

MP43 series

HIGH PRECISION DIGITAL PRESSURE SWITCH



User manual



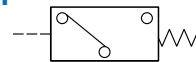
Selection table



Features

- 3 color digital LCD display.
- Copy function.
- Programmable pressure unit: kPa, MPa, kgf/cm², bar, psi, mmHg, inHg.
- Dual LCD display allow setting value to be displayed.
- Key lock indicator.
- Power saving mode.
- Applicable for semiconductor manufacturing process, please consult us for further information.

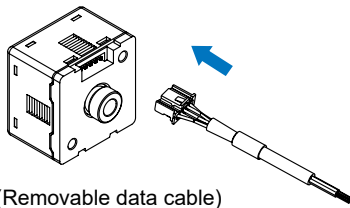
Symbol



Features highlight

Quick installation

- Save installation time.
- Easy removal.

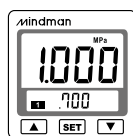


(Removable data cable)

Copy setting

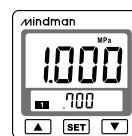
- Reduce setting time.
- Avoid setting errors.

Master
(Original parameter)



Copy

Slave
(Copied)



Can copy the setting value from master to slave sensor.

Easy unit identification

- Conversion unit is on display and easy to read.

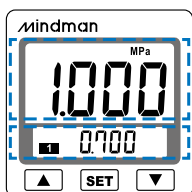
mmHg inHg psi bar kgf/cm² MPa kPa



Setting Value Easy Indication

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

Main/Sub-Display

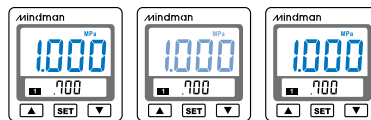


Main Display

Sub-Display

2-Color Main display

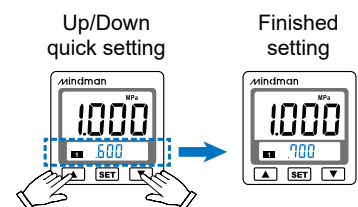
- User programmable color mode, for different setting conditions.



	SoL	SoR	Grn	Red
ON	Green	Red	Green	Red
OFF	Red	Green	Green	Red

OPS Quick Setting

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



MP43 Specification

HIGH PRECISION DIGITAL PRESSURE SWITCH



Specification

Model		MP43C (Compound)	MP43V (Vacuum)	MP43P (Positive)
Rated pressure range		−100.0~100.0 kPa	−101.3 ~0.0 kPa	0 ~ 1.0 MPa
Set pressure range		−101.0~101.0 kPa	−101.3 ~ 10.0 kPa	−0.1 ~ 1.0 MPa
Withstand pressure		300 kPa		1.5 MPa
Fluid		Filtered air, Non-corrosive / Non-flammable gas		
Set pressure resolution	KPa / MPa	0.1 / —		— / 0.001
	kgf/cm ² / bar	0.001		0.01
	psi	0.01		0.1
	mmHg	1		—
	InHg	0.1		—
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 2 outputs Max. load current : 125mA Max. supply voltage: 30V DC Residual voltage : ≤1.5V PNP: open collector 2 outputs Max. load current : 125mA Max. supply voltage: 24V DC Residual voltage : ≤1.5V		
Repeatability (Switch output)		± 0.2% F.S. ±1digit		
Hysteresis Hysteresis mode / Window comparator mode		Adjustable(*1)		
Response time		≤2.5ms (chattering-proof function: 25ms, 100ms, 250ms, 500ms, 1000ms and 1500ms selectable)		
Output short circuit protection		Yes		
7 segment LCD display		3½ digital, 7 segment LCD display (Red / Green / Orange) (Sampling rate: 5 times/sec.)		
Indicator accuracy		±2% F.S. ±1 digit (Ambient temperature: 25 ± 3°C)		
Switch ON Indicator		Orange indicator 1: OUT1 & Orange indicator 2: OUT2		
Analog output (Voltage Output) (*2)		Output Voltage: 1 to 5V ±2.5%F.S. (within rated pressure range) Linearity: ±1% F.S. Output impedance: about 1kΩ		
Analog output (Current Output) (*3)		Output Current: 4 to 20mA ±2.5%F.S. (within rated pressure range); Linearity: ±1% F.S. Max. load impedance: 300Ω at power supply of 12V, 600Ω at power supply of 24V Min. load impedance: 50Ω		
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	50M Ω (at 500V DC, between case and lead wire)		
	Vibration	Total amplitude 1.5mm or 10G, 10Hz-55Hz-10Hz scan for 1 minute, 2 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		
Port size		F1: R1/8, M5×0.8; F2: NPT1/8, #10~32UNF; F3: G1/8, M5×0.8		
Lead wire		ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm ²) - 5 cores		
Weight		Approx. 80g (with 2 meter lead wire)		

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

*2. If analog voltage output is selected, the analog current output cannot be selected at the same time.

*3. If analog current output is selected, the analog voltage output cannot be selected at the same time.

