

MP70 series

HIGH PRECISION DIGITAL PRESSURE SWITCH



User manual



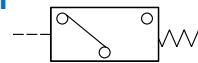
Selection table



Features

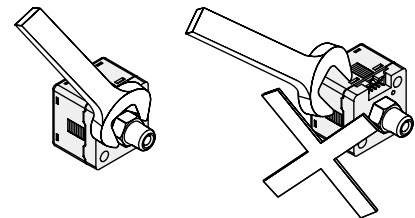
- Smart pressure sensor.
- Remote control. Real-time monitoring.
- RS-485 modbus RTU / ASCII.
- 4 digit, 7 segment LCD display.
- Programmable pressure unit: kPa, MPa, kgf/cm², bar, psi, inHg, mmHg.
- IP40 enclosure.
- Applicable for semiconductor manufacturing process, please consult us for further information.

Symbol



Installation precautions

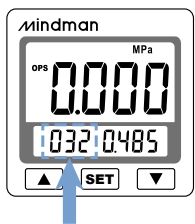
- When mounting, always use the wrench on the metallic area near the pressure port. Never apply a wrench to the plastic body, it will damage the sensor.
- Over tightening may cause damages to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply pressure and power after installation and make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.



Features highlight

Station setting display

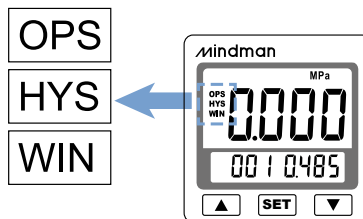
- Provide 0~255 station to set the sensor.



ID number display

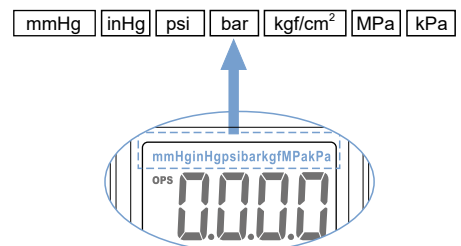
Modes display

- 3 modes show on the screen.



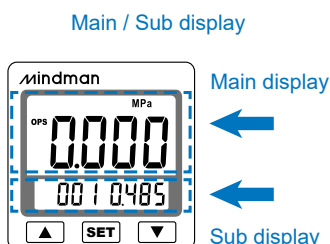
Easy unit identification

- Conversion unit is on display and easy to read.



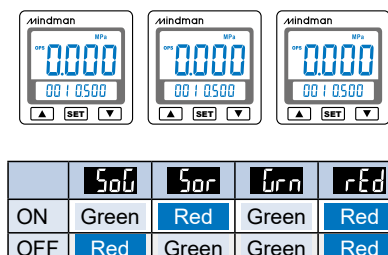
Setting value easy indication

- User can easily observe the setting value from sub display.



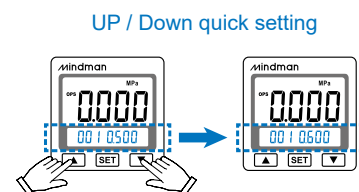
2 color display

- User programmable color mode for different setting conditions.



OPS quick setting

- Sub display allows changing the parameter directly, reduce setting step by 3/4.



Specification

Model		MP70P (Positive)	MP70V (Vacuum)	MP70C (Compound)
Rated pressure range		0 ~ 1.0 MPa	- 101.3~0.0 kPa	- 100.0~100.0 kPa
Setting pressure range		- 0.10 ~ 1.0 MPa	- 101.3 ~10.0 kPa	- 101.0~101.0 kPa
Withstand pressure		1.5 MPa	500 kPa	
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	KPa, MPa	— / 0.001	0.1 / —	
	kgf/cm ² / bar	0.01	0.001	
	psi	0.1	0.01	
	InHg	—	0.1	
	mmHg	—	1	
Power supply voltage		12 to 24V DC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤ 40mA (With no load)		
Switch output		NPN: open collector 1 output Max. load current: 125mA Max. supply voltage: 30V DC Residual voltage: ≤1.5V	PNP: open collector 1 output Max. load current: 125mA Max. supply voltage: 24V DC Residual voltage: ≤1.5V	
Repeatability (Switch output)		≤ ± 0.2% F.S. ±1 digit		
Hysteresis Hysteresis mode / Window comparator mode		Adjustable (*1)		
Response time		≤ 2.5ms (*2)		
Output short circuit protection		Yes		
7 segment LCD display		4 digital, 7 segment LCD display (Red / Green / Orange) (Sampling rate : 0.2, 0.5, 1 seconds / time selectable)		
Indicator accuracy		±2% F.S. ±1 digit (Ambient temperature: 25 ± 3°C)		
Switch ON Indicator		Orange indicator 1: OUT		
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		100m/s ² (10G), 3 times each in direction of X, Y and Z		
Temperature characteristic		±2.5% F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Communication interface		RS-485 (*3)		
Port size (Male / Female thread)		F1: R1/8", M5; F2: NPT1/8", #10-32 UNF; F3: G1/8"(BSPP), M5		
Lead wire		ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 5 cores		
Weight		Approx. 80 g (with 2 meter lead wire)		

*1. Hysteresis value is adjustable within 1~8 digits for one point set mode and window comparator mode.

