MP800 / 7800 series

DIFFERENTIAL **PRESSURE SENSOR**

Features

- Digital LCD display, easy readout
- IP40 enclosure

MP800

- Pressure range: 0 ~ 1 kPa, 0 ~ 2 kPa, 0 ~ 5 kPa, -1 ~ 1 kPa, -2 ~ 2 kPa, -5 ~ 5 kPa
- Analog output: 1 ~ 5 V or 4 ~ 20 mA

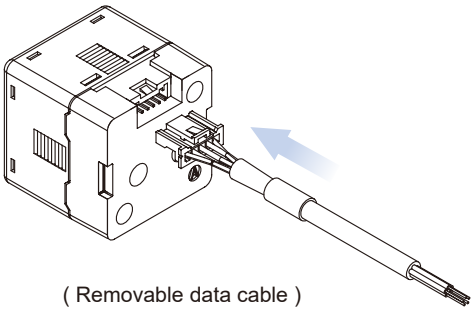
MP7800

- Pressure range: -10 ~ 10 kPa, -1 ~ 1 kPa, -2 ~ 2 kPa, -5 ~ 5 kPa
- Remote control / Real-time monitoring
- RS485 Modbus RTU

Features highlight

Quick installation

- Save installation time
- Easy removal

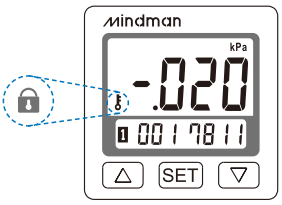


(Removable data cable)

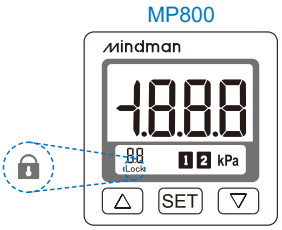
Key-lock function

- Key-lock icon is shown on the display when the function is enabled.

MP7800

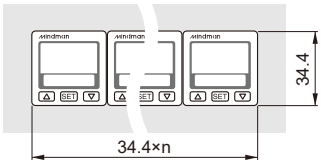


MP800

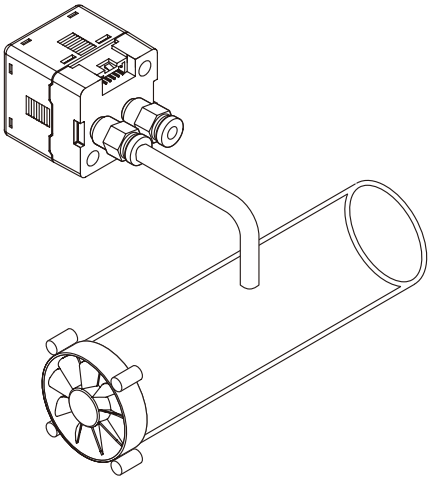


Save installation space

Actual dimension after installation

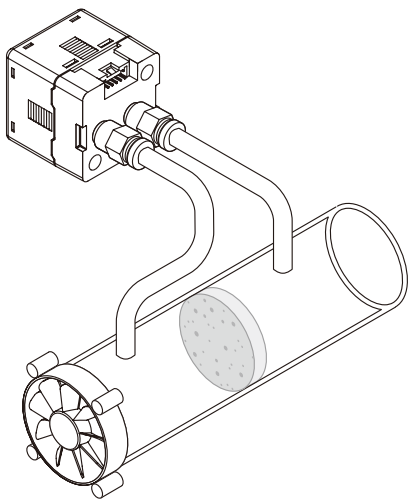


Air flow detection



Filter air monitoring

- To monitor the clogging of filter by detecting the differential pressure.



