

MP1 series

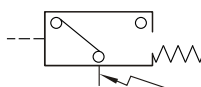
PNEUMATIC PRESSURE SWITCH



Features:

- High Repeatability : $\pm 1\%$ F.S.
- Quick response : 5ms.
- Hysteresis adjustable .
- Low cost.

Symbol:



Specification:

Model	MP1-1 (Vacuum)	MP1-2 (Low pressure)	MP1-3 (Positive)
Operating /Setting pressure range	-101 to 0 kPa	0 to 100 kPa	0 to 1 Mpa
Allowable pressure	500kPa		1.5MPa
Fluid	Air, Non-corrosive/Non-flammable gas		
Power supply voltage	12 to 24VDC $\pm 10\%$, Ripple (P-P) 10% or less		
Response time	5ms or less		
Repeatability	$\pm 1\%$ F.S.		
Current consumption	1output : NPN & PNP : 21mA MAX., 2 output : 25mA MAX.		
Environment	Enclosure	IP40	
	Ambient temp. range	Operation: 0 ~ 50°C, Storage: -20 ~ 60°C (No condensation or freezing)	
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)	
	Withstand voltage	1000VAC in 1-min (between case and lead wire)	
	Insulation resistance	50Mohm min. (at 500VDC M, between case and lead wire)	
	Vibration	Total amplitude 1.5mm, 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		
Temperature characteristic	$\pm 3\%$ F.S. (Standard : 25 °C)		
Port size	1/8"PT, M5; 1/8"NPT, M5; 1/8"G, M5.		
Weight	50g(each including 1M lead wires)		

Output specification:

Model	MP1 - □ - 01	MP1 - □ - 02	MP1 - □ - 03
Connect diagram			
Output method	NPN open collector 30V 80mA	PNP open collector 80mA	NPN open collector 30V 80mA
Hysteresis	1~10% of setting pressure (Adjustable)		3% F.S. or less (Fixed)
Setting points	1Point		2Point
Operation indicating lamp	Light at ON (Red)		Light at ON (out1 Red, out2 Green)

MP1 Order example

PNEUMATIC PRESSURE SWITCH



Order example:

MP1 - 1 - 01 - 01 - NPT

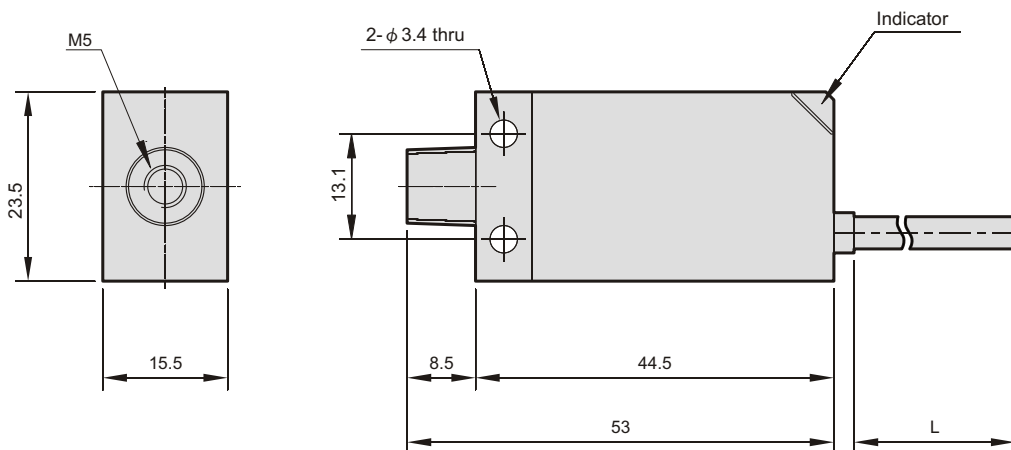
MODEL

OUTPUT METHOD
01: NPN 1 output
02: PNP 1 output
03: NPN 2 output

PRESSURE RANGE
1: Vacuum
2: Low Pressure
3: Positive

CABLE LENGTH / FITTING TYPE
01: L=1000 mm
03: L=3000 mm
C: M8 male connector

PORT THREAD
Blank: PT 1/8 thread
NPT: NPT 1/8 thread
G: G 1/8 thread



MP20 / MP25 series

HIGH PRECISION DIGITAL PRESSURE SWITCH



Features:

- Pressure range : Compound -100.0~100 kPa
Positive 0~1MPa
Vacuum 0~-101.3kPa.
- Two switch output & one analog output.
- Hysteresis adjustable.
- High accuracy and Resolution.
- Low cost.
- Pressure unit selectable : KPa, MPa, kgf/cm², psi, bar, mmHg, InHg, mmH₂O.