MP43 Dimensions

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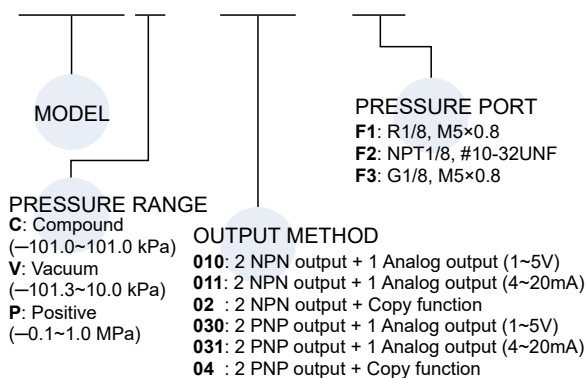
Output circuit wiring graph

Model	MP43□-010	MP43□-011	MP43□-02
Connect diagram			
Output method	2 NPN+Analog(Voltage) output (1~5V)	2 NPN+Analog(Current) output (4~20mA)	2 NPN+Copy function

Model	MP43□-030	MP43□-031	MP43□-04
Connect diagram			
Output method	2 PNP+Analog(Voltage) output (1~5V)	2 PNP+Analog(Current) output (4~20mA)	2 PNP+Copy function

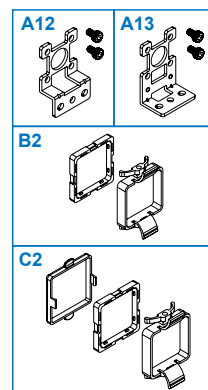
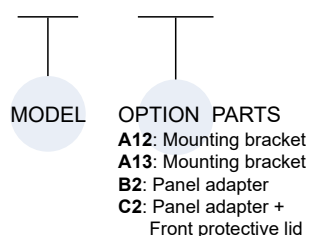
Order example

MP43C — 010 — F1

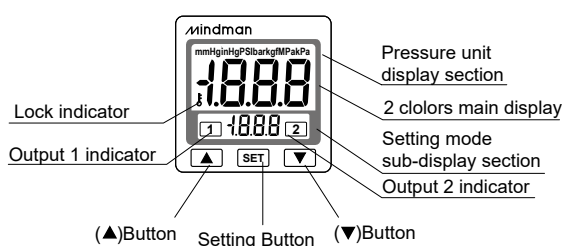


Mounting accessories (Option)

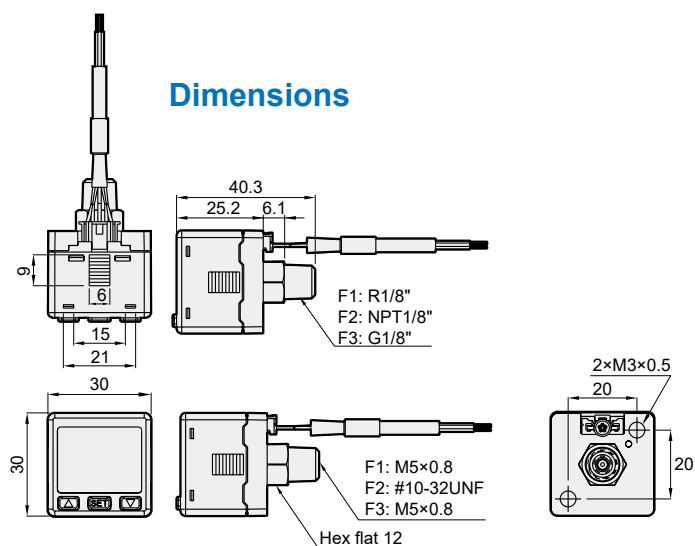
MP — A12



Panel instructions

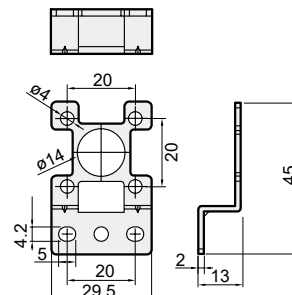
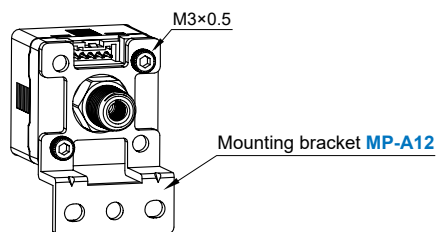


Dimensions

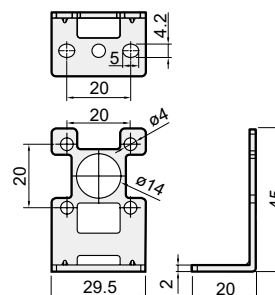
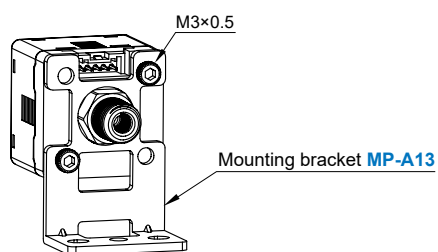


Mounting bracket

MP-A12

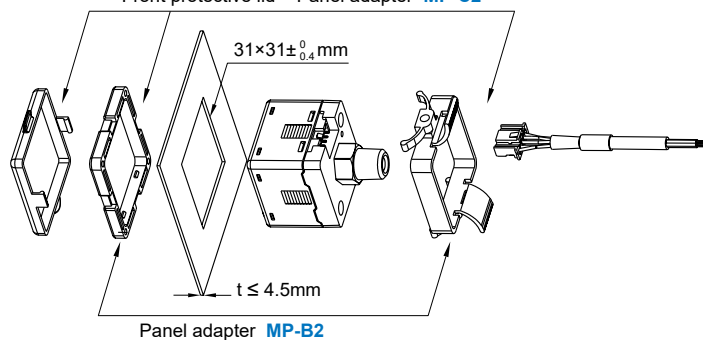


MP-A13



Panel type

Front protective lid + Panel adapter MP-C2



Panel adapter MP-B2