mindman

MP800 / 7800 Specification

DIFFERENTIAL **PRESSURE SENSOR**

mindman

MP800 Specification

Model		MP801	MP811	MP802	MP812	MP805	MP815
Rated pressure range		0 ~ 1000 Pa	–1000 ~ 1000 Pa	0.00 ~ 2.00 kPa	–2.00 ~ 2.00 kPa	0.0 ~ 5.00 kPa	–5.00 ~ 5.00 kPa
Set Pressure Range		–100 ~ 1000 Pa	–1000 ~ 1000 Pa	–0.20 ~ 2.00 kPa	–2.00 ~ 2.00 kPa	–0.50 ~ 5.00 kPa	–5.00 ~ 5.00 kPa
Withstand pressure		3 kPa		6 kPa		15 kPa	
Set pressure Resolution	Pa	1		–			
	kPa	–		0.01			
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			
Display		3 ½ digital, 7 segment LCD display (White) (Sampling rate : 5 times / sec.)					
Switch on indicator		White Indicator 1 : OUT1 & White Indicator 2 : OUT2					
Analog Output (Voltage Output) *1		Output Voltage : 1 ~ 5 V ± 2.5 % F.S. (within rated pressure range) Linearity : ± 1 % F.S. Output Impedance : about 1 kΩ					
Analog output (Current Output) *2		Output Current : 4 ~ 20 mA ± 2.5 % F.S. (within rated pressure range) Linearity : ± 1 % F.S. Max. Load Impedance : 250 Ω at power supply of 12 V, 600 Ω at power supply of 24 V Min. Load Impedance : 50 Ω					

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

MP7800 Specification

Model		MP7810	MP7811	MP7812	MP7815
Rated pressure range		–10.00 ~ 10.00 kPa	–1.000 ~ 1.000 kPa	–2.00 ~ 2.00 kPa	–5.00 ~ 5.00 kPa
Set Pressure Range		–10.00 ~ 10.00 kPa	–1.000 ~ 1.000 kPa	–2.00 ~ 2.00 kPa	–5.00 ~ 5.00 kPa
Withstand pressure		30 kPa	3 kPa	6 kPa	15 kPa
Set pressure Resolution	kPa	0.01	0.001	0.01	0.01
	mmAq *1	1	0.1	1	1
Switch output		1 NPN : open collector 1 output Max. load current : 125 mA Max. supply voltage : 30 V DC Residual voltage : ≤ 1.5 V		1 PNP : open collector 1 output Max. load current : 125 mA Max. supply voltage : 24 V DC Residual voltage : ≤ 1.5 V	
Display		4 digital, 7 segment LCD display (White) (Sampling rate : 0.1 ~ 3 times / sec.)			
Switch on indicator		White Indicator 1 : OUT1			
Communication interface		RS485			

*1. When the unit is mmAq, the pressure unit is not displayed.

MP800 / 7800 Specification

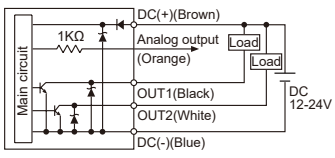
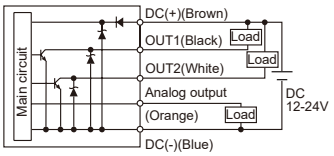
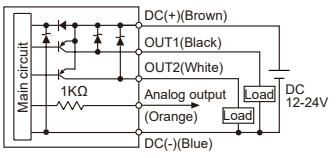
DIFFERENTIAL **PRESSURE SENSOR**

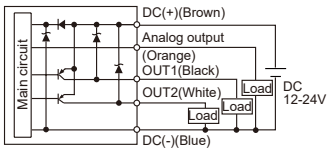
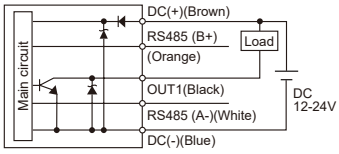
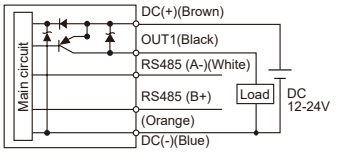
mindman

MP800 / 7800 Specification

Model		MP800 / 7800
Fluid		Filtered air, Non-corrosive / Non-flammable gas
Power supply voltage		12 ~ 24 V DC ± 10 %, Ripple (P-P) ≤ 10 %
Current consumption		≤ 40 mA (with no load)
Repeatability		± 0.5 % F.S. ± 1 digit
Hysteresis	Hysteresis mode	Adjustable
	Window comparator mode	
Response Time		≤ 2.0 ms (Chattering-proof function : 32 ms, 128 ms, 1024 ms selectable)
Output short circuit protection		Yes
Indicator accuracy		± 2 % F.S. ± 1 digit (Ambient temperature : 25 ± 3 °C)
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	1000 V AC in 1-min (between case and lead wire)
	Insulation resistance	≥ 50 MΩ (at 500 V DC, between case and lead wire)
	Vibration	Total amplitude 1.5 mm or 10 G, 10 Hz ~ 150 Hz ~ 10 Hz scan for 1 minute, 2 hours each direction of X, Y and Z
	Shock	100 m/s² (10 G), 3 times each in direction of X, Y and Z
Temperature characteristic		± 3 % F.S. of detected pressure (25 °C) at temp. (Range of 0 ~ 50 °C)
Port size		M5 : M5 female thread
Lead wire		ø4 Oil-resistance cable (PVC) - 26 AWG (0.15 mm²) - 5 cores
Weight		Approx. 75 g (with 2 meter lead wire)