Specification:

Model		MP20/25C (Compound)	MP20/25V (Vacuum)	MP20/25P (Positive)
Rated pressure range		-100.0~100.0 kPa	0.0 ~ -101.3kPa	0.000 ~ 1.000MPa
Operating / Setting pressure range		-100.0~100.0 kPa	10.0 ~ -101.3kPa	-0.100 ~ 1.000MPa
Allowable pressure		300 kPa		1.5 MPa
Fluid		Air, Non-corrosive gases ,incombustible gases		
Set pressure resolution	KPa	0.1		—
	MPa	—		0.001
	kgf/cm ² , bar	0.001		0.01
	psi	0.001		0.01
	mmHg	1		—
	InHg	0.1		—
	mmH ₂ O	0.1		—
Power supply voltage		12 to 24VDC 10%, Ripple (P-P) 10% or less		
Current consumption		≤55mA		
Switch output		NPN or PNP open collector 2 outputs Max. load current : 80mA Max. supply voltage: NPN:30VDC, PNP:24VDC Residual voltage : ≤1V (load current 80mA)		
Repeatability(Switch output)		≤ ± 0.2% F.S. ± 1digit		
Hysteresis	Hysteresis mode	Adjustable		
	Window comparator mode	Fixed(3 digits)		
Response time		≤2.5ms (chattering-proof function: 24ms, 192ms and 768ms selections)		
Output short circuit protection		Yes		
7 segment LED display		3 1/2 digit LED display (Sampling rate: 5 times/1sec.)		
Indicator accuracy		≤±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Indicator		Green LED (OUT1) Red LED (OUT2)		
Analog output *(Only type MP20□-01, MP20□-03)		Output voltage: 1 to 5V ≤ 5% (within rated pressure range) Linearity: ≤ 1% F.S.	Output voltage: 1 to 5V ≤ 2.5% (within rated pressure range) Linearity: ≤ 1% F.S.	
Environment	Enclosure	MP20: IP40 , MP25: IP65		
	Ambient temp. range	Operation: 0 ~ 50°C,Storage:-20 ~ 60°C(No condensation or freezing)		
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)		
	Withstand voltage	1000VAC in 1-min (between case and lead wire)		
	Insulation resistance	50Mohm min. (at 500VDC M, between case and lead wire)		
	Vibration	Total amplitude 1.5mm, 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		

MP20 / MP25 Dimensions

HIGH PRECISION DIGITAL PRESSURE SWITCH



Specification:

Model	MP20/25C (Compound)	MP20/25V (Vacuum)	MP20/25P (Positive)
Temperature characteristic	$\pm 2\%$ F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Lead wire	Oil-resistance cable(0.15mm ²)		
Weight	Appro 105g(with 2-meter lead wire), Appro 71g(with meter connector)		

Output circuit wiring graph:

Model	MP20/25□-01	MP20/25□-02
Connect diagram		
Output method	NPN output	NPN output
Model	MP20/25□-03	MP20/25□-04
Connect diagram		
Output method	PNP output	PNP output

Order example:

MP20C - 01 - F1 - QD - A

MODEL
MP20: (IP40)
MP25: (IP65)

PRESSURE PORT

Female thread Male thread
F1 : PT 1/8 M1: PT 1/8
F2 : NPT 1/8 M2: NPT 1/8
F3 : G 1/8 N1: PT 1/4
 N2: NPT 1/4

PRESSURE RANGE
C: Compound
(-100.0~100.0 kPa)
V: Vacuum
(0.0~ -101.3 kPa)
P: Positive
(-0.10~1.00 Mpa)

OUTPUT METHOD

01: 2 NPN output & Analog output
02: 2 NPN output
03: 2 PNP output & Analog output
04: 2 PNP output

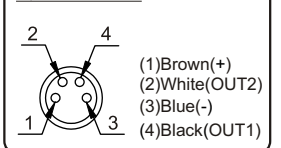
OPTION SPARE PART

A: Mounting bracket (BT-1+BT-2)
B: Panel adapter (PA-1+PA-2)
C: Panel adapter + Front protective lid (PA-1+PA-2+FPC-1)

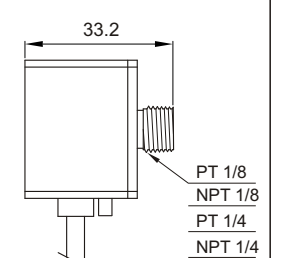
CABLE LENGTH /CONNECTOR

Blank: With 2 meter cable
QD: With M8, 4 Pin male connector
(Only type MP20□-02, MP20□-04)

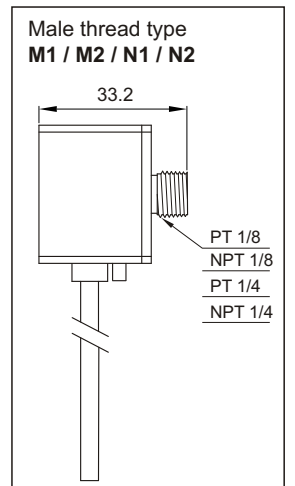
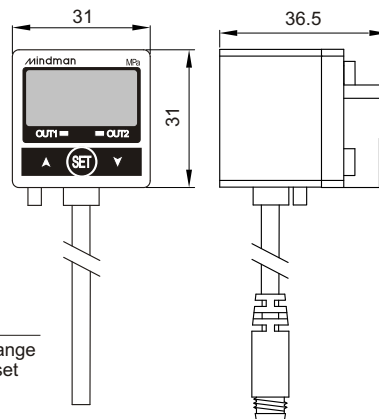
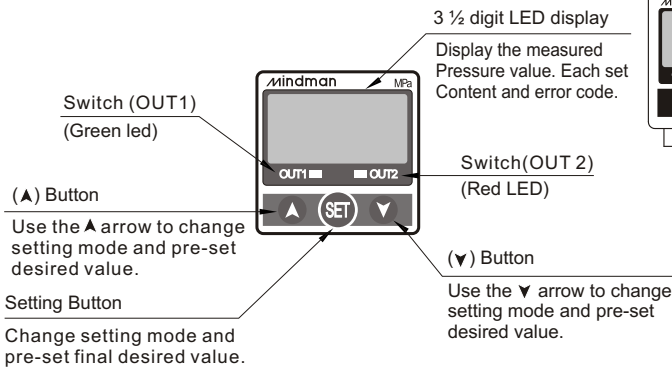
QD PINOUT



