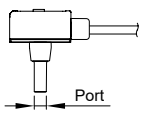
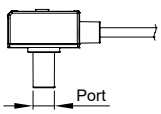
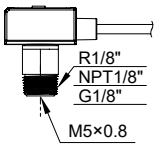
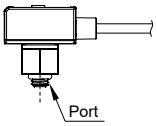
MP10P — 01— R4 — □

MODEL

PRESSURE RANGE	OUTPUT METHOD
C: Compound (-100~100 kPa)	**01**: Analog output (1~5V)
R: Compound (-101~500 kPa)	
L: Low (0~100 kPa)	
V: Vacuum (0~ -101.3 kPa)	
P: Positive (0~1.0 MPa)	
V: Vacuum (0~ -101.3 kPa)	**02**: NPN output **04**: PNP output
P: Positive (0~0.6 MPa)	
A: Switch turns ON when the pressure is larger than setting pressure	–
B: Switch turns OFF when the pressure is larger than setting pressure.	

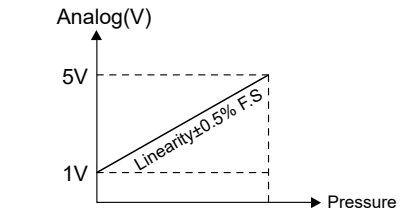
CABLE LENGTH / CONNECTOR
Blank: With 3 meter cable
C: With M8, 3 Pin male connector

PRESSURE PORT

	R4	R6	F1 / F2 / F3	M5
Drawing				
Port size	**R4**: ø4mm	**R6**: ø6mm	**F1**: R1/8", M5×0.8 **F2**: NPT1/8", M5×0.8 **F3**: G1/8", M5×0.8	**M5**: M5×0.8

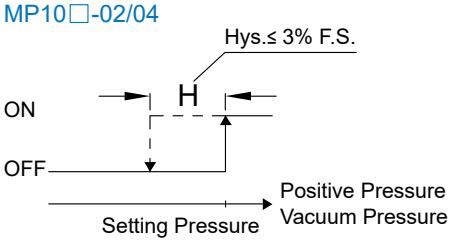
Output type

MP10□-01 Analog Output (1~5V)

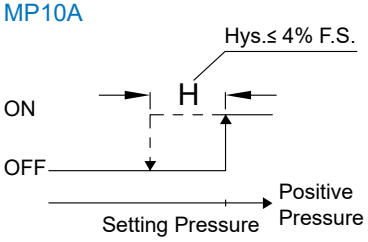


Compound	-100 kPa	100 kPa
Compound	-101 kPa	500 kPa
Low	0 kPa	100 kPa
Vacuum	0 kPa	-101.3 kPa
Positive	0 MPa	1.0 MPa

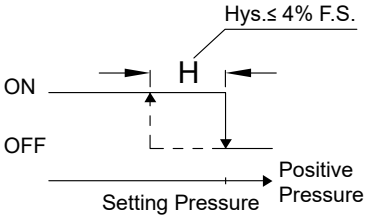
MP10□-02/04



MP10A

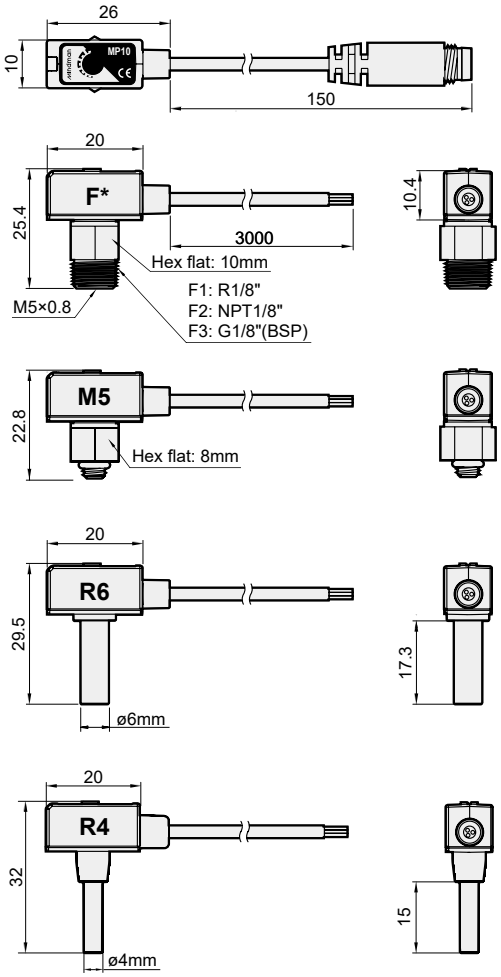


MP10B



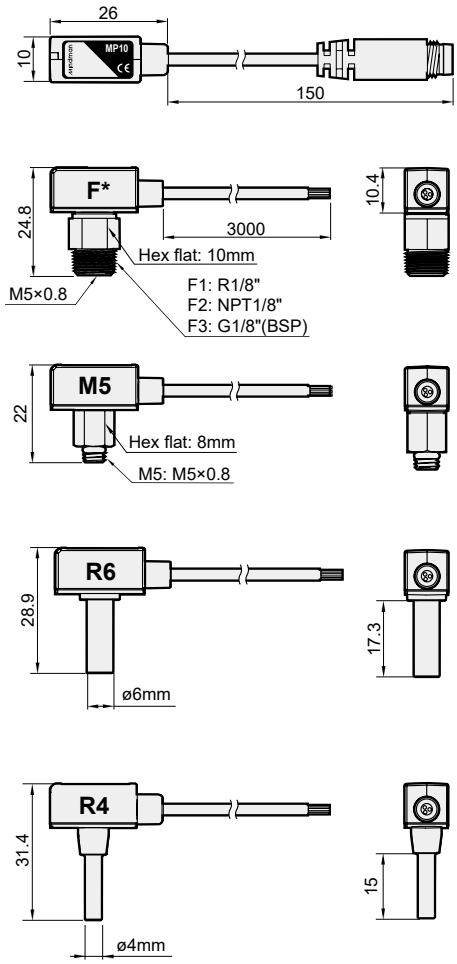
Dimensions

MP10□-02/04 / MA10A / MA10B



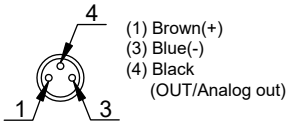
MP10□-01

Unit: mm

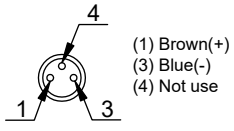


QD Pinout

MP10□-02/04

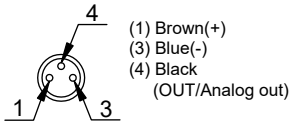


MP10A/B



QD Pinout

MP10□-01

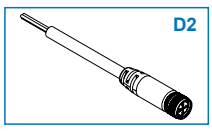


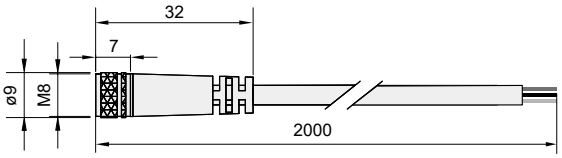
Mounting accessories (Option)

MP – D2

MODEL

OPTION PARTS
D2: M8, 3 Pin female connector
(M83R-W0114-2M)



MP-D2

M8, 3 Pin female connector