Output circuit wiring graph

Model	MP8□-010-M5	MP8□-011-M5	MP8□-030-M5
Connect diagram			
Output method	2 NPN + Analog Output (1 ~ 5 V)	2 NPN + Analog Output (4 ~ 20 mA)	2 PNP + Analog Output (1 ~ 5 V)

Model	MP8□-031-M5	MP78□-02-M5	MP78□-04-M5
Connect diagram			
Output method	2 PNP + Analog Output (4 ~ 20 mA)	1 NPN + RS485	1 PNP + RS485

* Procedure to wiring RS485 products : To prevent product damage due to short circuit , MUST do RS485 line conneciton BEFORE power line connection.

MP800 / 7800 Order example

DIFFERENTIAL **PRESSURE SENSOR**

Order example

MP7810 — 02 — M5

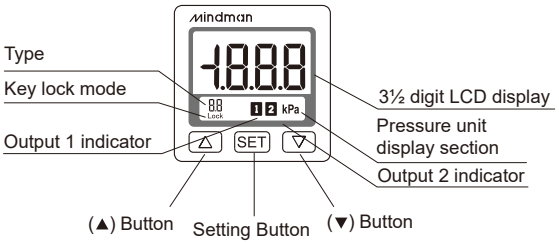
1 2 3 PRESSURE PORT

1 2 3

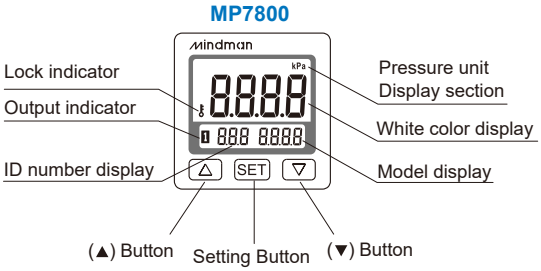
MODEL	PRESSURE RANGE	OUTPUT METHOD
MP8	**01**: -100 ~ 1000 Pa **02**: -0.20 ~ 2.00 kPa **05**: -0.50 ~ 5.00 kPa **11**: -1000 ~ 1000 Pa **12**: -2.00 ~ 2.00 kPa **15**: -5.00 ~ 5.00 kPa	**010**: 2 NPN output + 1 Analog output (1~5V) **011**: 2 NPN output + 1 Analog output (4~20mA) **030**: 2 PNP output + 1 Analog output (1~5V) **031**: 2 PNP output + 1 Analog output (4~20mA)
MP78	**10**: -10.00 ~ 10.00 kPa **11**: -1.000 ~ 1.000 kPa **12**: -2.000 ~ 2.000 kPa **15**: -5.000 ~ 5.000 kPa	**02**: 1 NPN output + RS485 **04**: 1 PNP output + RS485

Panel instructions

MP800



MP7800

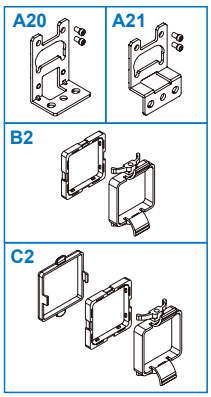


Mounting accessories (Option)

MP — A20

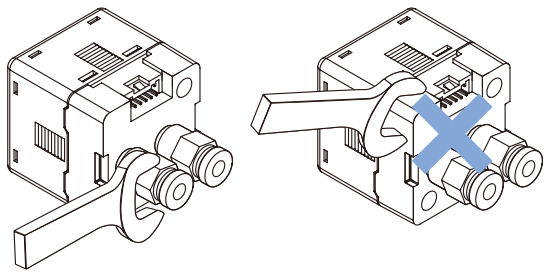
MODEL

OPTION PARTS
A20: Mounting bracket
A21: Mounting bracket
B2: Panel adapter
C2: Panel adapter + Front protective lid