Male thread type
M1 / M2 / N1 / N2



Unit dimension / Panel instructions



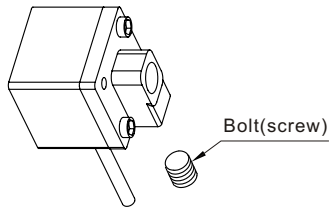
MP20 / MP25 / MP23 Accessory

HIGH PRECISION DIGITAL PRESSURE SWITCH

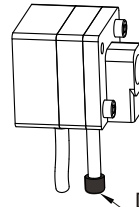


Installation:

1. This product has two inlet pressure ports, select the one most convenient for installation.
2. Please plug the unused inlet port with supplied port plug. Use seal tape to prevent pressure leak.



MP25 Accessory:



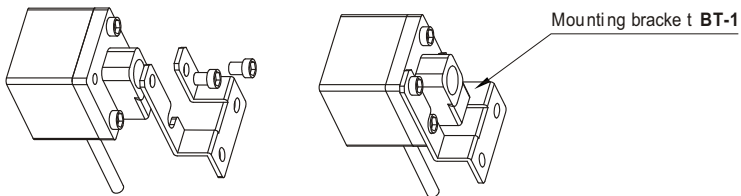
Caution:

This device must be installed to maintain IP 65 (Dust and splash proof) enclosure rating.

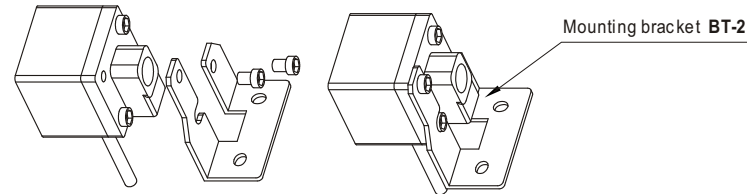
Dustproof protector

Type of spare parts / Dimension graph:

Mounting bracket

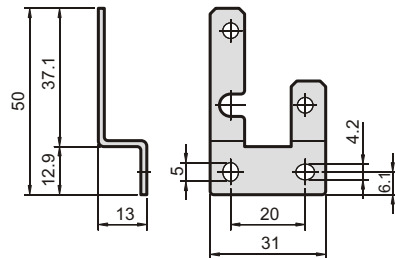


Mounting bracket BT-1

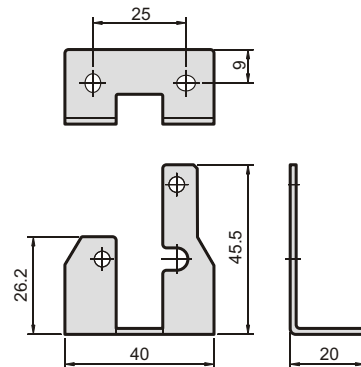


Mounting bracket BT-2

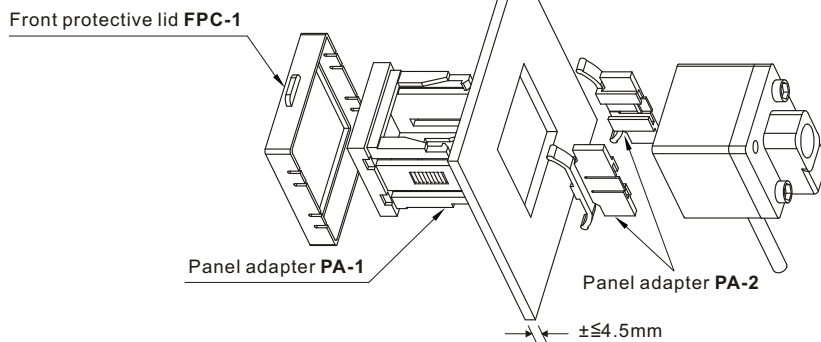
BT-1



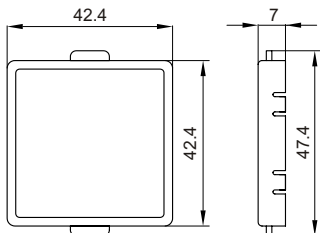
BT-2



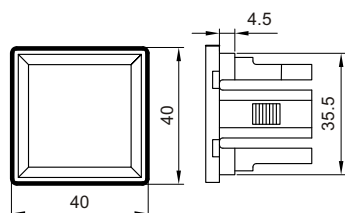
Panel type



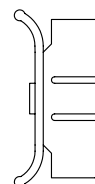
FPC-1



PA-1



PA-2



MP23 series

DIGITAL PRESSURE GAUGE



Features:

- Pressure range : Compound -100~100 kPa
Positive 0~1MPa.
- High accuracy and Resolution.
- Low cost.