*2. Chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms, 1500ms, 2000ms and 5000ms selectable.

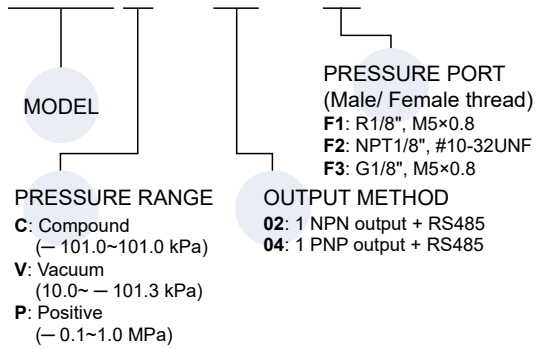
*3. Read pressure sensor data range 1~4 data number.

Output circuit wiring graph

Model	MP70□-02-□	MP70□-04-□
Connect diagram		
Output method	NPN output + RS485	PNP output + RS485

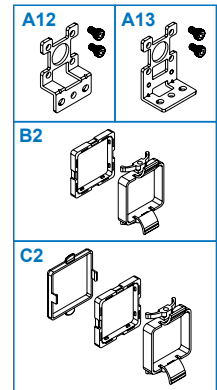
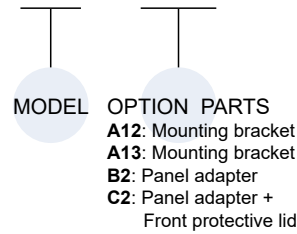
Order example

MP70C — 02 — F1

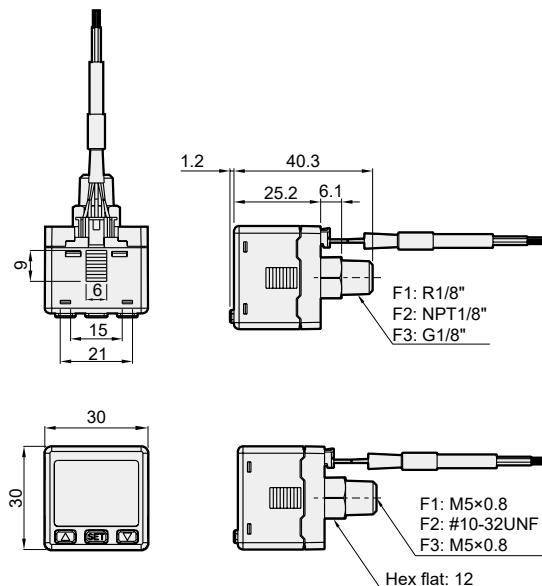


Mounting accessories (Option)

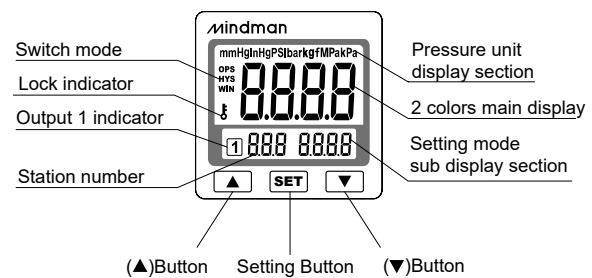
MP — A12



Dimensions

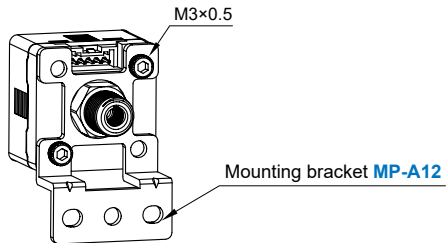


Panel instructions

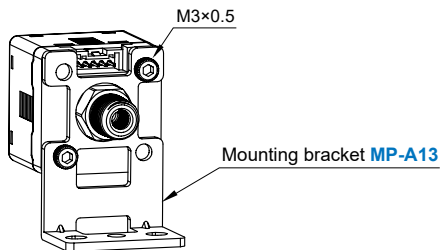
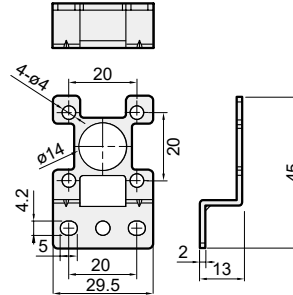


Mounting accessories

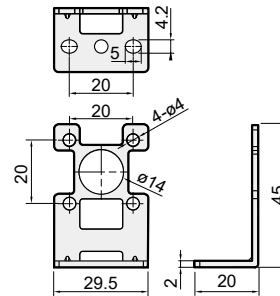
Mounting bracket



MP-A12



MP-A13



Panel type