Installation precautions

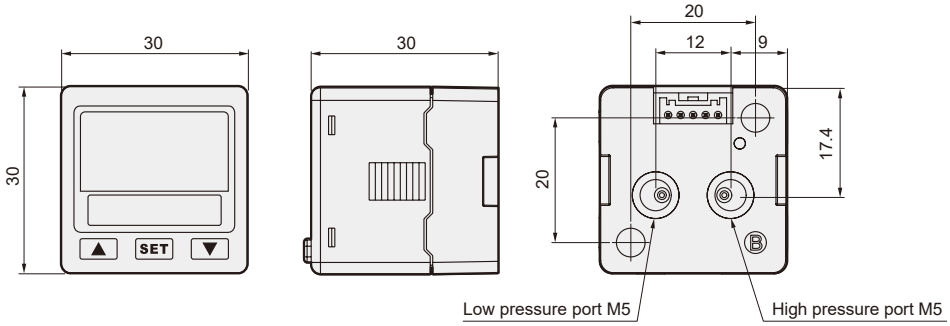
- Do not use the wrench on the plastic body while connecting the sensor connector or pressure port.
- Over tightening may cause damage to the port thread, mounting bracket and pressure sensor. Under tightening may result loosen or leakage.
- Apply air pressure and power after installation, make necessary adjustments and inspect any possible signs of leakage to ensure proper installation.
- Do not insert metal or sharp objects into the pressure port.



MP800 / 7800 Dimensions

DIFFERENTIAL **PRESSURE SENSOR**

Dimensions



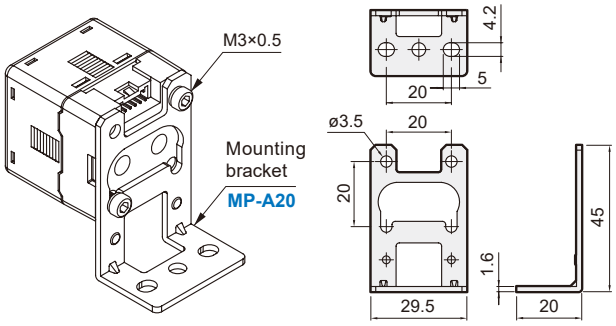
Panel opening for multiple pressure controller.

Calculation factor (A) = (34.4×n) - 3.4
n = number of controller

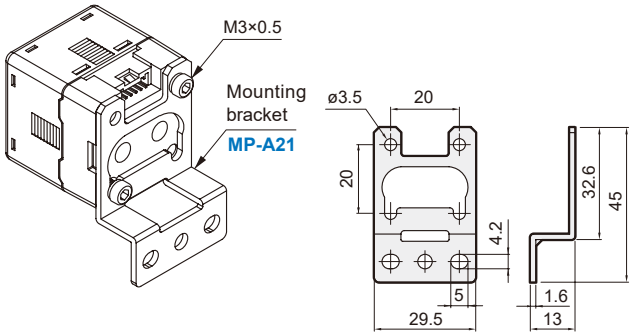
Mounting accessories

Mounting bracket

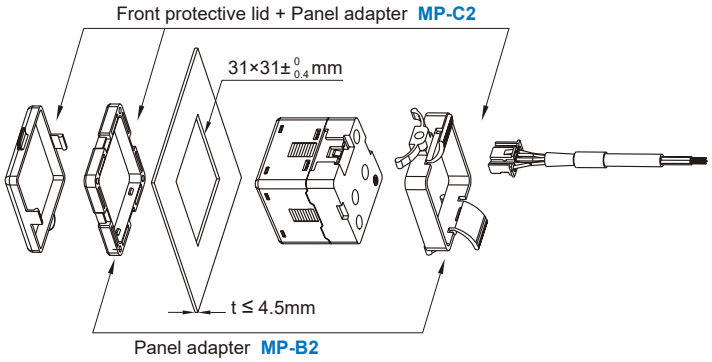
MP-A20



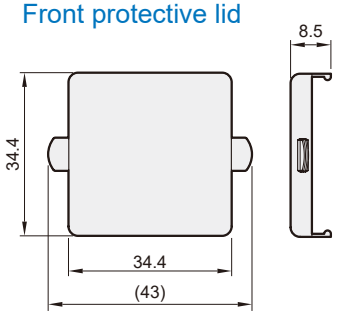
MP-A21



Panel type



Front protective lid



Panel adapter