Specification:

Model		MP23C (Compound)	MP23P (Positive)
Operating pressure range		-100.0~100.0 kPa	-0.100 ~ 1.000MPa
Allowable pressure		300 kPa	1.5 MPa
Fluid		Air, Non-corrosive gases ,incombustible gases	
Power supply voltage		12 to 24VDC 10%, Ripple (P-P) 10% or less	
Current consumption		≤55mA	
7 segment LED display		3 1/2 digit LED display (Sampling rate: 5 times/1sec.)	
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3℃)	
Environment	Enclosure	IP40	
	Ambient temp. range	Operation: 0 ~ 50℃,Storage:-20 ~ 60℃ (No condensation or freezing)	
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)	
	Withstand voltage	1000VAC in 1-min (between case and lead wire)	
	Insulation resistance	50Mohm min. (at 500VDC M, between case and lead wire)	
	Vibration	Total amplitude 1.5mm,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	
Temperature characteristic		≤2% F.S. of detected pressure (25℃) at temp. Range of 0~50℃	
Port size		F1:PT 1/8, F2:NPT 1/8, F3:G 1/8	
Lead wire		2-Conductor Oil-resistance cable(0.15mm ²)	
Weight		Appro 102g(with 2-meter lead wire)	

Order example:

MP23C – F1 – QD – A

MODEL

PRESSURE RANGE
C: Compound
 (- 100.0~100.0 kPa)
P: Positive
 (- 0.10~1.00 Mpa)

PRESSURE PORT
F1: PT 1/8
F2: NPT 1/8
F3: G 1/8

OPTION SPARE PART

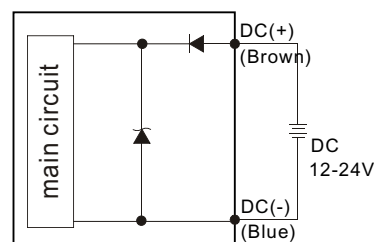
A: Mounting bracket (BT-1+BT-2)
B: Panel adapter (PA-1+PA-2)
C: Panel adapter + Front protective lid
 (PA-1+PA-2+FPC-1)

※Use the same option spare part with MP20.

CABLE LENGTH /CONNECTOR

Blank: With 2 meter cable
QD: With M8, 4 Pin male connector

Circuit wiring graph:

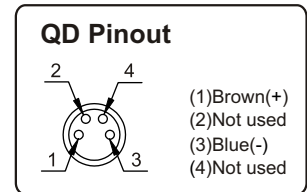
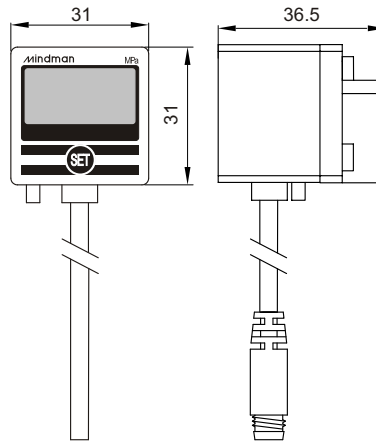
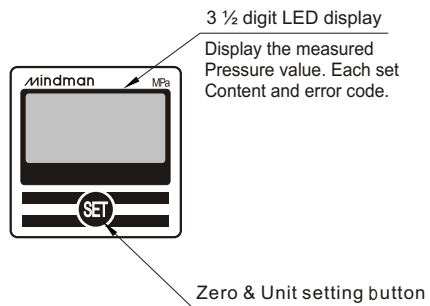


MP23 Dimensions

DIGITAL PRESSURE GAUGE

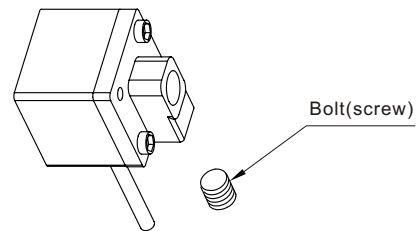


Unit dimension / Panel instructions



Installation:

1. This product has two inlet pressure ports, select the one most convenient for installation.
2. Please plug the unused inlet port with supplied port plug. Use seal tape to prevent pressure leak.



※ Use the same mounting bracket with **MP20**.

MP30 series

HIGH PRECISION DIGITAL PRESSURE SWITCH



Features:

- Pressure range : Compound -100.0~100 kPa
Positive 0~1MPa
Vacuum 0~-101.3kPa.
- Two switch output & one analog output.
- Hysteresis adjustable.
- High accuracy and Resolution.
- Low cost.

Specification:

Model		MP30C (Compound)	MP30V (Vacuum)	MP30P (Positive)
Rated pressure range		-100.0~100.0 kPa	0.0 ~ -101.3kPa	0.000 ~ 1.000MPa
Operating / Setting pressure range		-100.0~100.0 kPa	10.0 ~ -101.3kPa	-0.100 ~ 1.000MPa
Allowable pressure		300 kPa		1.5 MPa
Fluid		Air, Non-corrosive gases, incombustible gases		
Set pressure resolution	KPa	0.1		—
	MPa	—		0.001
	kgf/cm ² , bar	0.001		0.01
	psi	0.001		0.01
	mmHg	1		—
	InHg	0.1		—
	mmH ₂ O	0.1		—
Power supply voltage		12 to 24VDC 10%, Ripple (P-P) 10% or less		
Current consumption		≤55mA		
Switch output		NPN or PNP open collector 2 outputs Max. load current : 80mA Max. supply voltage: 30VDC Residual voltage : ≤1V (load current 80mA)		
Repeatability(Switch output)		± 0.2% F.S. ± 1 digit		
Hysteresis	Hysteresis mode	Adjustable		
	Window comparator mode	Fixed(3 digits)		
Response time		≤ 2.5ms (chattering-proof function: 24ms, 192ms and 768ms selections)		
Output short circuit protection		Yes		
7 segment LED display		3 1/2 digit LED display (Sampling rate: 5 times/1sec.)		
Indicator accuracy		±2% F.S. ±1 digit (ambient temperature: 25 ±3°C)		
Indicator		Green LED (OUT1) Red LED (OUT2)		
Analog output *(Only type MP30□-01, MP30□-03)		Output voltage: 1 to 5V ≤ 5% (within rated pressure range) Linearity: ≤ 1% F.S.	Output voltage: 1 to 5V ≤ 2.5% (within rated pressure range) Linearity: ≤ 1% F.S.	
Environment	Enclosure	IP40		
	Ambient temp. range	Operation: 0 ~ 50°C, Storage: -20 ~ 60°C (No condensation or freezing)		
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)		
	Withstand voltage	1000VAC in 1-min (between case and lead wire)		
	Insulation resistance	50Mohm min. (at 500VDC M, between case and lead wire)		
	Vibration	Total amplitude 1.5mm, 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		

MP30 Dimensions

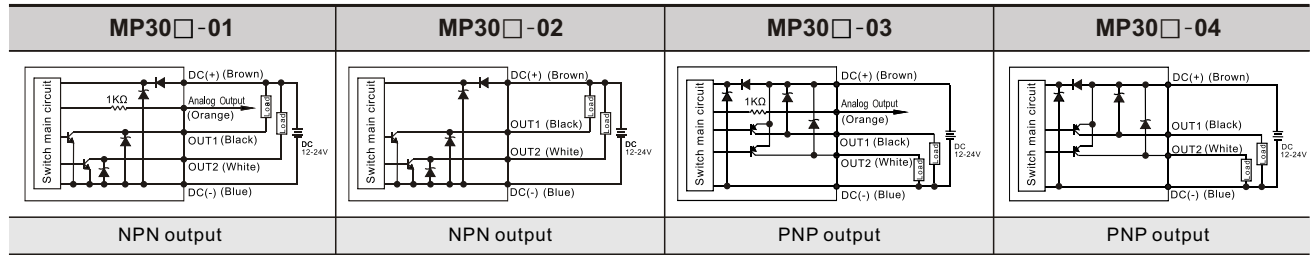
HIGH PRECISION DIGITAL PRESSURE SWITCH



Specification:

Model	MP30C (Compound)	MP30V (Vacuum)	MP30P (Positive)
Temperature characteristic	$\leq 2\%$ F.S. of detected pressure (25°C) at temp. Range of 0~50°C		
Port size	F1:PT 1/8,M5; F2:NPT 1/8,M5; F3:G 1/8,M5		
Lead wire	Oil-resistance cable(0.15mm ²)		
Weight	Appro 67g(with 2-meter lead wire), Appro 35g(with meter connector)		

Output circuit wiring graph:



Order example:

MP30C – 01 – F1 – QD

MODEL

PRESSURE RANGE
C: Compound
 (-100.0~100.0 kPa)
V: Vacuum
 (0.0~-101.3 kPa)
P: Positive
 (-0.10~1.00 Mpa)

PRESSURE PORT

F1: PT 1/8
F2: NPT 1/8
F3: G 1/8

OUTPUT METHOD

01: 2 NPN output & Analog output
02: 2 NPN output
03: 2 PNP output & Analog output
04: 2 PNP output

CABLE LENGTH /CONNECTOR

Blank: With 2 meter cable
QD: With M8, 4 Pin male connector
 (Only type MP30□-02, MP30□-04)

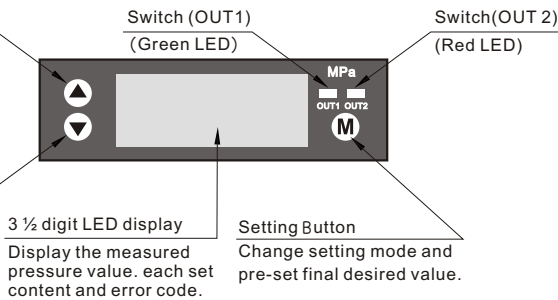
Unit dimension / Panel instructions

(▲) Button

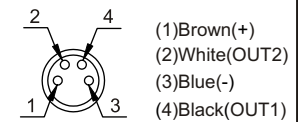
Use the ▲ button to change setting mode and pre-set desired value.

(▼) Button

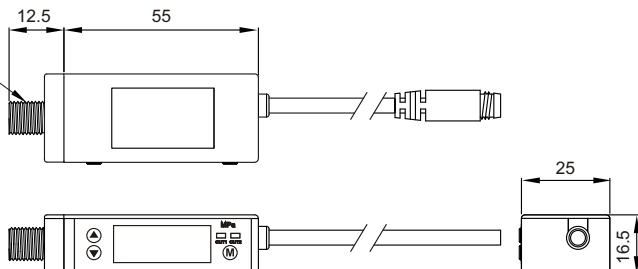
Use the ▼ button to change setting mode and pre-set desired value.



QD Pinout



F1:PT 1/8, M5
 F2:NPT 1/8, M5
 F3: G1/8, M5



MP40 series

HIGH PRECISION DIGITAL PRESSURE SWITCH



Features:

- Pressure range : Compound -100.0~100 kPa
Vacuum 0~-101.3 kPa
Positive 0~1000 kPa.
- Two switch output & one analog output.
- Hysteresis adjustable.
- High accuracy and Resolution.
- Low cost.
- Pressure unit selectable : KPa,MPa,kgf/cm², psi, bar, mmHg, InHg.

Specification:

Model		MP40C (Compound)	MP40V (Vacuum)	MP40P (Positive)
Rated pressure range		-100.0~100.0 kPa	0.0 ~ -101.3 kPa	0 ~ 1000 kPa
Setting pressure range		-101.0~101.0 kPa	10.0 ~ -101.3 kPa	-100 ~ 1000 kPa
Allowable pressure		300 kPa		1500 kPa
Fluid		Air, Non-corrosive gases ,incombustible gases		
Set pressure resolution	kPa	0.1		1
	kgf/cm ² / bar	0.001		0.01
	psi	0.01		0.1
	mmHg	1		—
	InHg	0.1		—
Power supply voltage		12 to 24VDC ±10%, Ripple (P-P) 10% or less		
Current consumption		≤45mA (With no load)		
Switch output		NPN open collector Max. load current : 125mA Max. supply voltage: 30VDC Residual voltage : ≤1.5V (load current 125mA)		PNP open collector Max. load current : 125mA Max. supply voltage: 24VDC Residual voltage : ≤1.5V (load current 125mA)
Repeatability (Switch output)		≤ 0.2% F.S. ±1 digit		
Hysteresis	Hysteresis mode/ Window comparator mode	Adjustable		
Response time		≤2.5ms (chattering-proof function: 24ms, 250ms, 500ms, 1000ms and 1500ms selections)		
Output short circuit protection		Yes		
7 segment LED display		Two color(Red/Green) display (Sampling rate: 5 times/1sec.)		
Indicator accuracy		≤±2% F.S. ±1 digit (ambient temperature: 25 ±3℃)		
Switch ON Indicator		Green OUT Indicator		
Analog output (Voltage Output)		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)		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℃, storage: -10 ~ 60℃ (No condensation or freezing)		
	Ambient humidity range	Operation/Storage: 35 ~ 85% RH (No condensation)		
	Withstand voltage	1000VAC in 1-min (between case and lead wire)		
	Insulation resistance	50Mohm min. (at 500VDC M, between case and lead wire)		
	Vibration	Total amplitude 1.5mm, 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		

MP40 Dimensions

HIGH PRECISION DIGITAL PRESSURE SWITCH



Specification:

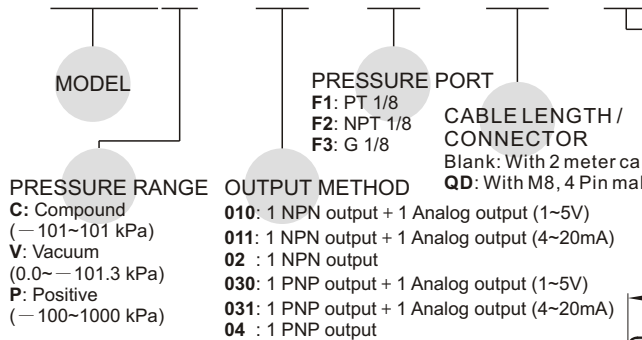
Model	MP40C (Compound)	MP40V (Vacuum)	MP40P (Positive)
Temperature characteristic	±2% F.S. of detected pressure (25 ̄) at temp. Range of 0~50 ̄		
Port size	F1:PT 1/8; F2:NPT 1/8; F3:G 1/8		
Lead wire	Oil-resistance cable(0.15mm ²)		
Weight	Appro*75g(with 2-meter lead wire), Appro*45g(with male connector)		

Output circuit wiring graph:

Model	MP40□-010	MP40□-011	MP40□-02
Connect diagram			
Output method	NPN+Analog(Voltage) output	NPN+Analog(Current) output	NPN output
Model	MP40□-030	MP40□-031	MP40□-04
Connect diagram			
Output method	PNP+Analog(Voltage) output	PNP+Analog(Current) output	PNP output

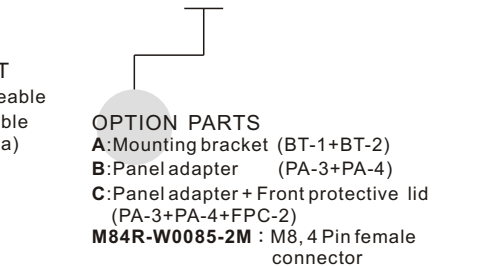
Order example:

MP40C - 02 - F1 - QD - □

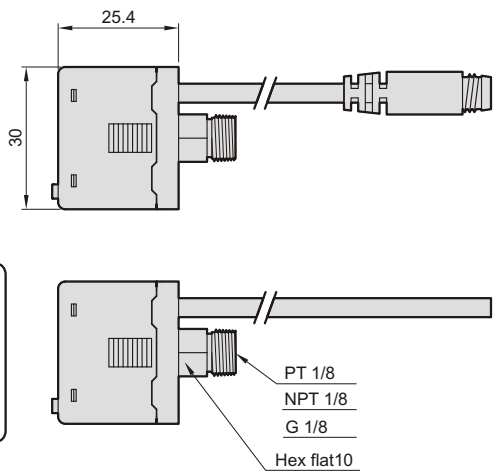
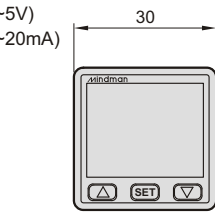
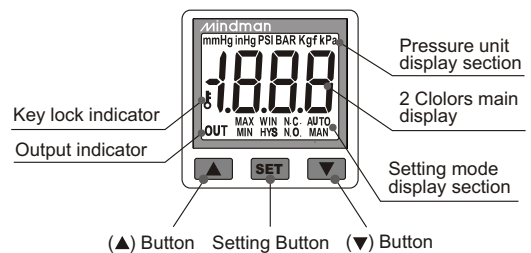


Mounting accessories:

MP40 - A



Unit dimension / Panel instructions



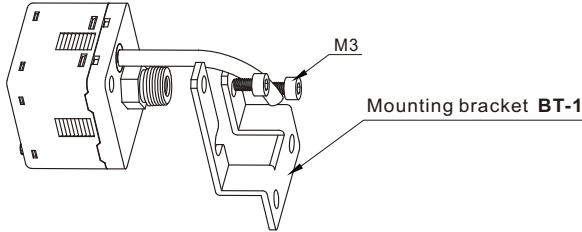
MP40 Accessory

HIGH PRECISION DIGITAL PRESSURE SWITCH

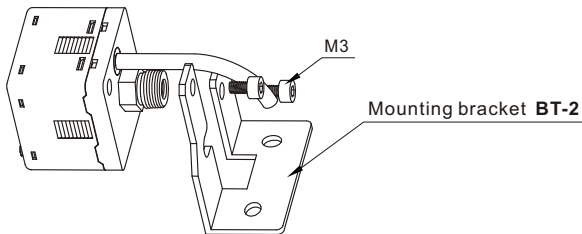
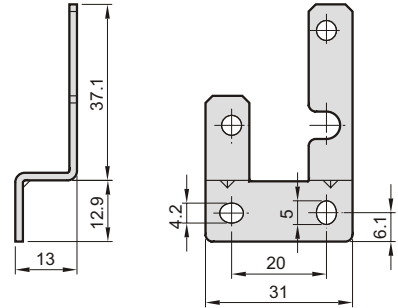


Type of option parts / Dimension graph:

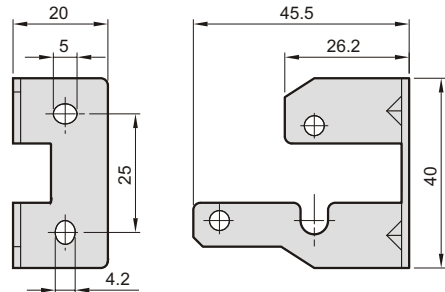
Mounting bracket



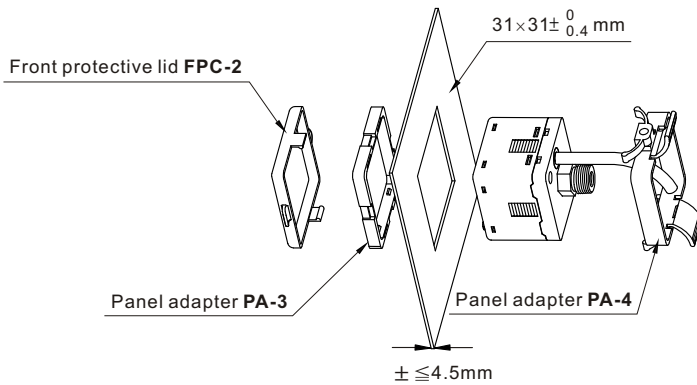
BT-1



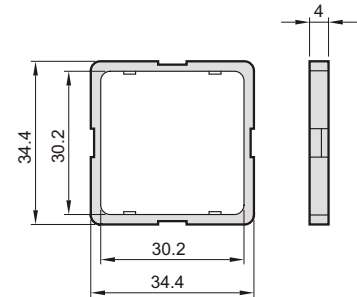
BT-2



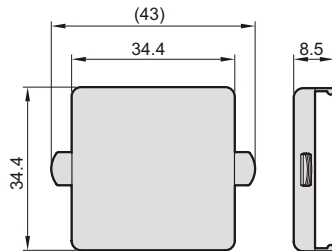
Panel type



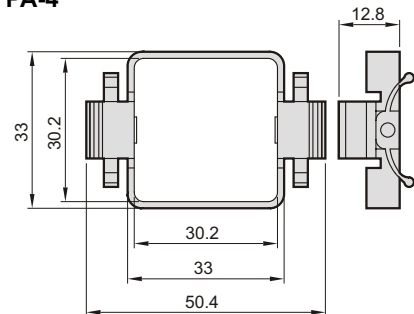
PA-3



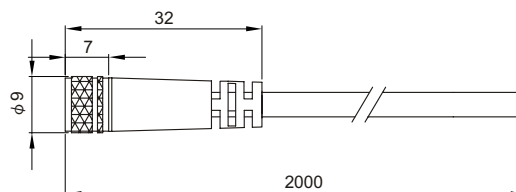
FPC-2



PA-4



M8 Female connector

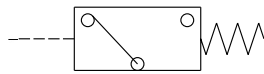


MPS series

PNEUMATIC PRESSURE SWITCH



Symbol:



Specification:

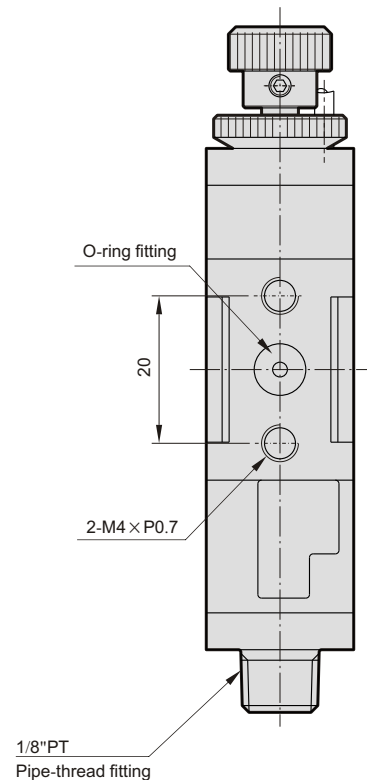
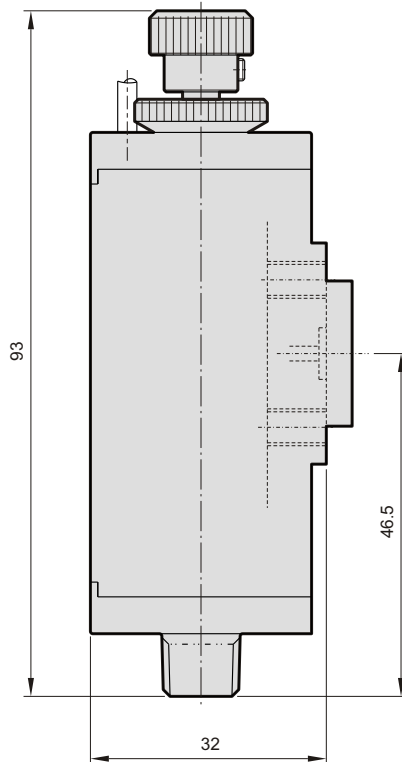
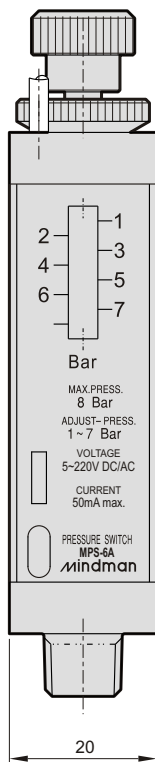
Model	MPS-6A	MPS-6A-R
Fitting method	PT 1/8 (for pipe-thread fitting)	O-ring: S4 (for O-ring fitting)
Ambient temperature	-5~ +60°C (No freezing)	
Operating pressure range	8.16 kgf/cm ² (8 Bar)	
Test pressure	10.2 kgf/cm ² (10 Bar)	
Pressure setting range	1.02~7.14 kgf/cm ² (1~7 Bar)	
Operation output	Normal open ON (Red led lighting up) above value	
Sensor switch	RCE Reed switch / Normal open Voltage range: 5~220V DC/AC Max. Current: 50mA	
Weight	185 g	189 g

Order example:

MPS - 6A - R

MODEL

Blank: By pipe-thread fitting
R: by O-ring fitting



PG series

PRESSURE GAUGE



Specification:

Model	PG-20	PG-33	PG-40	PG-50
Bore No.	—	6A	6A	8A
Port size	—	PT 1/8	PT 1/8	PT 1/4
Medium	Air			
Operating pressure range	0~10 kgf/cm ²			
Precision	JIS 4.0 Class			
Ambient temperature	-5~+60°C (No freezing)			
Weight	11 g	34 g	54 g	108 g

※ Please consult us if out of specification

Order example:

PG - 40 - 1K - NPT

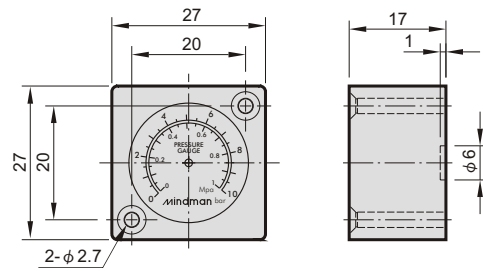
MODEL GAUGE SIZE PRESS. RANGE PORT THREAD

Blank : 0~10 kgf/cm²
 1K : 0~1 kgf/cm²
 2K : 0~2 kgf/cm²
 3K : 0~3 kgf/cm²
 4K : 0~4 kgf/cm²
 5K : 0~5 kgf/cm²
 20K : 0~20 kgf/cm²

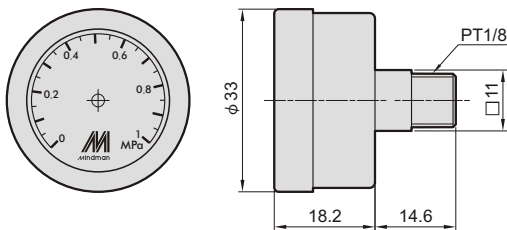
Blank: PT thread
 NPT: NPT thread

Model Code	1K	2K	3K	4K	5K	20K
PG-20	×	×	×	×	×	×
PG-33	×	○	×	○	×	×
PG-40	○	○	○	○	○	○
PG-50	×	×	×	×	○	○

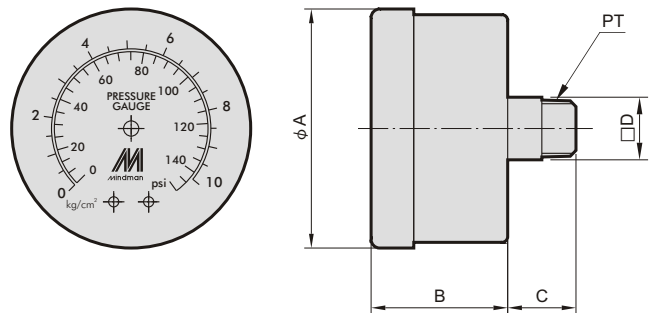
PG-20



PG-33



PG-40 / 50



Code Tube ID.	A	B	C	D	PT
PG-40	42	23.5	16.5	11	PT 1/8
PG-50	53	26.5	22.5	14	PT 1/4